VEOLIA
ENVIRONMENTAL SERVICES

TECHNICAL SOLUTIONS
NORTH AMERICA

October 2, 2015

Mr. David Panofsky
Wisconsin Department of Natural Resources
GEF2 DNR Central Office
101 S. Webster Street
Madison, WI 53703

RE: **Feasibility and Plan of Operation Report**
Veolia ES Technical Solutions, L.L.C.
1275 Mineral Springs Drive
Port Washington, WI 53074
EPA I.D. # WID988566543

Dear Mr. Panofsky:

In accordance with Condition 12 of the Final Determination dated September 4, 2015, please find enclosed to two (2) 'clean' printed and bound copies of the FPOR in D ring binders with the spline appropriate labeled.

If you have any questions regarding the documents contained in this submittal please contact me at 262-243-8908 or by e-mail at phillip.ditter@veolia.com.

Sincerely,

VEOLIA ES TECHNICAL SOLUTIONS, L.L.C.

Phillip Ditter, CHMM
Environmental Health and Safety Manager

Enc.

Cc: Kevin Shaver, Veolia ES Technical Solutions

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COMPLETENESS CHECKLIST AND TECHNICAL EVALUATION GENERAL AND SPECIFIC REQUIREMENTS FOR CONTAINER, TANKS, AND MISCELLANEOUS UNITS

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RECORD OF REVISIONS

Date	Section	Pages	Revision
12/6/2013	Table of Contents	i-viii	Update page numbers
12/6/2013	Figure 2-8		Update retort information
12/6/2013	Figure 2-9		Update retort information
12/6/2013	Section 1	1-1 to 1-5	Update Section 1.1.3
12/6/2013	Section 4	4-1 to 4-28	Updates to 4.5, 4.5.1. 4.5.1.2, 4.5.1.3, 4.5.1.4, 4.5.2, 4.5.5, 4.5.6, 4.5.7.1 and 4.5.8
12/6/2013	Table 2-1		Updated to include October 2013 releases
12/6/2013	Table 2-3	3 & 4	Update to SWMU #5
12/6/2013	Appendix A2		New Appendix
12/6/2013	Appendix A3		New Appendix
12/6/2013	Appendix A4		New Appendix
12/6/2013	Appendix L1		New Appendix
12/6/2013	Appendix M1		New Appendix
1/27/2014	Appendix L2		New Appendix, revised air permit application
9/6/2014	Table of Contents	i-viii	Updated Scetions 2.5, 2.6, 4.6, 6.2, and 9.1; added Table 9-1; and Appendices S-W
9/6/2014	Section 1	1-5 & 1-6	Updated Sections 1.5.1 and 1.5.5
9/6/2014	Section 10		Updated to clarify cost estimate prepared by local contractor and consultant with experience in mercury remediation.
9/6/2014	Section 2	2-2, 2-9, 2-11 & 2-12	Added references to Appendix U for completion of RFI and Appendix V for Ground water monitoring program. Added description of permit modeling to address off-site deposition of mercury
9/6/2014	Section 4	4-6, 4-13, 4-16, 4-18 - 4-20, 4-23 & 4-24	Updated Sections 4.2.2 to reference chemical database and corporate resources for determining compatibility; 4.5 to update air permitting status of retort units; 4.5.2, 4.5.5 and 4.5.7.1 to reference additional monitoring data in Appendix N; and 4.5.5 to include a reference to updated air permit application. Updated Section 4.6.2 to reference Appendix S. Added Section 4.6.5 to address universal waste management.

9/6/2014	Section 5	5-4 - 5-6	Updated Sections 5.5 to refernce method of construction and inspection of containment system, 4.5.1 to reference the largest container that may be stored and timeframe for removal of spilled material.
9/6/2014	Section 6	6-1 - 6-4	Added section 6.2.1 for universal waste and moved hazardous waste characterization into new section 6.2.2. Section 6.2.2 updated to refeence required analysis for recertification.
9/6/2014	Section 9	All pages	Updated Sections 9.0 to carify estimated date of closure, 9.1.2.1, 9.1.2.2, 9.1.2.3, 9.1.2.4 and 9.1.2.5 to include cleaning procedures, Added 9.1.3 Closure Standards and Table 9-1.
9/6/2014	Table 10-1		Updated closure cost estimate based on quote from North Shore Environmental and AMEC
9/6/2014	Drawings	D1, D2 & D3	Signed by Professional Engineer
9/6/2014	Appendix D		Updated Part A Application
9/6/2014	Appendix N		Updated Air Emission Inventory Reports and Monitoring Data
9/6/2014	Appendix Q		Updated Closure Cost Support Documentation
9/6/2014	Appendix S		New Appendix, Solid Waste Processing Facility Plan of Operation
9/6/2014	Appendix T		New Appendix, Storage Room Floor Documentation
9/6/2014	Appendix U		New Appendix, 2014 Sampling Plan
9/6/2014	Appendix V		New Appendix, Groundwater Detection Monitoring Program
9/6/2014	Appendix W		New Appendix, Storm Water NOI and Storm Water Pollution Prevention Plan
1/23/2015	Table of Contents		Updated to include Appendix X
1/23/2015	Appendix X		New Appendix, Laboratory Analysis 2012-2014
9/30/2015	Cover Page	Cover Page	Updated file name and revision date
9/30/2015	Table of Contents	viii-xi	Reference removal of Appendix U and V in accordance with Final Determination and added Record of Revisions
9/30/2015	Section 11	1	Corrected reference to new Appendix Y

9/30/2015	Section 2	2-2	Added references to the removal of Appendices U and V.
9/30/2015	Section 4	4-11 - 4-15, 4-17 - 4-20 & 4-22	Updated to reflect issuance of air permits, removal of R1 & R2 and installation of R5.
9/30/2015	Section 8	8-3	Updated phone number for Dave Braun and titles for Dave and Kevin
9/30/2015	Table 10-1		Updated closure cost estimate for inflation
9/30/2015	Table 2-3		Reformatted table, no revisions to content
9/30/2015	Table 8-1		Updated phone number for Dave Braun and titles for Dave and Kevin
9/30/2015	Drawings	D3	Updated to reflect removal of R1 & R2 and addition of R5 and additiona of trash compactor
9/30/2015	Appendix A		Consolidated all correspondence into one appendix and updated to include correspondence through current date.
9/30/2015	Appendix E		Updated to include Air Pollution Control Construction Permit and Air Pollution Control Operation Permit Renewal
9/30/2015	Appendix L		Consolidated revisions and updated to include final Air Pollution Construction Permit Application
9/30/2015	Appendix R		Updated to include new VNA Environmental Policy
9/30/2015	Appendix U	All	Updated cover page and removed contents
9/30/2015	Appendix V	All	Updated cover page and removed contents
9/30/2015	Appendix Y	All	Added to correct prior ommission

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
HAZARDOUS WASTE LICENSE APPLICATION (FPOR)
COMPLETENESS AND TECHNICAL EVALUATION CHECKLIST
GENERAL AND SPECIFIC REQUIREMENTS FOR
CONTAINERS, TANKS AND MISCELLANEOUS UNITS

Facility Name :	**VEOLIA ES TECHNICAL SOLUTIONS, L.L.C.**
FID # :	**246076050**
US EPA ID #:	**WID988566543**
Date Application Received :	**8/6/2013**
DNR Reviewer :	
Review Dates :	

Use this checklist as a guide to determine if the Feasibility and Plan of Operation Report (FPOR) is complete and technically adequate for the storage or treatment of hazardous waste in containers, tanks, or miscellaneous units. The license applicant should indicate the location of the required information in the FPOR. The DNR license reviewer will review the information provided and determine if it is complete and technically adequate.

Note: More detailed information is given in the Wisconsin Administrative Code citation listed for each item. The inspection forms at http://www.dnr.state.wi.us/org/aw/wm/publications/index.html may also be used as a guide for AA/BB/CC requirements.

PART I - GENERAL REQUIREMENTS

Licensing Standard and Code Citation	Location In Report (Page/Section/ NA)	Complete? (Y/N/NA)	Technically Adequate? (Y/N/NA)	Comments
Section A. General Requirements NR 670.010 to NR 670.014				
A.1. Two copies of license application submitted. NR 670.010(1)	**P1-5 / SECTION 1.5.2**			
A.2. Appropriate plan review and license fees submitted. NR 670.010(12)	**P1-5 / SECTION 1.5.4**			
A.3. Report signed by a president, secretary, treasurer or vice president of a corporation or other approved signatory. NR 670.011(1)	**PII/COVER**			
A.4. Signature includes certification statement. NR 670.011(4)	**PII/COVER**			
A.5. Claims of confidentiality are met. NR 670.012	**NA**			
A.6. Summary of pre-application meeting, list of attendees/addresses and copies of written comments or materials submitted during meeting. NR 670.014(2)(v)	**P1-4 / SECTION 1.3 / APPENDIX B**			

Licensing Standard and Code Citation	Location In Report (Page/Section/ NA)	Complete? (Y/N/NA)	Technically Adequate? (Y/N/NA)	Comments
A.7. Documentation showing compliance with local approval requirements. NR 670.014(2)(w)	**P1-4 / SECTION 1.4 / APPENDIX C**			
A.8. Complete Part A application. NR 670.013	**P1-5 / SECTION 1.5.3 / APPENDIX**			
A.9. Technical data, such as design drawings and specifications and engineering studies are certified by WI registered PE. NR 670.014(1)	**PII/COVER**			
A.10. General description of facility. NR 670.014(2)(a)	**P2-1 / SECTION 2.1 & P3-1 / SECTION 3.0**			
A.11. Description of procedures, structures or equipment used to prevent hazards in unloading operations. NR 670.014(2)(h)1.	**P4-5 / SECTION 4.2.1**			
A.12. Description of procedures, structures or equipment used to prevent runoff from hazardous waste handling areas or to prevent flooding. NR 670.014(2)(h)2.	**P5-3 / SECTION 5.5**			
A.13. Description of procedures, structures or equipment used to prevent contamination of water supplies. NR 670.014(2)(h)3.	**P5-3 / SECTION 5.5**			
A.14. Description of procedures, structures or equipment used to mitigate effects of equipment failure or power outages. NR 670.014(2)(h)4.	**P5-6 / SECTION 5.5.3**			
A.15. Description of procedures, structures or equipment used to prevent exposure of personnel. NR 670.014(2)(h)5.	**P4-3 / SECTION 4.1.4**			
A.16. Description of procedures, structures or equipment used to the atmosphere. NR 670.014(2)(h)6.	**P4-11 / SECTION 4.5; P4-18 / SECTION 4.5.7.1; P4-23 / SECTION 4.10; P5-6 / SECTION 5.5.4**			

Licensing Standard and Code Citation	Location In Report (Page/Section/ NA)	Complete? (Y/N/NA)	Technically Adequate? (Y/N/NA)	Comments
A.17. Traffic patterns, estimated traffic volume, traffic control, access road surfacing and load bearing capacity. NR 670.014(2)(j)	**P2-5 / SECTION 2.2**			
A.18. Chemical and physical analyses of the hazardous waste and debris to be handled at the facility. NR 670.014(2)(b)	**P6-1 / SECTION 6.2; TABLE 6-1**			
A.19. Chemical and physical analyses contains all information that must be known to treat, store or dispose of the waste according to NR 664 requirements. NR 670.014(2)(b)	**P6-1 TO P6-3 / SECTION 6.1 & 6.2**			
A.20. Justification of any request for a waiver of the preparedness and prevention requirements of NR 664 subch. C. NR 670.014(2)(f)	**NA**			
A.21. Description of precautions taken to prevent accidental ignition or reaction of ignitable, reactive or incompatible wastes, including A.22 to A.24. NR 670.014(2)(i)	**P4-6 / SECTION 4.2.2; P5-1 / SECTION 5.1; P5-4 / SECTION 5.5.1; P8-1 / SECTION 8.2.1**			
A.22. Ignitable and reactive waste is separated and protected from sources of ignition or reaction. NR 664.0017(1)	**P5-1 / SECTION 5.1; P5-4 / SECTION 5.5.1; P8-1 / SECTION 8.2.1**			
A.23. Smoking and open flame are confined to specially designated locations when handling ignitable or reactive waste. NR 664.0017(1)	**P5-1 / SECTION 5.1; P8-1 / SECTION 8.2.1**			
A.24. “No Smoking” signs are conspicuously placed where there is a hazard from ignitable or reactive waste. NR 664.0017(1)	**P5-1 / SECTION 5.1; P8-1 /**			

Licensing Standard and Code Citation	Location In Report (Page/Section/ NA)	Complete? (Y/N/NA)	Technically Adequate? (Y/N/NA)	Comments
A.25. Documentation demonstrating compliance with A.22. to A.24., including references to published scientific or engineering literature, data from trial tests, waste analysis or the results of treatment of similar waste by similar treatment under similar operating conditions. NR 664.0017(3)	**P4-6 / SECTION 4.2.2**			
Section B. Noncompliance with Plans or Orders NR 670.014(2)(x)1.				
B.1. Identification of all persons owning ≥10% legal or equitable interest in the applicant or their assets. NR 670.014(2)(x)1.a	**P1-4 / SECTION 1.5.1**			
B.2. Identification of all WI solid or hazardous waste facilities for which applicant or other identified person is named in or subject to a department order or plan approval. NR 670.014(2)(x)1.b.	**P1-4 / SECTION 1.5.1**			
B.3. Identification of all WI solid or hazardous waste facilities owned by the applicant or other identified person who owns or previously owned ≥10% interest in the assets. NR670.014(2)(x)1.c.	**P1-4 / SECTION 1.5.1**			
B.4. Statement regarding whether or not all plan approvals and orders relating to all identified facilities are being complied with. NR 670.014(2)(x)1.d.	**P1-4 / SECTION 1.5.1**			
Section C. Environmental Impact Review NR 670.014(2)(x)2.				
C.1. Purpose, history, background, relevant local, state and federal permits or approvals and zoning changes for the project. NR 670.014(2)(x)2.a.	**P2-6 / SECTION 2.3.1**			
C.2. Description of proposed physical changes related to terrestrial resources, such as soil placement, construction of roads, surface water drainage and sedimentation controls. NR 670.014(2)(x)2.b.1)	**P2-10 / SECTION 2.3.3**			
C.3. Description of proposed physical changes related to aquatic resources, such as impacts to streams, wetlands or other water bodies. NR 670.014(2)(x)2.b.2)	**P2-10 / SECTION 2.3.3**			
C.4. Description of proposed physical changes related to the construction of buildings and other structures. NR 670.014(2)(x)2.b.3)	**P2-9 / SECTION 2.3.2**			

Licensing Standard and Code Citation	Location In Report (Page/Section/ NA)	Complete? (Y/N/NA)	Technically Adequate? (Y/N/NA)	Comments
C.5. Description of proposed physical changes related to air emissions and water discharges during facility construction, operation and closure. NR 670.014(2)(x)2.b.4)	**P2-10 / SECTION 2.3.3**			
C.6. Description of proposed physical changes related to any other changes anticipated with facility development. NR 670.014(2)(x)2.b.5)	**P2-9 / SECTION 2.3.2**			
C.7. Maps, plans or other materials needed to clarify the information provided for C.2. to C.6. NR 670.014(2)(x)2.b.6)	**DRAWING D3**			
C.8. Description of the affects on the existing physical environment, such as topography, surface water drainage, hydrogeologic conditions, geology. NR 670.014(2)(x)2.c.1)	**P2-10 / SECTION 2.3.3**			
C.9. Description of the affects on existing dominant aquatic and terrestrial plant and animal species and habitats. NR 670.014(2)(x)2.c.2)	**P2-10 / SECTION 2.3.3**			
C.10. Description of the affects on existing land use, dominant features, and zoning in the area. NR 670.014(2)(x)2.c.3)	**P2-10 / SECTION 2.3.3**			
C.11. Description of the affects on existing social and economic conditions, such as ethnic or cultural groups. NR 670.014(2)(x)2.c.4)	**P2-10 / SECTION 2.3.3**			
C.12. Description of the affects on other existing special resources, such as archaeological, historical, state natural areas, or prime agricultural lands. NR 670.014(2)(x)2.c.5)	**P2-10 / SECTION 2.3.3**			
C.13. Discussion of the probable adverse and beneficial physical impacts associated with facility design, construction and operation. NR 670.014(2)(x)2.d.1)	**P2-9 / SECTION 2.3.2**			
C.14. Discussion of the probable adverse and beneficial biological impacts such as destruction and creation of habitat, alteration of physical environment and impacts to endangered or threatened species. NR 670.014(2)(x)2.d.2)	**P2-10 / SECTION 2.3.4**			
C.15. Discussion of the probable adverse and beneficial impacts on land use. NR 670.014(2)(x)2.d.3)	**P2-10 / SECTION**			

Licensing Standard and Code Citation	Location In Report (Page/Section/ NA)	Complete? (Y/N/NA)	Technically Adequate? (Y/N/NA)	Comments
C.16. Discussion of the probable adverse and beneficial social and economic impacts to local residents, cultural groups and communities and industries served by the facility. NR 670.014(2)(x)2.d.4)	**P2-10 / SECTION 2.3.4**			
C.17. Discussion of probable adverse and beneficial impacts on other special resources, such as archaeological, historical, state natural areas and prime agricultural lands. NR 670.014(2)(x)2.d.5)	**P2-10 / SECTION 2.3.4**			
C.18. Discussion of probable adverse impacts that cannot be avoided, such as groundwater and surface water impacts, modifications of topography, loss of agricultural or forest land, displacement of wildlife and adverse aesthetic impacts for people in and around the facility. NR 670.014(2)(x)2.d.6)	**P2-10 / SECTION 2.3.4**			
C.19. Identify, describe and discuss feasible alternatives such as taking no action, enlargement, reduction or modification of the project. NR 670.014(2)(x)2.e.	**P2-10 / SECTION 2.3.5**			
C.20. Needs determination, per s. 289.28, Wis. Stat. NR 670.014(2)(x)3.	**P2-11 / SECTION 2.4**			
Section D. Groundwater Protection NR 670.014(3)				
D.1. If all regulated units meet NR 664.0090(2), this Section is not applicable.	**P2-12 / SECTION 2.5**			
D.2. Summary of groundwater monitoring data from interim license period. NR 670.014(3)(a)	**P2-14 / SECTION 2.5.3**			TSDF was never in interim status.
D.3. Uppermost aquifer and aquifers hydraulically interconnected beneath the facility property, groundwater flow direction and rate, and basis of identification. NR 670.014(3)(b)	**P2-14 / SECTION 2.5.2**			
D.4. Topographic map delineating waste management area, property boundary, point of compliance and proposed location of monitoring wells. NR 670.014(3)(c)	**DRAWING D2**			No proposed groundwater monitoring wells
D.5. Description of contamination plume that entered the groundwater from a regulated unit at the time of the application, delineation of the extent of the plume on the topographic map and identification of hazardous constituent concentrations in the plume. NR 670.014(3)(d)	**NA**			

Licensing Standard and Code Citation	Location In Report (Page/Section/ NA)	Complete? (Y/N/NA)	Technically Adequate? (Y/N/NA)	Comments
D.6. Detailed plans and engineering report describing the proposed groundwater monitoring program to be implemented per NR 664.0097. NR 670.014(3)(e)	**NA**			
D.7. If hazardous constituents have not been detected in the groundwater at the time of the license application, sufficient information, supporting data and analyses to establish a detection monitoring program which meets NR 664.0098. NR 670.014(3)(f)	**P2-14 / SECTION 2.5.3**			
D.8. If hazardous constituents have been detected in the groundwater at the point of compliance at the time of the license application, sufficient information, supporting data and analyses to establish a compliance monitoring program meeting NR 664.0099. NR 670.014(3)(g)	**NA**			
D.9. If hazardous constituents have been measured in the groundwater exceeding concentration limits in NR 664.0094 Table 1 or if groundwater monitoring conducted at the time of the license application at the waste boundary indicates the presence of hazardous waste constituents from the facility, sufficient information, supporting data and analyses to establish a corrective action program meeting NR 664.0100. NR 670.014(3)(h)	**NA**			
Section E. Corrective Action and Solid Waste Management Units NR 670.014(4)				
E.1. If applicable, information regarding groundwater protection if there is a release from a SWMU. NR 670.014(3)	**NA**			
E.2. Topographic map showing location of SWMU. NR 670.014(4)(a)1.	**DRAWING D3**			
E.3. Designate type of SWMU. NR 670.014(4)(a)2.	**P2-16 / SECTION 2.6.2; TABLE 2-1**			
E.4. General dimensions and structural description of SWMU. NR 670.014(4)(a)3.	**TABLE 2-1**			
E.5. When the SWMU was operated. NR 670.014(4)(a)4.	**TABLE 2-1**			
E.6. All wastes managed at the SWMU are specified. NR 670.014(4)(a)5.	**TABLE 2-1**			

Licensing Standard and Code Citation	Location In Report (Page/Section/ NA)	Complete? (Y/N/NA)	Technically Adequate? (Y/N/NA)	Comments
E.7. All available information pertaining to releases of hazardous waste constituents from hazardous waste units. NR 670.014(4)(b)	**P2-16 / SECTION 2.6.3 / TABLE 2-2**			
E.8. Results of sampling and analysis of surface or groundwater, soil and air sampling if the department determines a RFA is necessary. NR 670.014(4)(c)	**P2-15 / SECTION 2.6.1.2**			
Section F. Location Standards NR 670.014(2)(k) and NR 670.014(2)(s)				
F.1. Identify if facility is in a 100-year floodplain and source of data. NR 670.014(2)(k)3.	**P2-2 / SECTION 2.1.4 / FIGURE 2-2**			
F.2. Copy of federal insurance administration flood map, or calculations and maps if FIA map is not available. NR 670.014(2)(k)3.	**FIGURE 2-2**			
F.3. Identify 100-year flood level and other flooding factors (wave action) considered in design, construction, operation or maintenance of facility to withstand washout from 100 year flood. NR 670.014(2)(k)3.	**NA**			
F.4. If facility is located in 100 year flood plain, engineering analysis of various hydrodynamic and hydrostatic forces. NR 670.014(2)(k)4.a. AND	**NA**			
F.5. Structural or other engineering studies showing design of operational units and flood protection devices and how they will prevent washout. NR 670.014(2)(k)4.b. OR	**NA**			
F.6. Description of procedures to move hazardous waste before flooding, including timing; new approved or licensed location; resources needed; and, potential of discharge during move. NR 670.014(2)(k)4.c.	**NA**			
F.7. If a facility located in a 100-year floodplain is not designed, constructed, operated and maintained to prevent washout, a demonstration that procedures in effect to move the waste safely to a location that is not vulnerable to flood waters before flood waters reach the facility. NR 664.0018(2)(a)	**NA**			
F.8. If an existing facility is not in compliance with F.7., a plan and schedule to bring the facility into compliance. NR 670.014(2)(k)5.	**NA**			

Licensing Standard and Code Citation	Location In Report (Page/Section/ NA)	Complete? (Y/N/NA)	Technically Adequate? (Y/N/NA)	Comments
F.9. A dated topographic map showing a distance of 1,000 feet around the facility, with a scale of no more than 1 inch to 200 feet, and contour intervals that clearly shows pattern of surface water flow of waste management unit. NR 670.014(2)(s)	**DRAWING D1**			
F.10. Map shows map scale and date. NR 670.014(2)(s)1.	**DRAWING D1**			
F.11. Map shows 100 year flood plain area. NR 670.014(2)(s)2.	**FIGURE 2-2**			
F.12. Map shows surface waters, including intermittent streams. NR 670.014(2)(s)3	**DRAWING D1**			
F.13. Map shows surrounding land uses (residential, commercial, agricultural, recreational). NR 670.014(2)(s)4	**DRAWING D1**			
F.14. Map shows wind rose (prevailing wind speed and direction). NR 670.014(2)(s)5	**DRAWING D1**			
F.15. Map shows map orientation. NR 670.014(2)(s)6	**DRAWING D1**			
F.16. Map shows legal boundaries of the hazardous waste facility. NR 670.014(2)(s)7	**DRAWING D2**			
F.17. Map shows access control (fence, gates). NR 670.014(2)(s)8	**DRAWING D2**			
F.18. Map shows location of injection or supply wells on-site and off-site. NR 670.014(2)(s)9	**NA**			
F.19. Map shows buildings and storage, treatment or disposal operations. NR 670.014(2)(s)10.	**DRAWING D3**			
F.20. Map shows other structures such as recreation areas, runoff control systems, roads, sewers, loading, unloading areas, etc. NR 670.014(2)(s)10.	**DRAWING D2**			
F.21. Map shows barriers for drainage or flood control. NR 670.014(2)(s)11.	**NA**			
F.22. Map shows location of operational units where hazardous waste will be treated, stored or disposed. NR 670.014(2)(s)12.	**DRAWING D2**			
F.23. Facility is not located in a wetland. NR 670.014(2)(k)6.b.	**P2-2 / SECTION 2.1.4 / FIGURE 2-3**			
F.24. Facility is not located in a critical habitat for threatened or endangered species. NR 670.014(2)(k)6.a.	**P2-10 / SECTION 2.3.3**			
Section G: Waste Analysis Plan Requirements NR 670.014(2)(c)				

Licensing Standard and Code Citation	Location In Report (Page/Section/ NA)	Complete? (Y/N/NA)	Technically Adequate? (Y/N/NA)	Comments
G.1. Procedures for obtaining chemical and physical analyses of hazardous waste managed at facility. NR 664.0013(1)(a)	**P6-1 / SECTION 6.2**			
G.2. Analysis by WI certified labs. NR 664.0013(1)(a)1.	**P6-1 / SECTION 6.2**			
G.3. Description of other data to be used rather than lab analysis. NR 664.0013(1)(b)	**P6-1 / SECTION 6.2**			
G.4. For off-site waste, analysis upon receipt to verify waste matches description on manifest. NR 670.0013(1)(d)	**P6-5 / SECTION**			
G.5. Parameters for which waste will be analyzed and rationale. NR 664.0013(2)(a)	**P6-3 / SECTION 6.2**			
G.6. Test methods that will be used. NR 664.0013(2)(b)	**P6-3 / SECTION 6.2**			
G.7. Sampling methods to obtain representative sample. NR 664.0013(2)(c)	**P6-5 / SECTION 6.5.3**			
G.8. Frequency of repeating initial analysis to ensure it is accurate and up to date. NR 664.0013(2)(d)	**P6-3 / SECTION 6.2**			
G.9. At a minimum, analysis is repeated if the process generating the waste has changed or when the inspection upon receiving the waste does not match the description on the manifest. NR 664.0013(1)(c).	**P6-3 / SECTION 6.2**			
G.10. For off-site waste, the waste analysis generators agree to supply. NR 664.0013(2)(e)	**P6-1 / SECTION 6.2**			
G.11. If ignitable, reactive or incompatible wastes are managed, the waste analysis methods used to comply with NR 664.0017(3). NR 664.0013(2)(f)	**P6-1 / SECTION 6.2**			
G.12. If the facility is subject to NR 664 subch. AA standards for process vents, the test methods and procedures used to comply with NR 664.1034(4). NR 664.0013(2)(f)	**NA**			
G.13. If the facility is subject to NR 664 subch. BB standards for equipment leaks, the test methods and procedures used to comply with NR 664.1063(4). NR 664.0013(2)(f)	**NA**			

Licensing Standard and Code Citation	Location In Report (Page/Section/ NA)	Complete? (Y/N/NA)	Technically Adequate? (Y/N/NA)	Comments
G.14. If the facility is subject to NR 664 subch. CC standards for containers or tanks, the waste determination procedures in NR 664.1083. NR 664.0013(2)(f)	**P6-1 / SECTION 6.2**			
G.15. The testing performed to determine if the waste meets or exceeds LDR standards, as required by NR 668.07. NR 664.0013(2)(f)	**P6-8 / SECTION 6.10**			
G.16. Information if seeking exemption to subch. CC requirements. NR 664.0013(2)(h)	**NA**			
G.17. For off-site waste, procedures used to inspect, and if necessary, analyze each movement of waste to ensure it matches the identity of the waste designated on the manifest. NR 664.0013(3)	**P6-4 TO 6-6 / SECTION 6.5**			
Section H: Security Requirements NR 670.014(2)(d)				
H.1. Security procedures to prevent unknowing entry by a 24 hour surveillance system which continuously monitors and controls entry. NR 664.0014(2)(a) OR,	**NA**			
H.2. The artificial or natural barrier surrounding active portions of facility and other means of controlled entry, such as gates or locked entrance AND NR 664.0014(2)(b)	**P5-2 / SECTION 5.4**			
H.3. The placement of "Danger – Unauthorized Persons Keep Out"signs at entrances and other locations. NR 664.0014(3)	**P5-2 / SECTION 5.4**			
H.4. Demonstration that the above security requirements are not necessary. NR 664.0014(1)	**NA**			
Section I. General Inspection Requirements NR 670.014(2)(e)				
I.1. Description of the equipment and devices inspected. NR 664.0015(2)(a)	**P7-1 / SECTION 7.1**			
I.2. Description of problems checked during the inspection. NR 664.0015(2)(c)	**P7-1 / SECTION 7.1**			
I.3. Inspection schedule for closed vent system and control device, required by NR 664.1033. NR 670.014(2)(d)	**NA**			
I.4. Inspection schedule for subch. BB pumps in light liquid service, required by NR 664.1052. NR 670.014(2)(d)	**NA**			
I.5. Inspection schedule for subch. BB compressors, required by NR 664.1053. NR 670.014(2)(d)	**NA**			

Licensing Standard and Code Citation	Location In Report (Page/Section/ NA)	Complete? (Y/N/NA)	Technically Adequate? (Y/N/NA)	Comments
I.6. Inspection schedule for subch. BB pumps and valves in heavy liquid service, pressure relief devices and connectors, required by NR 664.1058. NR 670.014(2)(d)	**NA**			
I.7. The inspection frequency for pumps, valves, pressure relief devices or connectors subject to subch. BB is adequate to prevent environmental or human health incidents. NR 664.0015(2)(d)	**NA**			
I.8. Areas subject to spills inspected daily when in use. NR 664.0015(2)(d)	**P7-2 / SECTION 7.1.2**			
I.9. Inspection frequency for other areas based on deterioration of equipment and probability of environmental or human health incident if problem goes undetected between inspections. NR 664.0015(2)(d)	**P7-2 / SECTION 7.1.2**			
I.10. Schedule to remedy ensures problem does not lead to environmental or health hazard. NR 664.0015(3)	**P7-1 / SECTION 7.1**			
I.11. Inspection log will be kept for at least 3 years and includes date and time of inspection; inspector name; observations made; date and type of remedial actions. NR 664.0015(4)	**P7-1 / SECTION 7.1**			
Section J. Contingency Plan Requirements NR 670.014(2)(g)				
J.1. Copy of Contingency Plan. NR 670.014(2)(g)	**P8-1 / SECTION 8.1**			
J.2. Plan is designed to minimize hazards to human health or the environment in the event of a release. NR 664.0051(1)	**P8-1 / SECTION 8.1**			
J.3. Provisions in the plan will be carried out immediately if release threatens human health or the environment. NR 664.0051(2)	**P8-4 / SECTION 8.4**			
J.4. Describes actions facility personnel will take if a release. NR 664.0052(1)	**P8-5 / SECTION 8.5**			
J.5. If using SPCC, it has been amended to incorporate hazardous waste provisions. NR 664.0052(2)	**NA**			Facility has a separate SPCC Plan.
J.6. Describes arrangements with local emergency agencies, hospitals and contractors. NR 664.0052(3)	**P8-8 / SECTION 8.9**			
J.7. Current list of emergency coordinator (primary and alternate) names, addresses and home/office phone numbers. NR 664.0052(4)	**P8-3 / SECTION 8.3**			

Licensing Standard and Code Citation	Location In Report (Page/Section/ NA)	Complete? (Y/N/NA)	Technically Adequate? (Y/N/NA)	Comments
J.8. Current list of emergency equipment, describing location, physical description and capability of each item. NR 664.0052(5)	**TABLE 8-3**			
J.9. Evacuation plan, signals to begin evacuation and alternate routes. NR 664.0052(6)	**P8-10 / SECTION 8.11**			
J.10. Copy of plan kept at facility and copy sent to police and fire depts., hospital, and state and local response teams. NR 664.0053	**P8-18 / SECTION 8.16**			
J.11. Plan will be reviewed and amended, as necessary. NR 664.0054	**P8-18 / SECTION 8.15**			
J.12. Emergency coordinator always on premises or on call. NR 664.0055	**P8-3 / SECTION 8.3**			
J.13. Emergency coordinator is thoroughly familiar with plan, site operations, waste types handled, facility records and layout. NR 664.0055	**P8-3 / SECTION 8.3**			
J.14. Emergency coordinator has authority to commit resources to carry out contingency plan. NR 664.0055	**P8-3 / SECTION 8.3**			
J.15. Emergency coordinator activates alarms and notifies state or local agencies. NR 664.0056(1)	**P8-3 / SECTION 8.3**			
J.16. Emergency coordinator identifies the character, sources, amount and extent of release. NR 664.0056(2)	**P8-3 / SECTION 8.3**			
J.17. Emergency coordinator assesses possible hazards to human health and environment. NR 664.0056(3)	**P8-3 / SECTION 8.3**			
J.18. Emergency coordinator notifies local authorities if evacuation is necessary. NR 664.0056(4)(a)	**P8-3 / SECTION 8.3**			
J.19. Emergency coordinator notifies emergency response officials of release outside of facility. NR 664.0056(4)(b)	**P8-3 / SECTION 8.3**			
J.20. Emergency coordinator takes reasonable measures to ensure fire, explosion or release do not occur or spread to other hazardous waste. NR 664.0056(5)	**P8-3 / SECTION 8.3**			
J.21. Emergency coordinator monitors for leaks, pressure build-up, and gas generation if operations stop. NR 664.0056(6)	**P8-3 / SECTION 8.3**			
J.22. Emergency coordinator arranges for treatment, storage, or disposal of materials after emergency. NR 664.0056(7)	**P8-3 / SECTION 8.3**			

Licensing Standard and Code Citation	Location In Report (Page/Section/ NA)	Complete? (Y/N/NA)	Technically Adequate? (Y/N/NA)	Comments
J.23. Emergency coordinator ensures no incompatible waste is treated, stored or disposed until cleanup is completed. NR 664.0056(8)(a)	**P8-3 / SECTION 8.3**			
J.24. Emergency coordinator ensures all emergency equipment is clean and fit for use before operations resume. NR 664.0056(8)(b)	**P8-3 / SECTION 8.3**			
J.25. Owner or operator notifies department and state and local authorities before resuming operations. NR 664.0056(9)	**P8-19 / SECTION 8.18**			
J.26. Implementation of plan will be noted in operating log and incident report sent to WDNR in 15 days. NR 664.0056(10)	**P8-19 / SECTION 8.18**			
Section K. Training Plan Requirements NR 670.014(2)(L)				
K.1. Outline of both introductory and continuing training programs to prepare persons to operate or maintain facility in a safe manner. NR 670.014(2)(L)	**P4-22 / SECTION 4.8**			
K.2. Training program teaches personnel hazardous waste management procedures relevant to the positions in which they are employed. NR 664.0016(1)(b)	**P4-22 / SECTION 4.8**			
K.3. Training program ensures facility personnel can respond effectively to emergencies by familiarizing them with emergency procedures, equipment and systems. NR 664.0016(1)(c)	**P4-22 / SECTION 4.8**			
K.4. Personnel complete training within 6 months of being in new position and before working in unsupervised positions. NR 664.0016(2)	**P4-22 / SECTION 4.8**			
K.5. Training documentation includes job title, job description, type and amount of training to be given and training that is completed. NR 664.0016(4)	**P4-22 / SECTION 4.8**			
K.6. Brief description of how training will be designed to meet actual job tasks. NR 670.014(2)(L)	**P4-22 / SECTION 4.8**			
Section L. Closure Plan Requirements NR 670.014(2)(m)				
L.1. Copy of Closure Plan. NR 670.014(2)(m)	**P9-1 / SECTION 9.0**			
L.2. Description of how each unit will close during partial or final closure to minimize the need for further maintenance. NR 664.0112(2)(a)	**P9-1 / SECTION 9.1.**			

Licensing Standard and Code Citation	Location In Report (Page/Section/ NA)	Complete? (Y/N/NA)	Technically Adequate? (Y/N/NA)	Comments
L.3. Description of how each unit will close during partial or final closure to control, minimize or eliminate post-closure escape of hazardous waste constituents. NR 664.0112(2)(a)	**P9-1 / SECTION 9.1**			
L.4. Description of the maximum extent of operations during the active life of the facility. NR 664.0112(2)(b)	**P9-1 / SECTION 9.0**			
L.5. Estimate of maximum inventory during active life of facility. NR 664.0112(2)(c)	**P9-2 / SECTION 9.1.2**			
L.6. Description of methods used to remove, transport, treat, store, and dispose of all hazardous waste during partial and final closure. NR 664.0112(2)(c)	**P9-2 / SECTION 9.1.2**			
L.7. Identification of the types of off-site hazardous waste management units to be used. NR 664.0112(2)(c)	**P9-2 / SECTION 9.1.2**			
L.8. Detailed description of steps needed to remove or decontaminate all hazardous waste residues and contaminated equipment, structures and soils during partial and final closure. NR 664.0112(2)(d)	**P9-2 / SECTION 9.1.2**			
L.9 Detailed description of other activities necessary to ensure all partial and final closures satisfy the closure performance standards. NR 664.0112(2)(e)	**P9-2 / SECTION 9.1.2**			
L.10. During closure of container areas, all hazardous waste and residues will be removed from the containment system; remaining contaminated structures and soil will be decontaminated or removed. NR 664.0178	**P9-2 / SECTION 9.1.2**			
L.11. During closure of tank systems, all waste residues, contaminated containment system components, soils, structures and equipment is decontaminated or removed. NR 664.0197(1)	**NA**			
L.12. Schedule for closure of each hazardous waste management unit and final closure of the facility. NR 664.0112(2)(f)	**P9-8 / SECTION 9.2**			
L.13. The estimated year of final closure if the financial mechanism is a trust fund and the facility expects to close before the operating license expires. NR 664.0112(2)(g)	**NA**			
L.14. Alternative requirements for closure established by the department. NR 664.0112(2)(h)	**NA**			

Licensing Standard and Code Citation	Location In Report (Page/Section/ NA)	Complete? (Y/N/NA)	Technically Adequate? (Y/N/NA)	Comments
L.15. Department will be notified at least 180 days prior to partial or final closure. NR 664.0112(4)(a)	**P9-8 / SECTION 9.2**			
L.16. Within 90 days of receiving the final volume of hazardous waste, all hazardous waste is treated, or removed from the unit or facility. NR 664.0113(1)	**P9-8 / SECTION 9.2**			
L 17. Partial and final closure activities are completed within 180 days after receiving the final volume of hazardous waste. NR 664.0113(2)	**P9-8 / SECTION 9.2**			
L.18. All contaminated equipment, structures, and soils will be properly disposed of or decontaminated. NR 664.0114	**P9-8 / SECTION 9.2**			
L.19. Within 60 days of completing final closure, a certification of closure will be sent to the department. NR 664.0115	**P9-8 / SECTION 9.3**			
Section M: Closure Cost Estimate and Financial Responsibility NR 670.014(2)(o)				
M.1. The most recent detailed written closure cost estimate in current dollars for closing the facility in accordance with the approved closure plan. NR 664.0142(1)	**P10-1 / SECTION 10.1**			
M.2. Cost estimate equals the cost of final closure when facility operations make closure the most expensive. NR 664.0142(1)(a)	**P10-1 / SECTION 10.1**			
M.3. Cost estimate is based on hiring a third party to close the facility. NR 664.0142(1)(b)	**P10-1 / SECTION 10.1**			
M.4. Cost estimate does not incorporate any salvage value of hazardous waste, structures, equipment, land or assets. NR 664.0142(1)(c)	**P10-1 / SECTION 10.1**			
M.5. Closure estimate does not include a zero cost for hazardous waste that might have economic value. NR 664.0142(1)(d)	**P10-1 / SECTION 10.1**			
M.6. Facility has established financial assurance that covers the closure cost estimate. NR 664.0143	**P10-2 / SECTION 10.2**			
M.7. The financial assurance mechanism meets all applicable requirements in NR 664.0143.	**P10-2 / SECTION 10.2**			
M.8. If a new facility, the financial assurance is submitted 60 days prior to initial receipt of waste. NR 670.014(2)(o)	**NA**			
Section N: Pollution Liability Insurance NR 670.014(2)(q)				
N.1. Copy of the insurance policy or other documentation demonstrating liability coverage. NR 670.014(2)(q)	**P11-1 / SECTION 11.0**			

Licensing Standard and Code Citation	Location In Report (Page/Section/ NA)	Complete? (Y/N/NA)	Technically Adequate? (Y/N/NA)	Comments
N.2. Financial responsibility covers bodily injury and property damage to third parties caused by sudden accidental occurrences arising from operations of the facility. NR 664.0147(1)	**P11-1 / SECTION 11.0**			
N.3. Coverage for sudden accidental occurrences of at least $1 million per occurrence with annual aggregate of at least $2 million. NR 664.0147(1)	**P11-1 / SECTION 11.0**			
N.4. If a new facility, documentation showing the amount of insurance to be in place before the initial receipt of waste. NR 670.014(2)(q).	**NA**			

PART II - UNIT REQUIREMENTS - CONTAINERS				
Licensing Standard and Code Citation	**Location In Report (Page, Section or N/A)**	**Complete? (Y/N/N/A)**	**Technically Adequate? (Y/N/N/A)**	**Comments**
Section A: Container Standards – Inspections NR 670.014(2)(e)				
A.1. Container storage areas inspected at least weekly for leaking containers and the deterioration of containers and containment system. NR 664.0174	**P7-1 / SECTION 7.1.1**			
A.2. Inspection frequency of container storage areas is adequate to prevent environmental or human health incident. NR 664.0015(2)(d)	**P7-1 / SECTION 7.1.1**			
A.3. Inspection schedule for subch. CC containers, as required by 664.1086. NR 670.014(2)(e)	**P7-2 / SECTION 7.1.2**			
A.4. Inspection schedule includes inspection and monitoring requirements in NR 664.1088 for containers. NR 670.014(2)(e)	**P7-1 / SECTION 7.1.1**			
A.5. The inspection frequencies required by subch. CC for containers are adequate to prevent environmental or human health incidents. NR 664.0015(2)(d)	**P7-1 / SECTION 7.1.1**			
Section B. Container Standards – Containment NR 670.015(1)				
B.1. Base of containment system is designed and operated to be free of cracks or gaps and sufficiently impervious to leaks and precipitation until material is removed. NR 664.0175(2)(a)	**P5-3 / SECTION 5.5**			
B.2. Base is sloped or containment system is designed and operated to drain and remove liquids from leaks or precipitation OR containers are elevated or otherwise protected from contacting accumulated liquids. NR 664.0175(2)(b)	**P5-3 / SECTION 5.5**			
B.3. Capacity of containment system is 10% of the volume of containers or the volume of the largest container, which ever is greater. Containers without free liquids need not be considered. NR 664.0175(2)(c)	**P5-4 / SECTION 5.5.1**			
B.4. Run-on into the containment system is prevented unless the containment system has sufficient excess capacity to contain it. NR 664.0175(2)(d)	**P5-4 / SECTION 5.5.1**			

Licensing Standard and Code Citation	Location In Report (Page, Section or N/A)	Complete? (Y/N/N/A)	Technically Adequate? (Y/N/N/A)	Comments
B.5. Spilled waste and precipitation are removed from sump or collection area in a timely manner to prevent overflow. NR 664.0175(2)(e)	**P5-3 / SECTION 5.5**			
B.6. The design and operation of the containment structure complies with B.1. to B.5. for containers of F020-F023 and F026- F027 wastes that do not contain free liquids. NR 664.0175(4)	**P5-4 / SECTION 5.5.1**			
B.7. Description of basic design parameters, dimensions and materials of construction of the containment system. NR 670.015(1)(a)	**P3-1 / SECTION 3.1**			
B.8. Description of how the design of the containment system promotes drainage or how containers are kept from contacting standing liquids. NR 670.015(1)(b)	**P5-4 / SECTION 5.5.1**			
B.9. Description of the capacity of the containment system relative to the number and volume of containers to be stored. NR 670.015(1)(c)	**P5-4 / SECTION 5.5.1**			
B.10. Provisions for preventing or managing run-on. NR 670.015(1)(d)	**P5-3 / SECTION 5.5**			
B.11. How accumulated liquids will be analyzed and removed to prevent overflow. NR 670.015(1)(e)	**P5-4 / SECTION**			
B.12. Other than B.6., if all containers do not contain free liquids, either the storage area is sloped or otherwise designed to drain and remove precipitation; or, the containers are elevated or otherwise protected from contact with accumulated liquid. NR 670.015(2)	**P5-4 / SECTION 5.5.1**			
B.13. Test procedures and results or other documentation or information showing waste in B.12. does not contain free liquids. NR 670.015(2)(a)	**NA**			
B.14. Description of how the storage area for waste in B.12. is designed or operated to drain and remove liquids, or how containers with no free liquids are kept from contacting standing liquids. NR 670.015(2)(b)	**P5-4 / SECTION 5.5.1**			
Section C: Container Standards – Incompatible, Reactive, Ignitable Waste NR 670.015(3) and NR 670.015(4)				
C.1. Sketches, drawings or data demonstrating containers of ignitable or reactive waste are located at least 50 feet from the facility property line. NR 664.0176	**P3-1 / SECTION 3.1**			

Licensing Standard and Code Citation	Location In Report (Page, Section or N/A)	Complete? (Y/N/N/A)	Technically Adequate? (Y/N/N/A)	Comments
C.2. Sketches, drawings or data demonstrating storage containers of hazardous waste that are incompatible with other waste or materials stored nearby in other containers, piles or open tanks are separated or protected by a dike, berm, wall or other device. NR 664.0177(3)	**P3-1 / SECTION 3.1 / DRAWING D3**			
C.3. Description of procedures to ensure incompatible wastes are not placed in the same container unless the requirements in C.4. to C.10. are met. NR 670.0015(4)	**P4-6 / SECTION 4.2.2**			
C.4. Precautions taken to prevent reactions generating extreme heat or pressure, fire or explosions or violent reactions. NR 664.0017(2)(a)	**P4-6 / SECTION 4.2.2**			
C.5. Precautions taken to prevent reactions producing uncontrolled toxic mists, fumes, dusts or gases in sufficient quantities to threaten human health or the environment. NR 664.0017(2)(b)	**P4-6 / SECTION 4.2.2**			
C.6. Precautions taken to prevent reactions producing uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosion. NR 664.0017(2)(c)	**P4-6 / SECTION 4.2.2**			
C.7. Precautions taken to prevent reactions damaging the structural integrity of the device or facility. NR 664.0017(2)(d)	**P4-6 / SECTION 4.2.2**			
C.8. Precautions taken to prevent reactions through other means to threaten human health or the environment. NR 664.0017(2)(e)	**P4-6 / SECTION 4.2.2**			
C.9. Documentation of compliance with C.4. to C.8., based on references to published scientific or engineering literature, data from trial tests, waste analyses or the results of treatment of similar wastes or similar treatment processes and under similar operating conditions. NR 664.0017(3)	**P4-6 / SECTION 4.2.2**			
C.10. Description of procedures to ensure hazardous waste is not placed in an unwashed container that previously held an incompatible waste or material. NR 664.0177(2)	**P4-6 / SECTION 4.2.2**			

PART II - UNIT REQUIREMENTS - TANKS				
Licensing Standard and Code Citation	**Location In Report (Page, Section or N/A)**	**Complete? (Y/N/N/A)**	**Technically Adequate? (Y/N/N/A)**	**Comments**
Section D: Tank Standards – General NR 670.016				
D.1. Dimensions and capacity of each tank. NR 670.016(2)	**NA**			
D.2. Description of feed systems, safety cutoff, bypass systems and pressure controls. NR 670.016(3)	**NA**			
D.3. Diagram of piping, instrumentation and process flow for each tank system. NR 670.016(4)	**NA**			
D.4. Description of spill prevention controls, such as check valves, dry disconnect couplings. NR 664.0194(2)(a)	**NA**			
D.5. Description of overfill prevention controls, such as level sensing devices, high level alarms, automatic feed cutoff or bypass to a standby tank. NR 664.0194(2)(b)	**NA**			
D.6. Description of how sufficient freeboard in uncovered tanks will be maintained to prevent overtopping by wave or wind action or precipitation. NR 664.0194(2)(c)	**NA**			
Section E: Tank Standards – Inspections NR 670.014(2)(e)				
E.1. Inspection schedule for tank overfill controls. NR 664.0195(1).	**NA**			
E.2. Aboveground portions of tank systems inspected at least once each operating day to detect corrosion or releases of waste. NR 664.1095(2)(a)	**NA**			
E.3. Construction materials and area immediately surrounding tank systems inspected at least once each operating day to detect erosion or signs of releases. NR 664.1095(2)(c)	**NA**			
E.4. Data gathered from monitoring and leak detection equipment inspected at least once each operating day to ensure the tank system is operated according to design. NR 664.1095(2)(b)	**NA**			
E.5. Proper operation of the cathodic protection system is confirmed by inspection within 6 months of initial installation and annually thereafter. NR 664.1095(3)(a)	**NA**			

Licensing Standard and Code Citation	Location In Report (Page, Section or N/A)	Complete? (Y/N/N/A)	Technically Adequate? (Y/N/N/A)	Comments
E.6. All sources of impressed current inspected and/or tested, as appropriate, at least every other month. NR 664.1095(3)(b)	**NA**			
E.7. Inspection schedule for subch. CC tank requirements, as stated in 664.1084 and 664.1088. NR 670.014(2)(e)	**NA**			
E.8. Inspection frequencies required by subch. CC for tanks are adequate to prevent environmental or human health incidents. NR 664.0015(2)(d)	**NA**			
Section F: Tank Standards – Existing Tanks NR 670.016(1)				
F.1. For each tank system installed before March 1, 1991, a written assessment reviewed and certified by an independent, qualified, registered PE as to the structural integrity and suitability for handling hazardous waste which includes the information in F.2. to F.8. NR 670.016(1)	**NA**			
F.2. Design standards for construction of the tank and ancillary equipment. NR 664.0191(2)(a)	**NA**			
F.3. Hazardous characteristics for the wastes handled. NR 664.0191(2)(b)	**NA**			
F.4. Existing corrosion protection measures. NR 664.0191(2)(c)	**NA**			
F.5. The age of the tank system, either documented or estimated. NR 664.0191(2)(d)	**NA**			
F.6. Results of a leak test, internal inspection or other tank integrity examination. NR 664.0191(2)(e)	**NA**			
F.7. If underground tanks cannot be entered, a leak test capable of taking into account the effects of temperature variations, tank end deflection, vapor pockets and high water table effects. NR 664.0191(2)(e)1.	**NA**			
F.8. If other tanks cannot be entered, a leak test or other integrity examination certified by a PE that addresses cracks, leaks, corrosion, and erosion. NR 664.0191(2)(e)2.	**NA**			
F.9. If, as a result of the assessment, the tank was found to be leaking or unfit for use, steps were taken to comply with F.10. to F.22. NR 664.0191(4)	**NA**			

Licensing Standard and Code Citation	Location In Report (Page, Section or N/A)	Complete? (Y/N/N/A)	Technically Adequate? (Y/N/N/A)	Comments
F.10. Tank system or secondary containment system removed from service immediately. NR 664.0196	**NA**			
F.11. Flow of hazardous waste into the tank system or secondary containment system stopped immediately and the system inspected to determine the cause of the release. NR 664.0196(1)	**NA**			
F.12. If the release was from the tank system, as much waste as necessary wais removed to prevent further releases and to allow inspection and repair of the tank system within 24 hours after detection or at the earliest practicable time. NR 664.0196(2)(a)	**NA**			
F.13. If the material was released to a secondary containment system, all released material was removed within 24 hours or in a timely manner to prevent harm to human health and the environment. NR 664.0196(2)(b)	**NA**			
F.14. Visual inspection of the release conducted. NR 664.0196(3)	**NA**			
F.15. Further migration of the spill to soils or surface water was prevented. NR 664.0196(3)(a)	**NA**			
F.16. Visible contamination of the soil or surface water was removed and properly disposed. NR 664.0196(3)(b)	**NA**			
F.17. Release reported to the Department within 24 hours of its detection, unless less than one pound was released and material was contained and cleaned up immediately. NR 664.0196(4)	**NA**			
F.18. Written report submitted to the Department within 30 days of detecting the release. NR 664.0196(4)(c)	**NA**			
F.19. System was returned to service after cleanup and repairs if the integrity of the tank system was not damaged. NR 664.0196(5)(b)	**NA**			
F.20. If the leak was from the tank system into secondary containment, the system was repaired before the tank was returned to service. NR 664.0196(5)(c)	**NA**			

Licensing Standard and Code Citation	Location In Report (Page, Section or N/A)	Complete? (Y/N/N/A)	Technically Adequate? (Y/N/N/A)	Comments
F.21. If the leak was from a component that did not have secondary containment, either secondary containment will be provided or repairs are made if the component can be visually inspected. NR 664.0196(5)(d)	**NA**			
F.22. If major repairs were made, a PE certification was submitted to the Department within 7 days of returning the tank system to use. NR 664.0196(6)	**NA**			
Section G: Tank Standards – New Tanks NR 670.016(1) and NR 670.016(6)				
G.1. For each new tank system, a written assessment reviewed and certified by an independent, qualified, registered PE as to the structural integrity and suitability for handling hazardous waste which includes the information in G.2. to G.19. NR 670.016(1)	**NA**			
G.2. Design standards to which the tanks and ancillary equipment are constructed. NR 664.0192(1)(a)	**NA**			
G.3. Hazardous characteristics of the wastes to be handled. NR 664.0192(1)(b)	**NA**			
G.4. If the external shell of the metal tank or any external metal component of the tank system will be in contact with soil or water, a determination by a corrosion expert of factors affecting the potential for corrosion, including G.5. to G.9, at a minimum. NR 664.0192(1)(c)	**NA**			
G.5. Soil moisture content, pH, sulfides level, and resistivity. NR 664.0192(1)(c)1	**NA**			
G.6. Structure to soil potential. NR 664.0192(1)(c)1	**NA**			
G.7. Influence of nearby underground metal structures, such as piping. NR 664.0192(1)(c)1	**NA**			
G.8. Existence of stray electric current. NR 664.0192(1)(c)1	**NA**			
G.9. Existing corrosion-protection measures. NR 664.0192(1)(c)1	**NA**			

Licensing Standard and Code Citation	Location In Report (Page, Section or N/A)	Complete? (Y/N/N/A)	Technically Adequate? (Y/N/N/A)	Comments
G.10. A description of materials and equipment used to provide external corrosion protection to ensure the integrity of the tank system during its use, including one or more of those in G.11 to G.13. NR 664.0192(1)(c)2	**NA**			
G.11. Corrosion-resistant materials of construction such as special alloys, fiberglass, reinforced plastic, etc. NR 664.0192(1)(c)2.a.	**NA**			
G.12. Corrosion-resistant coating with cathodic protection. NR 664.0192(1)(c)2.b.	**NA**			
G.13. Electrical isolation devices such as insulating joints, flanges, etc. NR 664.0192(1)(c)2.c.	**NA**			
G.14. For underground tank system components that are likely to be adversely affected by vehicular traffic, the design or operational measures that will protect the tank system against potential damage. NR 664.0192(1)(d)	**NA**			
G.15. Design considerations to ensure tank foundations will maintain the load of a full tank. NR 664.0192(1)(e)1.	**NA**			
G.16. Design considerations to ensure tank systems will be anchored to prevent flotation or dislodgment when the tank system is placed in a saturated zone. NR 664.0192(1)(e)2.	**NA**			
G.17. Design considerations to ensure tank systems will withstand the effects of frost heave. NR 664.0192(1)(e)3.	**NA**			
G.18. Foundation, structural support, seams, connections and pressure controls, if needed, are adequately designed to ensure the tank system will not collapse, rupture or fail. NR 664.0192(1)	**NA**			
G.19. The tank system has sufficient structural strength, compatibility with the wastes to be stored or treated and corrosion protection to ensure it will not collapse, rupture or fail. NR 664.0192(1)	**NA**			
G.20. A detailed description of how the tank systems will be installed in compliance with G.21. to G.28. NR 670.016(6)	**NA**			

Licensing Standard and Code Citation	Location In Report (Page, Section or N/A)	Complete? (Y/N/N/A)	Technically Adequate? (Y/N/N/A)	Comments
G.21. Before covering, enclosing or placing a new tank system or component in use, an independent qualified installation inspector or registered PE who is trained and experienced in the proper installation of tank systems or components will inspect the system for the presence of weld breaks, punctures, scrapes of protective coatings, cracks, corrosion and other structural damage or inadequate construction or installation. NR 664.0192(2)	**NA**			
G.22. All structural damage or inadequate construction or installation will be remedied before the tank system is covered, enclosed or placed in use. NR 664.0192(2)	**NA**			
G.23. For tank systems or components placed underground, the backfill material is noncorrosive, porous and homogeneous, installed so the backfill is placed completely around the tank, and compacted to ensure the tank and piping are fully and uniformly supported. NR 664.0192(3)	**NA**			
G.24. All tanks and ancillary equipment will be tightness tested before being covered, enclosed or placed in use. NR 664.0192(4)	**NA**			
G.25. If the tank system is found not to be tight, all repairs necessary to remedy the leaks in the system will be performed before the tank system is covered, enclosed or placed into use. NR 664.0192(4)	**NA**			
G.26. Ancillary equipment is supported and protected against physical damage and excessive stress due to settlement, vibration, expansion or contraction. NR 664.0192(5)	**NA**			
G.27. The type and degree of corrosion protection recommended by an independent corrosion expert is provided. NR 664.0192(6)	**NA**			
G.28. If field fabricated, a corrosion expert will supervise the installation of the corrosion protection system to ensure proper installation. NR 664.0192(6)	**NA**			
Section H: Tank Standards – Secondary Containment NR 670.016(7) and NR 670.016(8)				

Licensing Standard and Code Citation	Location In Report (Page, Section or N/A)	Complete? (Y/N/N/A)	Technically Adequate? (Y/N/N/A)	Comments
H.1. Detailed plans and description of how the secondary containment system for each tank system meets the requirements stated in H.2. to H.9. NR 670.016(7)	**NA**			
H.2. Designed, constructed and operated to prevent the migration of wastes or accumulated liquid out of the system to the soil, groundwater or surface water at any time during use of the tank system. NR 664.0193(2)(a)	**NA**			
H.3. Designed, constructed and operated to detect and collect releases and accumulated liquid until the material is removed. NR 664.0193(2)(b)	**NA**			
H.4. Constructed of or lined with materials that are compatible with the wastes to be placed in the tank system. NR 664.0193(3)(a)	**NA**			
H.5. Has sufficient strength and thickness to prevent failure due to pressure gradients, physical contact with the waste, climatic conditions and stress of daily operation. NR 664.0193(3)(a)	**NA**			
H.6. Placed on a foundation or base capable of providing support and resistance to pressure gradients above and below the system, and preventing failure due to settlement, compression or uplift. NR 664.0193(3)(b)	**NA**			
H.7. Provided with a leak detection system designed and operated to detect the failure of either the primary or secondary containment structure or the presence of any release of hazardous waste or accumulated liquid in the secondary containment system within 24 hours or at the earliest practicable time unless demonstrated that existing detection technologies or site conditions will not allow detection of a release within 24 hours. NR 664.0193(3)(c)	**NA**			
H.8. Sloped or otherwise designed or operated to drain and remove liquids resulting from leaks, spills or precipitation. NR 664.0193(3)(d)	**NA**			

Licensing Standard and Code Citation	Location In Report (Page, Section or N/A)	Complete? (Y/N/N/A)	Technically Adequate? (Y/N/N/A)	Comments
H.9. Spilled or leaked waste and accumulated precipitation will be removed from the secondary containment system within 24 hours or in a timely manner that prevents harm to human health and the environment if demonstrated that the material cannot be removed in 24 hours. NR 664.0193(3)(d)	**NA**			
H.10. Detailed plans and description of how an external liner system for each tank system meets the requirements stated in H.11. to H.14. NR 670.016(7)	**NA**			
H.11. Designed or operated to contain 100% of the capacity of the largest tank within its boundary. NR 664.0193(5)(a)1.	**NA**			
H.12. Designed or operated to prevent run-on or infiltration of precipitation into the external liner system unless the collection system has sufficient excess capacity to contain run-on or infiltration from a 25 year, 24 hour rainfall event. NR 664.0193(5)(a)2.	**NA**			
H.13. Free of cracks and gaps. NR 664.0193(5)(a)3.	**NA**			
H.14. Designed and installed to surround the tank completely and cover all surrounding earth likely to come into contact with the waste if a release from the tank (capable of preventing lateral and vertical migration of waste). NR 664.0193(5)(a)4.	**NA**			
H.15. Detailed plans and description of how a vault system for each tank system meets the requirements stated in H.16. to H.21. NR 670.016(7)	**NA**			
H.16. Designed or operated to contain 100% of the capacity of the largest tank within its boundary. NR 664.0193(5)(b)1.	**NA**			
H.17. Designed or operated to prevent run-on or infiltration of precipitation into the vault system unless the collection system has sufficient excess capacity to contain run-on or infiltration from a 25 year, 24 hour rainfall event. NR 664.0193(5)(b)2.	**NA**			

Licensing Standard and Code Citation	Location In Report (Page, Section or N/A)	Complete? (Y/N/N/A)	Technically Adequate? (Y/N/N/A)	Comments
H.18. Constructed with chemical-resistant water stops in place at all joints. NR 664.0193(5)(b)3.	**NA**			
H.19. Provided with an impermeable interior coating or lining compatible with the stored waste to prevent migration of waste into the concrete. NR 664.0193(5)(b)4.	**NA**			
H.20. Provided with a means to protect against the formation and ignition of vapors within the vault, if the waste stored or treated is ignitable waste or reactive waste capable of forming ignitable or explosive vapor. NR 664.0193(5)(b)5.	**NA**			
H.21. Provided with an exterior moisture barrier or otherwise designed or operated to prevent migration of moisture into the vault if it is subject to hydraulic pressure. NR 664.0193(5)(b)6.	**NA**			
H.22. Detailed plans and description of how a double-walled tank system for each tank system meets the requirements stated in H.23. to H.25. NR 670.016(7)	**NA**			
H.23. Designed as an integral structure so that the outer shell contains any release from the inner tank. NR 664.0193(5)(c)1.	**NA**			
H.24. Protected, if constructed of metal, from both corrosion of the primary tank interior and of the external surface of the outer shell. NR 664.0193(5)(c)2.	**NA**			
H.25. Provided with a built-in continuous leak detection system capable of detecting a release within 24 hours or at the earliest practicable time if demonstrated that existing detection technology or site conditions would not allow detection of a release within 24 hours. NR 664.0193(5)(c)3.	**NA**			

Licensing Standard and Code Citation	Location In Report (Page, Section or N/A)	Complete? (Y/N/N/A)	Technically Adequate? (Y/N/N/A)	Comments
H.26. Detailed plans and description of how ancillary equipment for each tank system will be provided with secondary containment except for aboveground piping; welded flanges, joints and connections; sealless or magnetic coupling pumps and sealless valves; and, pressurized aboveground piping systems with automatic shut-off devices that are visually inspected for leaks on a daily basis. NR 664.0193(6)	**NA**			
H.27. If seeking an alternative to the requirements of this section, detailed plans and engineering and hydrogeologic reports describing alternate design and operating practices; and, an evaluation of location characteristics which demonstrate the migration of hazardous waste or constituents into groundwater or surface water during the life of the facility is prevented. NR 670.016(8)(a)	**NA**			
H.28. If seeking an alternative to the requirements of this section, a detailed assessment of the substantial present or potential hazards posed to human health or the environment should a release enter the environment. NR 670.016(8)(b)	**NA**			
Section I: Tank Standards – Ignitable, Reactive and Incompatible Wastes NR 670.016(10)				
I.1. If ignitable or reactive waste is treated, rendered or mixed before or immediately after placement in the tank system, a description of how operating procedures and tank system and facility design will ensure the resulting waste, mixture or dissolved material no longer meets the definition of ignitable or reactive waste. NR 664.0198(1)(a)1.	**NA**			
I.2. If ignitable or reactive waste is treated, rendered or mixed before or immediately after placement in the tank system, a description of how operating procedures and tank system and facility design will ensure I.3. to I.7. will be met. NR 664.0198(1)(a)2.	**NA**			
I.3. Precautions taken to prevent reactions generating extreme heat or pressure, fire or explosions or violent reactions. NR 664.0017(2)(a)	**NA**			

Licensing Standard and Code Citation	Location In Report (Page, Section or N/A)	Complete? (Y/N/N/A)	Technically Adequate? (Y/N/N/A)	Comments
I.4. Precautions taken to prevent reactions producing uncontrolled toxic mists, fumes, dusts or gases in sufficient quantities to threaten human health or the environment. NR 664.0017(2)(b)	**NA**			
I.5. Precautions taken to prevent reactions producing uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosion. NR 664.0017(2)(c)	**NA**			
I.6. Precautions taken to prevent reactions damaging the structural integrity of the device or facility. NR 664.0017(2)(d)	**NA**			
I.7. Precautions taken to prevent reactions which, through other means, threaten human health or the environment. NR 664.0017(2)(e)	**NA**			
I.8. Documentation demonstrating compliance with I.2.. to I.7., including references to published scientific or engineering literature, data from trial tests, waste analysis or the results of treatment of similar waste by similar treatment under similar operating conditions. NR 664.0017(3)	**NA**			
I.9. If ignitable or reactive waste is placed in the tank system, an alternative to I.2. to I.8. is to provide a description of how operating procedures and tank system and facility design will ensure the waste is stored or treated in such a way that it is protected from any material or conditions that may cause the waste to ignite or react. NR 664.0198(1)(b)	**NA**			
I.10. If ignitable or reactive waste is placed in the tank system, an alternative to I.2 to I.8 or I.9. is to provide a description of how operating procedures, the tank system and facility design will ensure the tank system is used solely for emergencies. NR 664.0198(1)(c)	**NA**			

Licensing Standard and Code Citation	Location In Report (Page, Section or N/A)	Complete? (Y/N/N/A)	Technically Adequate? (Y/N/N/A)	Comments
I.11. If the facility stores or treats ignitable or reactive waste in a tank, demonstrate compliance with the requirements to maintain protective distances between the waste management area and any public ways, streets, alleys or an adjoining property line that can be built upon, as required by Tables 2-1 to 2-6 of NFPA's "Flammable and Combustible Liquids Code. NR 664.0198(2)	**NA**			
I.12. Incompatible wastes are not placed in the same tank system unless the requirements in I.3. to I.8. are met. NR 664.0199(1)	**NA**			
I.13. Hazardous waste is not placed in a tank system that previously held an incompatible waste and has not been decontaminated unless the requirements of I.3. to I.8. are met. NR 664.0199(2)	**NA**			

PART II - UNIT REQUIREMENTS - MISCELLANEOUS UNITS				
Licensing Standard and Code Citation	**Location In Report (Page, Section or N/A)**	**Complete? (Y/N/N/A)**	**Technically Adequate? (Y/N/N/A)**	**Comments**
Section J: Standards for Miscellaneous Units – Storage and Treatment NR 670.023				
J.1. Detailed description of the unit being used or proposed for use. NR 670.023(1)	**P4-12 / SECTION**			
J.2. Detailed description of the physical characteristics, materials of construction and dimensions of the unit. NR 670.023(1)(a)	**P4-12 / SECTION 4.5.1**			
J.3. Detailed plans and engineering reports describing how the unit will be located, designed, constructed, operated, maintained, monitored, inspected and closed to comply with J.4. to J.34. NR 670.023(1)(b)	**P4-14 / SECTION 4.5.2**			
J.4. Prevention of releases that may have adverse effects on human health or the environment due to migration of waste constituents in the groundwater or subsurface environment, considering items J.5. to J.13. NR 664.0601(1)	**P4-15 / SECTION 4.5.3**			
J.5. The volume and physical and chemical characteristics of the waste in the unit, including potential for migration through soil, liners or other containing structures. NR 664.0601(1)(a)	**P4-15 / SECTION 4.5.3**			
J.6. The hydrologic and geologic characteristics of the unit and surrounding area. NR 664.0601(1)(b)	**P4-15 / SECTION**			
J.7. The existing quality of groundwater, including other sources of contamination and their cumulative impact on groundwater. NR 664.0601(1)(c)	**P4-15 / SECTION 4.5.3**			
J.8. Quantity and direction of groundwater flow. NR 664.0601(1)(d)	**P4-15 / SECTION**			
J.9. Proximity to and withdrawal rates of current and potential groundwater users. NR 664.0601(1)(e)	**P4-15 / SECTION**			
J.10. Patterns of land use in the region. NR 664.0601(1)(f)	**P4-15 /**			
J.11. Potential of migration or deposition of waste constituents into subsurface physical structures and into the root zone of food-chain crops and other vegetation. NR 664.0601(1)(g)	**P4-15 / SECTION 4.5.3**			

Licensing Standard and Code Citation	Location In Report (Page, Section or N/A)	Complete? (Y/N/N/A)	Technically Adequate? (Y/N/N/A)	Comments
J.12. Potential for health risks caused by human exposure to waste constituents. NR 664.0601(1)(h)	**P4-15 / SECTION 4.5.3**			
J.13. Potential for damage to domestic animals, wildlife, crops, vegetation and physical structures caused by exposure to waste constituents. NR 664.0601(1)(i)	**P4-15 / SECTION 4.5.3**			
J.14. Prevention of any releases that may have adverse effects on human health or the environment due to migration of waste constituents in surface water, wetlands, or on soil surface, considering J.15.- J.25. NR 664.0601(2)	**P4-16 / SECTION 4.5.4**			
J.15. Volume and physical and chemical characteristics of the waste in the unit. NR 664.0601(2)a.	**P4-16 / SECTION**			
J.16. Effectiveness and reliability of containing, confining and collecting systems and structures in preventing migration. NR 664.0601(2)b.	**P4-16 / SECTION 4.5.4**			
J.17. Hydrologic characteristics of the unit and the surrounding area, including the topography of the land around the unit. NR 664.0601(2)c.	**P4-16 / SECTION 4.5.4**			
J.18. Precipitation patterns in the region. NR 664.0601(2)d.	**P4-16 /**			
J.19. Quantity, quality and direction of groundwater flow. NR 664.0601(2)e.	**P4-16 / SECTION**			
J.20. Proximity of the unit to surface waters. NR 664.0601(2)f.	**P4-16 / SECTION**			
J.21. Current and potential uses of nearby surface waters and any water quality standards established for those surface waters. NR 664.0601(2)g.	**P4-16 / SECTION 4.5.4**			
J.22. Existing quality of surface waters and surface soils, including other sources of contamination and their cumulative impact on surface waters and surface soils. NR 664.0601(2)(h)	**P4-16 / SECTION 4.5.4**			
J.23. Land use patterns in the region. NR 664.0601(2)(i)	**P4-16 /**			
J.24. Potential for health risks caused by human exposure to waste constituents. NR 664.0601(2)(j)	**P4-16 / SECTION**			

Licensing Standard and Code Citation	Location In Report (Page, Section or N/A)	Complete? (Y/N/N/A)	Technically Adequate? (Y/N/N/A)	Comments
J.25. Potential for damage to domestic animals, wildlife, crops, vegetation and physical structures caused by exposure to waste constituents. NR 664.0601(2)(k)	**P4-16 / SECTION 4.5.4**			
J.26. Prevention of releases that may have adverse effects on human health or the environment due to migration of waste constituents in the air, considering J.27. to J.33. NR 664.0601(3)	**P4-17 / SECTION 4.5.5**			
J.27. Volume, physical and chemical characteristics of the waste in the unit, including its potential for the emission and dispersal of gases, aerosols and particulates. NR 664.0601(3)a.	**P4-17 / SECTION 4.5.5**			
J.28. Effectiveness and reliability of systems and structures to reduce or prevent emissions of hazardous constituents to the air. NR 664.0601(3)b.	**P4-17 / SECTION 4.5.5**			
J.29. Operating characteristics of the unit. NR 664.0601(3)c.	**P4-17 / SECTION**			
J.30. Atmospheric, meterologic and topographic characteristics of the unit and the surrounding area. NR 664.0601(3)d.	**P4-17 / SECTION 4.5.5**			
J.31. Existing quality of the air, including other sources of contamination and their cumulative impact on the air. NR 664.0601(3)e.	**P4-17 / SECTION 4.5.5**			
J.32. Potential for health risks caused by human exposure to waste constituents. NR 664.0601(3)f.	**P4-17 / SECTION 4.5.5**			
J.33. Potential for damage to domestic animals, wildlife, crops, vegetation and physical structures caused by exposure to waste constituents. NR 664.0601(3)g.	**P4-17 / SECTION 4.5.5**			
J.34. Inspection procedures and frequencies minimize or prevent releases that may have adverse effects on human health or the environment. NR 664.0602	**P4-18 / SECTION 4.5.7**			
J.35. Detailed hydrologic, geologic and meteorologic assessments and land-use maps for the region surrounding the site that address and ensure compliance of the unit with each factor in J.4. to J.33. NR 670.023(2)	**P4-20 / SECTION 4.5.8**			

Licensing Standard and Code Citation	Location In Report (Page, Section or N/A)	Complete? (Y/N/N/A)	Technically Adequate? (Y/N/N/A)	Comments
J.36. Only preliminary hydrologic, geologic and meteorologic assessments are submitted if the applicant demonstrates they do not violate the environmental performance standards in J.4. to J.33. NR 670.023(2)	**P4-20 / SECTION 4.5.8**			
J.37. Information on the potential pathways of exposure of humans or environmental receptors to hazardous waste constituents and the potential magnitude and nature of exposures. NR 670.023(3)	**P4-18 / SECTION 4.5.6**			
J.38. For treatment units, a report on a demonstration of the effectiveness of the treatment based on laboratory or field data. NR 670.023(4)	**P4-18 / SECTION 4.5.7**			
J.39. Additional information necessary to evaluate if the unit complies with the environmental performance standards in J.4 to J.33., as determined by the department. NR 670.023(5)	**P4-19 / SECTION 4.5.8**			
J.40. If an existing miscellaneous unit located in a 100-year floodplain is not designed, constructed, operated and maintained to prevent washout, a demonstration that no adverse effects on human health or the environment will result if washout occurs, considering the volume and physical and chemical characteristics of the waste, and the concentrations and potential impacts of hazardous constituents on surface waters, sediments or soils. NR 664.0018(2)(a)2.	**NA**			
J.41. If an existing miscellaneous unit is not in compliance with J.40. and there are no procedures to move the waste to a location that is not vulnerable to flood waters, a plan and schedule to bring the facility into compliance. NR 670.014(2)(k)5.	**NA**			

PART III - AA				
Licensing Standard and Code Citation	**Location In Report (Page, Section or N/A)**	**Complete? (Y/N/N/A)**	**Technically Adequate? (Y/N/N/A)**	**Comments**
Section K: Subch. AA – Air Emission Control Standards for Process Vents NR 670.024				
K.1. Documentation of compliance with the process vent standards in NR 664.1032, including K.2. to K.6. NR 670.024(2)	**NA**			
K.2. A facility plot plan and information identifying the hazardous waste management units in the facility, the approximate location of each affected hazardous waste management unit in the facility and all affected process vents. NR 670.024(2)(a)	**NA**			
K.3. Information on annual throughput and operating hours of each affected unit, estimated emission rates for each affected vent and the overall facility. NR 670.024(2)(a)	**NA**			
K.4. Information and data supporting estimates of vent emissions and emission reduction achieved by add-on control devices based on engineering calculations or source tests. NR 670.024(2)(b)	**NA**			
K.5. Estimates of vent emissions and emission reductions are made using operating parameter values that represent the conditions that exist when the waste management unit is operating at the highest load or capacity level reasonably expected to occur. NR 670.024(2)(b)	**NA**			
K.6. Information and data used to determine whether or not a process vent is subject to NR 664.1032. NR 670.024(2)(c)	**NA**			
K.7. Documentation of compliance with NR 664.1033, including information in K.8 to K.13. NR 670.024(4)	**NA**			
K.8. List of all information references and sources used in preparing the documentation. NR 670.024(4)(a)	**NA**			
K.9. Records, including the dates of each compliance test required by NR 664.1033(11). NR 670.024(4)(b)	**NA**			

Licensing Standard and Code Citation	Location In Report (Page, Section or N/A)	Complete? (Y/N/N/A)	Technically Adequate? (Y/N/N/A)	Comments
K.10. Design analysis, specifications, drawings, schematics, and piping and instrumentation diagrams based on APTI Course 41.5 or other acceptable references. NR 670.024(4)(c)	**NA**			
K.11. Design analysis addresses the vent stream characteristic and control device operation parameters specified in NR 664.1035(2)(d). NR 670.024(4)(c)	**NA**			
K.12. Statement signed and dated by the owner/operator certifying the operating parameters used in the design analysis reasonably represent conditions that exist when the unit operates at the highest capacity reasonably expected to occur. NR 670.024(4)(d)	**NA**			
K.13. Statement signed and dated by the owner/operator certifying the control device for the affected process vents is designed to operate at the required efficiency levels. NR 670.024(4)(e)	**NA**			
K.14. If applying to use an alternate control device, a performance test plan if using test data. NR 670.024(3)	**NA**			

PART III - BB				
Licensing Standard and Code Citation	**Location In Report (Page, Section or N/A)**	**Complete? (Y/N/N/A)**	**Technically Adequate? (Y/N/N/A)**	**Comments**
Section L: Subch. BB – Air Emission Control Standards for Equipment NR 670.025				
L.1. For each piece of equipment subject to subch. BB, the information in L.2. to L.7. NR 670.025(1)	**NA**			
L.2. Equipment identification number and hazardous waste management unit identification. NR 670.025(1)(a)	**NA**			
L.3. Approximate location within the facility, as identified on a facility plot plan. NR 670.025(1)(b)	**NA**			
L.4. Type of equipment. NR 670.025(1)(c)	**NA**			
L.5. Percent by weight total organics in the hazardous waste stream at each piece of equipment. NR 670.025(1)(d)	**NA**			
L.6. Hazardous waste state (gas, vapor, etc.) at each piece of equipment. NR 670.025(1)(e)	**NA**			
L.7. Method of compliance with the applicable subch. BB standard. NR 670.025(1)(f)	**NA**			
L.8. Documentation demonstrating compliance with the equipment standards in NR 664.1052 to 664.1059, including records required by NR 664.1064. NR 670.025(4)	**NA**			
L.9. Additional documentation necessary to determine compliance with the subch. BB standards. NR 670.025(4)	**NA**			
L.10. Documentation demonstrating compliance with NR 664.1060 includes the information in L.11 to L.17. NR 670.025(5)	**NA**			
L.11. List of all information references and sources used to prepare the documentation. NR 670.025(5)(a)	**NA**			
L.12. Records, including the dates, of each compliance test required by NR 664.1033(10). NR 670.025(5)(b)	**NA**			
L.13. Design analysis, specifications, drawings, schematics and piping and instrumentation diagrams based on the appropriate sections of ATPI Course 415 or other engineering text that present basic control device design information. NR 670.025(5)(c)	**NA**			

Licensing Standard and Code Citation	Location In Report (Page, Section or N/A)	Complete? (Y/N/N/A)	Technically Adequate? (Y/N/N/A)	Comments
L.14. Design analysis addresses the vent stream characteristics and control device operation parameters in NR 664.1035(2)(d)3. NR 670.025(5)(c)	**NA**			
L.15. Statement signed and dated by the owner/operator certifying the operating parameters used in the design analysis reasonably represent the conditions when the unit is operating at the highest capacity level reasonably expected to occur. NR 670.025(5)(d)	**NA**			
L.16. Statement signed and dated by the owner/operator certifying the control device is designed to operate at an efficiency of ≥95 weight %. NR 670.025(5)(e)	**NA**			
L.17. If applying to use an alternate control device, a performance test plan if using test data. NR 670.025(3)	**NA**			

PART III - CC				
Licensing Standard and Code Citation	**Location In Report (Page, Section or N/A)**	**Complete? (Y/N/N/A)**	**Technically Adequate? (Y/N/N/A)**	**Comments**
Section M: Subch. CC – Air Emission Control Standards for Containers and Tanks NR 670.027				
M.1. Documentation for each floating roof cover installed on a tank subject to NR 664.1084(4)(a) or (b). NR 670.027(1)(a)	**NA**			
M.2. Identification of each container area subject to subch. CC. NR 670.027(1)(b)	**P4-23 / SECTION 4.10.1**			
M.3. Owner/operator certification that the requirements of subch. CC are met for container storage areas. NR 670.027(1)(b)	**P4-26 / SECTION 4.10.2.6**			
M.4. Documentation for each enclosure used to control air emissions from containers per NR 664.1086(5)(a)2 and tanks per NR 664.1084(4)(e). NR 670.027(1)(c)	**NA**			TSDF has no tanks or Level 3 containers.
M.5. Records for the most recent set of calculations and measurements verifying the enclosure meets the criteria of a permanent total enclosure as specified by Procedure T in 40 CFR 52.741, appendix B. NR 670.027(1)(c)	**NA**			TSDF has no tanks (NR664.1084(4) e)) or Level 3 containers (NR664.1086(5)(a)2.).
M.6. Documentation for each closed-vent system and control device installed according to NR 664.1087, including design and performance information. NR 670.027(1)(e)	**NA**			
M.7. An emission monitoring plan for Method 21 in 40 CFR part 60 Appendix A and control device monitoring methods. NR 670.027(1)(f)	**NA**			

1.0 INTRODUCTION

Veolia ES Technical Solutions, L.L.C. (VESTS) has developed this Feasibility and Plan of Operation Report (FPOR) to comply with the licensing requirements of NR670.014 and NR664. The VESTS TSDF consists of the hazardous waste container storage unit and mercury recovery/retort operations being classified as miscellaneous units. The TSDF operates under EPA I.D. WID988566543 and Wisconsin Department of Natural Resources (WDNR) FID# 246076050 and is located at 1275 Mineral Springs Drive, Port Washington, Wisconsin. The TSDF also operates as destination facility for the recycling of universal waste including mercury containing lamps and mercury containing devices. The TSDF also serves as a permanent household hazardous waste collector under NR666.909.

The TSDF allows for the economical management of a wide variety of hazardous waste for primarily industrial clientele. Hazardous wastes from other generators are stored and consolidated in the TSDF until a substantial load of wastes can be collected on a route-run with licensed transport vehicles. In this manner, economic waste disposal is available to industrial and state and local government agencies and the TSDF functions as a regulatory benefit to large and small quantity generators. In some instances, generators cannot ship some of their wastes off-site within the 90-day accumulation period. Such wastes can be transported and stored in the TSDF (within the permitted storage capacity) until proper disposal can be achieved. This practice reduces storage violations at generators and provides professional management of the waste. Furthermore, the TSDF provides a service to the local community for hazardous waste storage (pending disposal) of miscellaneous small quantity waste from municipal agencies such as the Highway Department, Fire Department, and Police Department. The TSDF also has developed a household hazardous waste (HHW) program whereby local residents can dispose of wastes such as pesticides and herbicides, used paint thinners, paint and household batteries. The ability to bulk wastes is also a benefit that is consistent with federally mandated waste minimization laws.

The facility is also operates as a large quantity a universal waste handler. The facility collects mercury-containing lamps, devices and articles, universal batteries and computer equipment for sorting and then off-site shipment.

1.1 PAST HAZARDOUS WASTE OPERATING LICENSES

1.1.1 First Hazardous Waste Operating License

The first Environmental Protection Agency (EPA) Resource Conservation and Recovery Act (RCRA) Part A hazardous waste license application for the facility was submitted to the WDNR on October 9, 1987 by then owner Aqua-Tech, Inc. Subsequently, Aqua-Tech received the first Hazardous Waste Operating License on December 27, 1989 for a storage facility with a maximum storage capacity of 10,000 gallons. The license duration period was a fixed term not-to-exceed 10 years from the date of issuance, which ended December 27, 1999.

During the term of the first operating license, the TSDF was issued, modifications of ownership including from Aqua-Tech to Mineral Springs Corporation (September 23,

1991) and to Superior Hazardous Waste Group, Inc. (September 30, 1993). On October 31, 1996, the WDNR approved a Class 1 Modification associated with the name change of the company to Superior Special Services, Inc. Also under the first license several modifications to the license and the FPOR were approved by the WDNR, including:

- Expanding the maximum storage capacity of the facility from 10,000 gallons to 20,000 gallons (May 27, 1992).
- Addition of bulking and containerization operations (June 1992).
- Class 2 Modification regarding the addition of newly listed waste codes that were published in the EPA final rule in the February 9, 1995, Federal Register (January 27, 1997).
- Class 1 Modification to add 12 waste stream to the list of waste (June 18, 1998).

On November 13, 1998, the WDNR issued a call-in letter which began the renewal process for the second hazardous waste operating license.

1.1.2 Second Hazardous Waste Operating License

On May 27, 1999 the FPOR was submitted as part of the application for the second operating license for the TSDF. On May 17, 2001, the WDNR issued a "Notice of Incompleteness" (NOI) letter associated with the May 27, 1999 FPOR submittal. Subsequent responses were made by Superior on September 10, 2001 and September 13, 2001 and to the US EPA on February 14, 2002 and February 27, 2002. The WDNR issued a second notice of incompleteness on March 25, 2002. Responses were submitted on May 14, 2002 and July 11, 2002. On December 26, 2002, a Class 1 plan modification for a name change from Superior to Onyx Special Services, Inc. was issued by the WDNR. A notice of completeness and a preliminary determination was issued by the WDNR on July 15, 2003. On September 17, 2003 the WDNR determined that an environmental impact statement was not needed for the FPOR changes. On September 25, 2003, the WDNR issued the Final Determination to Conditionally Approve the FPOR. On February 6, 2004, the WDNR issued the second Hazardous Waste Operating License #6008 for Container Storage Facility to Onyx Special Services. The license duration period for the second license was a fixed term not-to-exceed 10 years from the date of issuance to February 6, 2014. During the term of the second license, the TSDF submitted various modifications to the license, including:

- On April 5, 2004, Onyx Special Services, Inc. submitted a Class 1 modification request to transfer the ownership and change of name to Onyx Environmental Services, L.L.C. On June 25, 2005, the WDNR issued a Conditional Class 1 Modification Determination for the name change.
- On October 20, 2004, Onyx submitted a Class 1 modification for an update to the FPOR – Contingency Plan.

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- On October 2, 2006, VESTS submitted a Class 1 modification for an update to the FPOR – Contingency Plan.

- On June 19, 2007, VESTS submitted a Class 1 modification for an update to the FPOR – Contingency Plan.

- On January 25, 2008, VESTS submitted a Class 1 modification for an update to the FPOR – Contingency Plan and Section 5.2 of the FPOR – Communication Equipment.

- On June 3, 2009, VESTS submitted a Class 1 modification for an update to the FPOR – Contingency Plan.

- On December 17, 2010, VESTS submitted a Class 1 modification for an update to the FPOR – Contingency Plan.

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- On January 4, 2013, VESTS submitted a request for relief on the one (1) year storage limitation for elemental mercury that is subject to the Mercury Export Ban Act (MEBA). On January 17, 2013, the WDNR issued a letter indicating the Department would use its enforcement discretion to allow VESTS to store elemental mercury that is subject to MEBA for more than one year provided that VESTS complies with the conditions in the letter.

1.1.3 Third Hazardous Waste Operating License

On August 7, 2012, the WDNR issued a call-in letter to begin the renewal process for the third hazardous waste operating license (Appendix A1). The call-in letter requested the existing mercury recovery (retort) operating units be added to the license application as miscellaneous units.

The following correspondence and activities have occurred under the third hazardous waste operating license renewal:

- On October 11, 2013, WDNR issued a "Notice for Receipt of a Feasibility and Plan of Operation Report for Veolia ES Technical Solutions, L.L.C." and a copy of the class 1 public notice that was published on September 26, 2013 (Appendix A2).
- On October 14, 2013, WDNR issued an "Acknowledgement of a proposed Feasibility and Plan of Operation Report" and two invoices to cover the review of the document (Appendix A3).
- On November 8, 2013, VESTS issued a letter regarding the intent to submit a proposed modification to the Miscellaneous Units – Mercury Recovery/Retort Operations covered in the Feasibility and Plan of Operation Report (Appendix A4).

1.2 MODIFICATIONS

The majority of the operational elements of this FPOR remain consistent with the previous licensing permit and existing FPOR. However, the WDNR has requested the retort operations be licensed as miscellaneous units. The FPOR reflects these changes.

1.3 PRE-APPLICATION MEETING (NR670.014(2)(v))

In accordance with NR670.014(2)(v) and NR670.431(3), on April 4, 2013, VESTS published a Public Notice in the Wisconsin State Journal regarding a pre-application public meeting scheduled for May 9, 2013. In addition, a Public Notice was published in the Ozaukee Press on April 4, 2013. On April 9, 2013, FM92.5 WBWI and AM1470 WBKV broadcasted a Public Notice regarding the public meeting. Information regarding the public notices is provided in Appendix B.

On May 9, 2013, VESTS held a Public Meeting at the Holiday Inn – Harborview located at 135 East Grand Avenue in Port Washington, Wisconsin. As presented in Appendix B, the only participation in the Public Meeting was VESTS employees.

1.4 LOCAL APPROVAL AND NEGOTIATIONS (NR670.014(2)(w))

In accordance with NR670.007(1), NR670.014(2)(w) and under Wis. Stats. § 289.22, VESTS is required to determine whether local approvals are necessary. On January 15, 2013 VESTS submitted written notification to the local municipalities, City of Port Washington, Town of Port Washington, the Town of Grafton, and Ozaukee County, regarding the license renewal process and seeking a determination whether local approvals are necessary for "siting" the existing TSDF. A copy of the local approval request to affected municipalities and its certified mail receipt has been sent to the Waste Facility Siting Board, and is included in Appendix C of this FPOR. On March 25, 2013, the State of Wisconsin Waste Facility Siting Board issued a letter indicated none of the affected municipalities took the action required to participate in the negotiation and arbitration process. As a result, the Waste Facility Siting Board determined VESTS could continue to seek the permit/license renewal of the hazardous waste storage facility and is not required

to negotiate or arbitrate under Wis. Stats. § 289.22. Therefore, VESTS is able to submit this FPOR to the WDNR.

1.5 REGULATORY CONSIDERATIONS

This FPOR complies with chs. NR 664 and 670, for plan and operational requirements. In order to facilitate the WDNR review of this FPOR, VESTS has completed the Completeness Checklist and Technical Evaluation (Checklist) to cross-reference applicable code requirements with sections of the FPOR. The Checklist is found preceding the Table of Contents.

1.5.1 Noncompliance with Plans or Orders (NR670.014(2)(x)1.)

In accordance with NR670.014(2)(x)1.a., VESTS is a wholly owned subsidiary of the publically traded Veolia Environnement (VE) which has no one person that owns greater than or equal to ten percent legal or equitable interest in their assets. VESTS also operates a second Wisconsin hazardous waste facility located at W124 N9451 Boundary Road, Menomonee Falls, Wisconsin 53051, which is subject to WDNR plan approval under US EPA ID No. WID003967148 (NR670.014(2)(x)1.b.).

In accordance with NR670.014(2)(x)1.d., VESTS has evaluated those entities that it owns a 10% or greater legal or equitable interest, as described above, and has determined that those entities are in compliance with all plan approvals or orders issued by the WDNR to such entities.

1.5.2 License Application (NR670.010(1))

VESTS has completed, signed, and submitted copies of the license application to the WDNR, as described in NR670.010 and sections NR670.070 to NR670.073.

1.5.3 Notification of Regulated Waste Activity (NR670.013)

The updated "Notification of Regulated Waste Activity" and Part A documentation are contained in Appendix D. The Part A application reflects the addition of retort ovens as miscellaneous operating units as requested by the WDNR and in accordance with NR670.013.

1.5.4 Appropriate Plan Review and License Fees (NR670.012(12)

In accordance with NR670.010(12), VESTS will be invoiced by the WDNR and submit payment for $8,000.00 for the Site Report Review of Operation License Application (Part A and Feasibility and Plan of Operation Report) for the hazardous waste container storage unit and mercury recovery/retort – miscellaneous units..

1.5.5 Other Regulatory Licenses and Permits

The TSDF operates under several other WDNR or other agency licenses. Copies of the current licenses and permits retained by the TSDF at the time of the RCRA license renewal application are contained in Appendix E. A copy of the Notice of Intent, Industrial Storm Water General Discharge Permit and a copy of the facility Storm Water Pollution Prevention Plan are included in Appendix W.

2.0 FACILITY LOCATION

2.1 GENERAL DESCRIPTION OF FACILITY (NR670.014(2)(a))

2.1.1 Property Description (NR670.014(2)(s)1. thru 6)

The TSDF is located at 1275 Mineral Springs Drive in the Northwestern ¼ of the Southeastern ¼ of Section 32, Township 11 North, Range 22 East, in the City of Port Washington, Ozaukee County, Wisconsin. A legal description for the property is included in Appendix G. The site location is shown on Figure 2-1. Figure 2-1 provides a three-mile radius surrounding the TSDF.

The TSDF is located in an industrial park on the southern edge of Port Washington (Figure 2-7). The areas to the immediate north, south and east of the property are zoned industrial and currently contain light manufacturing industry. The area immediately west of the property is zoned industrial and is a commercial storage facility. Mineral Springs Drive border the property toward the east. Mineral Springs Drive intersects Sunset Road approximately ¼ mile north of the site. Maritime Drive borders the property toward the south.

No parks, hospitals, or nursing homes are located within ½ mile of the facility. A topographic map showing a minimum distance radius of 1,000 feet surrounding the TSDF is provided in Drawing D1 (NR670.014(2)(s)). Drawing D1 depicts the following elements:

- Map scale and date (NR670.014(2)(s)1.)
- Surrounding surface water and intermittent streams (NR670.014(2)(s)3.)
- Surrounding land uses (NR670.014(2)(s)4.)
- Wind rose including prevailing wind speed and direction (NR670.014(2)(s)(5.)
- Map orientation (NR670.014(2)(s)6.)
- Recreational areas (NR670.014(2)(s)10.)

A correctional facility is located approximately ½ mile west of the facility. There are no known areas of archeological or historical significance on the property. There are no known arrears of critical habitat for threatened or endangered species (NR670.014(2)(k)6.a.) Existing conditions for the area are shown on Drawing D1.

2.1.2 Site Features (NR670.014(3)(c) and NR670.014(2)(s)7 thru 12)

The Site Features of the TSDF facility are provided on Drawing D2. Drawing D2 depicts the following elements:

- Map scale and date (NR670.014(2)(s)1.)
- Surface water on-site (NR670.014(2)(s)3.)
- Map orientation (NR670.014(2)(s)6.)

- Legal boundaries of the hazardous waste facility property (NR670.014(2)(s)7.)
- Site access control including fences and gates (NR670.014.(2)(s)8.)
- Map showing building locations (NR670.140(2)(s)10.)
- Access roads, sewers and underground utilities (NR670.140(2)(s)10.)

There are no groundwater monitoring wells currently located on the site.

Appendix U, which contained a proposed Groundwater Detection Monitoring Program, has been removed based on the determination contained on page 16 of the Final Determination.

2.1.3 Facility Layout Features (NR670.014(2)(x)2.b.6)

The facility layout features for the TSDF buildings is provided on Drawing D3. Drawing D3 depicts the following elements:

- Map scale and date (NR670.014(2)(s)1.)
- Map orientation (NR670.014(2)(s)6.)
- Building layout, storage locations, and miscellaneous treatment (retort) operations (NR670.014(2)(s)10.)
- Loading and unloading areas (NR670.014(2)(s)10.)
- Operating units where hazardous waste will be treated and stored (NR670.014(2)(s)12.)
- Proposed physical changes to the facility (NR670.014(2)(x)2.b.5)

2.1.4 Hydrology (NR670.014(2)(k)3 and 6.b.)

Surface water runoff from the area near the TSDF primarily flows into two catch basins. The main storm water catch basin, located to the southeast of the TSDF, collects surface water runoff from the truck parking areas and the area leading to the loading docks. A second storm water catch basin is located adjacent to the eastern office building. Surface water runoff that is collected in the main storm sewer is routed north and discharges into a retention basin located on the northern portion of VESTS's property. If above capacity, the retention basin surface drains in the northeast corner of the property along Mineral Springs Drive. Drainage features for the site are shown on Drawing D2.

The roof drains from the TSDF building and office buildings are shown on Drawing D2. The facility has developed and implemented a Storm Water Pollution Prevention Plan (SW3P).

As required in NR670.014(2)(k)3., according to National Flood Insurance Program flood boundary and floodway maps, the site is not located within the 100-yr floodplain. The location of the 100-year floodplain relative to the site is shown on Figure 2-2.

According to the Wisconsin Wetland Inventory (WWI) map, included as Figure 2-3, an area classified as 'open water' is mapped directly north of the TSDF. The 'open water' on the WWI map is the retention basin previously described. An area of emergent vegetation

(cattails) has formed in the northern portion of the basin. The active portion or past operations of the TSDF are not located in the wetland (NR670(2)(k)6.b.)

There is large wetland complex located approximately ¼ mile southwest of the site. This wetland complex drains toward a spring near Sunset Road and discharges to Mineral Springs Creek. Mineral Springs Creek, which flows toward the northeast, is approximately 0.5 miles north of the TSDF. Mineral Springs Creek then eventually discharges to Lake Michigan approximately 1½ miles northeast of the TSDF.

Other nearby surface waters include two small basins across Mineral Springs Drive approximately 500 ft. east of the TSDF and a sedimentation basin located on the south side of Maritime Drive approximately 400 ft. southwest of the TSDF. These basins do not receive runoff from the TSDF. The Milwaukee River is located approximately 3 miles west of the site, but also does not receive runoff from the TSDF.

The TSDF is not required by WDNR to have a WPDES storm water permit because the TSDF has an approved Storm water management provisions approved and implemented under its waste management program license.

2.1.5 Geology

The regional geology in the vicinity of the TSDF consists of glacial drift overlying a sedimentary bedrock sequence. The sedimentary bedrock sequence consists of Cambrian to Devonian sandstones, shales, and dolostones. These sedimentary formations rest on the Precambrian basement consisting of igneous and metamorphic rock.

The stratigraphic sequence above the Precambrian basement begins with the Upper Cambrian Mt. Simon and Eau Claire Sandstone formations. Above the Cambrian formations are the Middle and Upper Ordovician St. Peter Sandstone, Galena and Platteville Dolostones, and Maquoketa Shale formations. These Ordovician formations are overlain by a sequence of Silurian dolostone formations capped by an erosional unconformity, on which a Middle Devonian dolostone and shale were deposited. The total thickness of the sedimentary sequence is approximately 1,500 to 2,000 feet. The sedimentary formations dip gently (1 to 5 degrees) to the east under Lake Michigan and form a north-south trending outcrop or subcrop pattern of progressively younger bedrock from west to east.

According to publications of the Wisconsin Geological and Natural History Survey, the glacial drift that overlies the sedimentary formations in the vicinity of the TSDF consists mostly of glacial tills deposited during the Wisconsinan Stage of the Pleistocene period. These glacial tills are mostly moraine deposits from multiple advances and retreats of the glacier. In some locations, ice-contact and outwash deposits were left during the last glacial retreat. The sequence of glacial tills deposited in the vicinity of the TSDF starting from bedrock is the New Berlin, Oak Creek, and the Ozaukee tills. The New Berlin till consists of mostly very dense sand and gravel. The Oak Creek and Ozaukee tills consist

mostly of very stiff to hard clay and silt. The total thickness of these glacial deposits is 50 to 150 ft in the vicinity of the TSDF.

The USDA Soil Survey of Ozaukee County, Wisconsin describes the soils in the vicinity of the TSDF to be part of the Kewaunee and Poygan Series (Figure 2-4). These soils are nearly level to steep, well drained, and loamy. The soils are formed in reddish silty clay loam material such as found in the Ozaukee till. According to the survey, these soils have high available moisture capacity and slow permeability.

2.1.6 Hydrogeology

Groundwater in the vicinity of the TSDF occurs in the glacial deposits and generally flows east towards Lake Michigan. Regional groundwater flow in the glacial and bedrock aquifers is east towards Lake Michigan. The glacial aquifer in the region consists of sand and gravel deposits, but in the vicinity of the TSDF, these deposits are not extensive. Below the glacial aquifer are two major bedrock aquifers that are separated by an aquitard. These bedrock aquifers are the dolostone aquifer and the sandstone aquifer, which are hydraulically separated by the Maquoketa Shale. Most private and public water supplies use the dolomite or sandstone aquifers. Existing private wells within 1,500 ft of the facility are shown on Drawing D1.

Based on the finding of the RFI in 2004, the depth to water is likely to be approximately 10 ft below ground surface. This groundwater may be perched, and the actual depth to the regional water table may be deeper. Horizontal hydraulic gradients in the glacial aquifer are generally to the east but may vary locally due to topography. Vertical hydraulic gradients are generally down in the glacial aquifer, and groundwater from the glacial aquifer generally recharges the underlying dolostone aquifer. Horizontal hydraulic conductivity of the glacial deposits can range from 10^{-2} cm/sec in outwash deposits (sand and gravel) to 10^{-6} cm/sec in till deposits (clay and silt). Vertical hydraulic conductivity is generally an order of magnitude less than horizontal conductivity of the same material.

2.1.7 Climatology

Climatological data for Port Washington and Milwaukee were obtained from the Midwestern Climate Center, Champaign, Illinois and the Wisconsin State Climatology Office, Madison, WI. The average annual maximum and minimum temperatures for Port Washington during the period from 1971 to 2000 was 55.9 and 39.2 °F, respectively. The average annual precipitation for Port Washington was 34.81 inches, and the average annual snowfall was 52.6 inches. A historical summary of this data, along with heating and cooling degree days, growing degree days, and growing season, for the City of Port Washington is presented in Appendix H. Annual wind rose data for Milwaukee, Wisconsin from 2008 to 2012 are also included in Appendix H.

2.2 TRAFFIC PATTERNS AND ROADWAYS (NR670.014(2)(j) and (l))

The principal travel route for trucks traveling to the TSDF is from Wisconsin State Highway 32 (Spring Street) located west of the TSDF. From Spring Street, truck traffic will take Maritime Drive to the east and turn north onto Mineral Springs Drive to the facility. Normal truck routes to and from the TSDF are shown on Figure 2-5.

Current traffic volume counts for the area near the TSDF have been recorded by the Wisconsin DOT for Annual Average Daily Traffic (AADT). The nearest volume count locations included Sunset Road (County Highway CC) west of County Highway C (1200 AADT), Sunset Road east of State Highway 32 (2200 AADT), State Highway 32 south of Sunset Road (7200 AADT), and State Highway 32 south of Maritime Drive (10,100 AADT). Based on an average of 15 trucks per day visiting the TSDF, the facility traffic volume is a relatively small portion of the AADTs for the surrounding area.

A typical cross-section of the roadways near the TSDF is shown as Figure 2-6. According to the Port Washington Public Works Department, the roadways near the TSDF do not have weight or bearing capacity restrictions.

The traffic routing at the TSDF consists of entering and exiting from Mineral Springs Drive through a security gate and loading or unloading at the necessary location at the facility. A truck parking area is used in the southeast corner of the facility for off-duty vehicles. Truck activities are concentrated to and from the loading dock area on the north and south sides of the TSDF. Personal vehicles use the same entrance to the site as trucks, but park in designated parking areas along the edge of the asphalt in the northeast corner of the facility.

The driveway areas of the TSDF, including the parking areas and loading dock drive area, are constructed of asphalt. The construction of these areas included a 3-in. layer of asphalt covering 8-in. thickness of ¾-in. crushed limestone, treated with a traffic binder. The load bearing capacity of the asphalt pavement is 3,000 psf.

2.3 ENVIRONMENTAL IMPACT STATEMENT (NR670.014(2)(x)2.)

As part of VESTS's relicensing the TSDF, an environmental impact assessment is required under NR670.014(2)(x)(2). Specific requirements that must be included in this FPOR in order to complete the environmental impact assessment or review are found in NR670.014(2)(x)(2). The following sections present the information meeting the requirements. This information will aid the WDNR in determining the need for an environmental impact report or environmental impact statement.

2.3.1 Project Summary (NR670.014(2)(x)(2.)a.)

The first Environmental Protection Agency (EPA) Resource Conservation and Recovery Act (RCRA) Part A hazardous waste license application for the facility was submitted to the WDNR on October 9, 1987 by then owner Aqua-Tech, Inc. Subsequently, Aqua-Tech received the initial Hazardous Waste Operating License on December 27, 1989 for a storage facility with a maximum storage capacity of 10,000 gallons. The license duration period was a fixed term not-to-exceed 10 years from the date of issuance, which ended December 27, 1999.

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February 14, 2002 and February 27, 2002. The WDNR issued a second notice of incompleteness on March 25, 2002. Responses were submitted on May 14, 2002 and July 11, 2002. On December 26, 2002, a Class 1 plan modification for a name change from Superior to Onyx Special Services, Inc. was issued by the WDNR. A notice of completeness and a preliminary determination was issued by the WDNR on July 15, 2003. On September 17, 2003 the WDNR determined that an environmental impact statement was not needed for the FPOR changes. On September 25, 2003, the WDNR issued the Final Determination to Conditionally Approve the FPOR. On February 6, 2004, the WDNR issued the second Hazardous Waste Operating License #6008 for Container Storage Facility to Onyx Special Services. The license duration period for the second license is a fixed term not-to-exceed 10 years from the date of issuance to February 6, 2014. During the term of the second license, the TSDF submitted various modifications to the license, including:

- On April 5, 2004, Onyx Special Services, Inc. submitted a Class 1 modification request to transfer the ownership and change of name to Onyx Environmental Services, L.L.C. On June 25, 2005, the WDNR issued a Conditional Class 1 Modification Determination for the name change.

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- On January 4, 2013, VESTS submitted a request for relief on the one (1) year storage limitation for elemental mercury that is subject to the Mercury Export Ban Act (MEBA). On January 17, 2013, the WDNR issued a letter indicating the Department would use its enforcement discretion to allow VESTS to store elemental mercury that is subject to MEBA for more than one year provided that VESTS complies with the conditions in the letter.

On August 7, 2012, the WDNR issued a call-in letter to begin the renewal process for the third hazardous waste operating license.

2.3.1.1 Purpose. As discussed above, the purpose for this FPOR is to satisfy the application requirements for the third hazardous waste storage license for the TSDF located at 1275 Mineral Springs Drive, Port Washington, Wisconsin (U.S. EPA ID# WID988566543). The need for the TSDF is described in the following paragraphs.

VESTS, through its licensed hazardous waste facilities, provides hazardous waste services to generators of hazardous wastes, including small and large industries, commercial operations, retail stores, remediation contractors, and local, state and federal government agencies across the United States. The TSDF's service area includes Wisconsin, Minnesota, Illinois, Indiana, Michigan, Ohio, Iowa, Kentucky, Nebraska, Missouri, Kansas, North and South Dakota. The TSDF affords the generators in Wisconsin and EPA Region V an economical waste disposal alternative, promotes the regulatory compliance, and provides a well managed and secure method for managing wastes.

Over the past twenty-three years the TSDF has been in operation, the hazardous waste collection, transportation, and disposal industry has consolidated and many firms have gone out of business. While waste minimization efforts by generators have reduced the overall volume of waste requiring storage, and ultimately treatment and disposal, VESTS recognizes their services are still needed by the regulated community. In order to fulfill these needs, VESTS is seeking a license to continue the operation of the existing TSDF and approval for the modifications of the TSDF.

2.3.1.2 Statutory Authority and Permits. Since the initial operating license was issued, the WDNR has been exercising their authority under s. 289.31, Wisconsin Statutes (Stats.) and NR 670.050(1) to issue annual renewals to the TSDF of the effective period of up to 10 years. Because VESTS chooses to operate and maintain the TSDF, VESTS is required to submit all of the plans and reports that are specified in NR 660.07 and NR670-010(5), Wis. Adm. Code, and the applicable sections of NR664.

Under Wis. Stats. § 289.22, VESTS is required to determine whether local approvals are necessary. On January 15, 2013 VESTS submitted written notification to the local municipalities, City of Port Washington, Town of Port Washington, the Town of Grafton, and Ozaukee County, regarding the license renewal process and seeking a determination whether local approvals are necessary for "siting" the existing TSDF. A copy of the local approval request to the affected municipalities and the certified mail receipts has been sent to the Waste Facility Siting Board, and is included in Appendix C of this FPOR. On March 25, 2013, the State of Wisconsin Waste Facility Siting Board issued a letter indicating that none of the affected municipalities took the action required to participate in the negotiation and arbitration process. As a result, the Waste Facility Siting Board determined VESTS could continue to seek the permit/license renewal of the hazardous waste storage facility and is not required to negotiate or arbitrate under Wis. Stats. § 289.22. Therefore, VESTS is able to submit this FPOR to the WDNR.

2.3.2 Proposed Physical Changes (NR670.014(2)(x)2.b.3, 4 and 5)

No proposed physical changes to the existing TSDF storage pod locations or configuration to the facility layout is anticipated. However, the WDNR has requested the existing mercury recovery (retort) operations be added as Miscellaneous Units to the TSDF's operating license. Details of these operations are provided in Section 4.5 of this FPOR. The inclusion of the existing mercury retort units in the TSDF's operating license will not have an air emissions impact beyond those already covered under a WDNR issued air permit.

Concurrent with the submittal of this FPOR, the TSDF has submitted a construction permit application to the WDNR for the replacement of two electrically operated retort ovens with one gas operated retort oven. This change will not increase the facility potential to emit or maximum theoretical emissions for mercury emissions and will not increase the impact of the TSDF on the environment.

As a component of the air pollution construction permit approval process, the WDNR is performing air emissions modeling. This modeling will be used by the WDNR to establish emissions limits for each process included in the construction and operating permit. These limits will be based on the requirements contained in NR445 and NR 446, assuring that facility emissions will not cause an exceedance of an ambient air quality standard and limiting the potential for off-site deposition of mercury.

2.3.2.1 Class 1 Modifications. VESTS is requesting the following changes to the facility:

- Class 1 modification for the installation of two (2) one-way gate emergency exits to be located in the facility fence perimeter. Refer to Drawing D2 for gate locations. The gates will provide one-way exits that will provide egress pathway alternatives for facility personnel to evacuate in cases of emergencies. Details of the one-way gate emergency gates are provided in Appendix I.
- Class 1 modification of the removal of the loading dock located in the northeast corner of the building (Drawing D3). The outdoor wall containing the existing overhead door will be closed with matching concrete block and metal siding to match the existing exterior. The elevation of the inside loading bay area will brought up to the existing elevation of the building floor. The area will be filled with engineered specified aggregate and the surface floor consisting of concrete.
- Class 1 modification for the installation of a solid waste compactor unit to be located directly north of the former northeast loading dock. The compactor unit and receiver box will be located on the existing outside pavement. An opening in the facility's north wall will serve as the feeding entrance for the compactor unit.

These modifications do not impact the hazardous waste management activities at the facility or this FPOR. These modifications do not involve any physical changes to the facility's shape or excavation or filling of soil areas.

2.3.3 Existing Environment (NR670.014(2)(x)2.b. and c. and NR670.014(2)(k)6.a.)

Because the only modifications to the TSDF anticipated are within the building structure, VESTS does not anticipate any impacts during the active operations and after closure related to soil placement; construction of roads; surface water drainage; sediment controls; stream, wetland or other water bodies; topography; hydrogeologic conditions; geology; aquatic and terrestrial plants; and animal species and habitats are not anticipated to occur (NR670.014(2)(x)2.b.1. and 2., NR670.014(2)(x)2.c.1. and 2.). In addition, affects to land use, dominant land features, zoning, and social and economic conditions, including ethnic and cultural groups are not anticipated to occur because relatively the same conditions have existed over the past 23 years and are not anticipated to be impacted by the proposed changes (NR670.014(2)(x)2.c.3. and 4.). Figure 2-7 present the City of Port Washington Zoning Map. Special resources such as archaeological, historical, state natural areas and prime agricultural land are not known to exist on the facility and therefore will not be affected by any proposed changes (NR670.014(2)(x)2.c.5.). The facility is not located in a critical habitat for threatened or endangered species (NR670.014(2)(k)6.a.).

2.3.4 Environmental Consequences (NR670.014(2)(x)2.d.)

The proposed modifications to the TSDF are anticipated to have no primary or indirect adverse or beneficial biological impacts related to habitat, alteration of the physical environment and impacts to endangered or threatened species (NR670.014(2)(x)2.d.2.).

In addition, no primary or individual adverse or beneficial impacts on land use at the TSDF are anticipated (NR670.014(2)(x)2.d.3.). However, VESTS anticipates a beneficial impact to land use will occur to off-site roads resulting from fewer shipments of non-hazardous waste as a result of installing the compactor unit. VESTS also anticipates a beneficial impact to land use associated with the solid waste disposal landfill needs because of more dense, lower volume loads.

VESTS does not anticipate any probable adverse or beneficial impacts on other special resources, such as archaeological, historical, state natural resource areas or prime agriculture lands as a result of the continued operation of the TSDF (NR670.014(2)(x)2.d.5.).

VESTS believes the TSDF will avoid future probable adverse impacts to the groundwater and surface water. We also plan on avoiding modification to the topography of the site. We also anticipate avoidance of probable adverse impacts or loss of agriculture or forest land, displacement of wildlife, and adverse aesthetic impacts for people in and around the facility (NR670.014(2)(x)(2.d.6.).

The relicensing of the TSDF is anticipated to have continuing beneficial economic impacts, including maintaining or possibly increasing employment at the TSDF, and increase in the value of the property relative to the City of Port Washington real estate tax base. The relicensing will also have a potential beneficial social impact by allowing VESTS to better service the regulated hazardous waste generating community (NR670.014(2)(x) 2.d.4.).

2.3.5 Alternatives (NR670.014(2)(x)2.e.)

As discussed in the sections above, the relicensing of the TSDF is not anticipated to result in any adverse environmental impacts. VESTS is one of a small number of companies in Wisconsin or the upper Midwest that accepts a wide variety of hazardous waste for storage or recycles/retorts mercury containing wastes. The TSDF affords the generators in Wisconsin and EPA Region V an economical waste disposal alternative, promotes regulatory compliance, and provides a well managed and secure method for managing wastes. In addition to relicensing the TSDF as described in this FPOR, there are a number of other alternatives, including taking no action, expanding, reducing or modifying the scope of the TSDF. By the WDNR taking no action on relicensing, the TSDF would be forced to close resulting in adverse economic, social and environmental impacts. These impacts include an increased cost of waste collection, transportation, and disposal for the regulated community, less regulatory compliance by generators to transport waste offsite for disposal within the required time frames, and possible illegal disposal of wastes resulting in environmental damages. The expansion, reduction or modification alternatives do not provide viable alternatives at this time. The physical expansion and increase in storage capacity of the facility would require a capital investment that is not deemed feasible at this time and is not being requested by the TSDF. The reduction or modification of the facility would result in an operation that was less efficient and increase the cost structure associated with the management of the TSDF. This could result in the TSDF no

longer being a viable business venture and result in the closure of the facility, ultimately resulting in the same adverse impacts as the no action alternative.

2.4 DETERMINATION OF NEED (NR670.014(2)(x)3.)

VESTS, through its existing licensed TSDF, provides hazardous and universal waste services to generators of both wastes, including electrical contractors, utilities, small and large industries, commercial operations,, and local, state and federal government agencies. The service area routinely covered by VESTS includes the upper Midwest, but provides mercury recovery operations for customers across the U.S. VESTS is one of a few companies in Wisconsin that provides our services through a licensed TSDF. As described above, the TSDF affords the generators in Wisconsin and EPA Region V an economical waste disposal alternative, promotes regulatory compliance, and provides a well-managed and secure method for managing wastes.

Over the past 23 years the TSDF has been in operation, the hazardous waste collection, transportation, and disposal industry has consolidated and many firms have gone out of business. While waste minimization efforts by generators have reduced the overall volume of waste requiring storage, and ultimately treatment and disposal, VESTS recognizes their services are still needed by the regulated community. The TSDF has advanced its capabilities to service the generators of universal waste. The facility has changed over the years through independent submittals to the WDNR to cover the regulatory aspects of managing and recycling universal waste. In order to fulfill the generators' needs, VESTS is seeking a license to continue the operation of the existing TSDF and approval for the modifications of the TSDF. VESTS is not seeking any planned expansions of the TSDF.

2.5 GROUNDWATER PROTECTION (NR670.014(3))

2.5.1 Applicability

VESTS is submitting the following information regarding protection of groundwater as applicable to NR670.014(3).. However, VESTS believes the container storage areas and the miscellaneous unit – retort operations are exempt from the requirements of NR670.014(3) and NR664.0090.

2.5.1.1 HW Storage Rooms. The July 3, 2003 RCRA Facility Assessment (RFA) report completed by the WDNR identified the hazardous waste storage rooms as Solid Waste Management Unit #1 (SWMU#1). The WDNR concluded in the RFA Report that SWMU #1 had "…a very low potential for having caused environmental contamination". A copy of the RFA Report is provided in Appendix J. The WDNR also concluded that no investigation (RCRA Facility Investigation) or remedial activities were required for SWMU#1.

Furthermore, VESTS believes the SWMU#1 meets the following conditions of NR664.0090(2)(b):

1. The container storage rooms are located in an engineered structure that has not changed since the RFA.
2. The container storage rooms have received containers of liquid waste, but the liquids have not been deposited in the unit. In accordance with a condition to the existing license, the TSDF immediately reports to the WDNR any spills or discharges of hazardous waste inside the container storage rooms with a volume of 10 gallons or greater. VESTS is also required to report any releases of hazardous waste inside of the designated hazardous waste secondary containment structures of less than 10 gallons on a quarterly basis. Table 2-1 lists the releases of both hazardous materials, hazardous wastes, and hydraulic fluids that have occurred since the July 2003 RFA was published by the WDNR. As indicated in Table 2-1, no releases greater than 10 gallons were experienced in the container storage rooms. Only three spills of less than one (1) ounce of liquid mercury were experienced in the container storage rooms.
3. The indoor container storage rooms are designed and operated to prevent liquid, precipitation, and other run-on and run-off.
4. The containers holding the liquid hazardous waste serve as the inner layer for containing the liquid, while the storage room ceiling, walls and floor serve as the outer layer of containment.
5. VESTS conducts weekly inspections of the storage rooms to identify any leaking containers.
6. VESTS will continue to conduct the weekly inspections of the storage rooms during the active life of the unit and during closure activities. A long-term care period is not required for the container storage room.
7. Based on the past 23 years of operations and the construction of the storage rooms, there is a reasonable degree of certainty that hazardous constituents will not migrate beyond the rooms.

2.5.1.2 Retort Operations. The RFA Report also identified the retort operations as SWMU #5. The RFA Report concluded "the retort operation may have some potential for accumulation of contaminants from fallout to the roof then to the soil at the base of the roof drains". On October 19, 2004, VESTS submitted to the WDNR the RCRA Facility Investigation (RFI) Report (Appendix K). The RFI results for SWMU #5 (AOC#1) indicated near surface soil impacts (0 to 1.5 ft below ground surface) of mercury (0.23 to 2.4 mg/kg) above the ground water protection residual contaminant level (RCL) of 0.21 mg/kg. The mercury concentrations in soil samples for below 2ft bgs were below the RCL. The RFI Report also presents groundwater monitoring data from a well located hydraulically side-gradient (MW-1). The data indicates no detectable concentration of mercury (<0.11µg/L) in the groundwater. Based on the information, there appears to be a low potential for any groundwater impacts associated with SWMU#5.

Furthermore, VESTS believes the SWMU#5 meets the following conditions of NR664.0090(2)(b):

1. The retort operations are located in an engineered structure that has not changed since the RFA.
2. The retort operations generally receive liquid mercury as either a component to a device or instrument or as a contaminant to debris or media (e.g., soil, PPE). The purpose of the retort operations is to remove the mercury from the devices and debris (Refer to Section 4.5 of the FPOR). The mercury is recovered as a liquid in condensers, containerized and shipped off-site as a commercial product.
3. The retort operations are conducted indoors and segregated from the container storage areas. Being located indoors, it prevents liquid, precipitation, and other run-on and run-off.
4. The containers holding the mercury devices and debris serve as the inner layer for liquid mercury. The mercury flask designed to accumulate the recovered mercury is a DOT shippable container and serves as the inner layer for the mercury. The building's ceiling, walls and floor serves as the outer layer of containment.
5. VESTS conducts weekly inspections of the storage rooms to identify any leaking containers. VESTS also conducts daily mercury air monitoring as part of WDNR air permit requirements for the retort operations.
6. VESTS will continue to conduct the weekly inspections of the storage rooms during the active life of the unit and during closure activities. A long-term care period is not required for the container storage room. VESTS will also continue to conduct daily mercury air monitoring as part of the WDNR air permit requirements.
7. Based on the construction of the building and the air pollution control devices for the retort operations, there is a reasonable degree of certainty that hazardous constituents will not migrate beyond the retort room and potentially impact ground water.

2.5.2 Hydrogeology (NR670.014(3)(b))

Groundwater in the vicinity of the TSDF occurs in the glacial deposits and generally flows east towards Lake Michigan. Regional groundwater flow in the glacial and bedrock aquifers is east towards Lake Michigan. The glacial aquifer in the region consists of sand and gravel deposits, but in the vicinity of the TSDF, these deposits are not extensive. Below the glacial aquifer are two major bedrock aquifers that are separated by an aquitard. These bedrock aquifers are the dolostone aquifer and the sandstone aquifer, which are hydraulically separated by the Maquoketa Shale. Most private and public water supplies use the dolomite or sandstone aquifers. Existing private wells within 1,500 ft of the facility are shown on Drawing D1.

Based on the finding of the RFI in 2004, the depth to water is likely to be approximately 10 ft below ground surface. This groundwater may be perched, and the actual depth to the regional water table may be deeper. Horizontal hydraulic gradients in the glacial aquifer are generally to the east but may vary locally due to topography. Vertical hydraulic gradients are generally down in the glacial aquifer, and groundwater from the glacial

aquifer generally recharges the underlying dolostone aquifer. Horizontal hydraulic conductivity of the glacial deposits can range from 10^{-2} cm/sec in outwash deposits (sand and gravel) to 10^{-6} cm/sec in till deposits (clay and silt). Vertical hydraulic conductivity is generally an order of magnitude less than horizontal conductivity of the same material.

2.5.3 Groundwater Monitoring Data (NR670.014(3)(a) and (3)(f))

As part of the 2004 RCRA Facility Investigation (RFI), one temporary monitoring well (MW01) was installed in the north central portion of the TSDF. Refer to Appendix K for the October 2004 RFI Report which contains Drawing B1 and provides the former location of MW01. During the RFI, one groundwater sample was collected from MW01 and analyzed for volatile organic compounds (Method 8260), semi-volatile compounds (Method 8270), dissolved metals, excluding mercury (Method 6010) and dissolved mercury (Method 7471A). A second groundwater sample was collected and analyzed for dissolved barium and selenium. The results of the groundwater sampling are contained in RFI Report (Appendix K). Based on the findings of the 2004 RFI, VESTS believes hazardous constituents have not been detected in the groundwater at the time of the license application (license application renewal).

2.5.4 Groundwater Detection Monitoring Program (NR670.014(3)(f) and NR664.0098)

In accordance with NR670.041(3)(f), Veolia contracted AECOM to establish a groundwater detection monitoring program which meets the requirements of s.NR664.0098(1) through (6). As outlined in Appendix V, the groundwater detection monitoring program consists of the following items:

1. A proposed network of groundwater monitoring wells at the points of standard application to be located for establishing hydraulic gradient, hydraulically downgradient of the RCRA storage rooms and retort operations, and intersecting the uppermost aquifer.
2. The proposed construction of the wells and a monitoring program to determine the groundwater surface elevation each time groundwater is sampled and annually determine the groundwater flow rate and direction.
3. A proposed groundwater sampling plan and statistical comparison procedures to be utilized in evaluation groundwater monitoring data.
4. A proposed list of indicating parameters and frequency to collect samples to provide a reliable indication of presence of hazardous constituents including total volatile organics (VOCs) using method SW-846 8260; total semi-volatile organics (SVOCs) using method SW-846 8270; and dissolved metals using SW-846 method 6010, except for mercury using SW-846 method 7471A.

Appendix V has been removed based on the determination contained on page 16 of the Final Determination.

2.6 CORRECTIVE ACTION AND SOLID WASTE MANAGEMENT UNITS (NR670.014(4)

2.6.1 Background

The TSDF was initially licensed to store hazardous waste in 1990 and prior to the construction of the facility, the land was vacant. No previous industrial use at the site existed that would have caused the need to evaluate whether past operations had impacted the site or the need to implement corrective actions.

2.6.1.1 RFA During the second hazardous waste licensing activities, as described in Section 1.1.2, on July 3, 2003 the WDNR issued a "RCRA Facility Assessment" (RFA). The RFA is provided in Appendix J. The RFA examined the waste streams at the facility, identified Solid Waste Management Units (SWMUs), documented releases which have occurred at the facility, and identified Areas of Concern (AOCs) in accordance with the US EPA RFA guidance and WDNR Waste Management Program Corrective Action Guidance. On October 22, 2003, the WDNR issued a memorandum indicating the RFA had become final and there were no public comments.

2.6.1.2 RFI (NR670.014(4)(c)) Under Condition #23 of the WDNR's September 25, 2003 "Final Determination to Conditional Approval", the TSDF was required to develop and submit a Work Plan for a RCRA Facility Investigation (RFI) to address the findings of the RFA. On November 25, 2003, the RFI Work Plan was submitted to the WDNR. On January 6, 2004, the WDNR issued their approval to the RFI Work Plan.

On June 15, 2004, Montgomery Watson Harza issued a report outlining the initial RFI Investigation Results and requested approval to complete additional testing. The WDNR granted verbal approval for the additional sampling on June 21, 2004. The final RFI Report was submitted to the WDNR on October 19, 2004. In addition, on November 10, 2004 a follow-up letter was submitted to the WDNR regarding additional sampling results associated with SWMU #9. Copies of the final RFI Report and follow-up letter are contained in Appendix J. The WDNR has not responded back to VESTS regarding the RFI Report findings. No Corrective Action Management Units (CAMUs) have been identified by the WDNR.

2.6.1.3 Proposed Reevaluation of RFI Environmental Data

In the May 6, 2014 *Notice of Incompleteness for the Feasibility and Plan of Operation Report* letter, the WDNR requested representative samples of sediment, soil and surface water be analyzed from mercury and other parameters with similar methods of detection as identified in Appendix J. Specifically, the WDNR requested the following:

1. Four representative samples of soils in a 10 cm profile (depth) be collected within 100 cm of each side of the parking areas.
2. Collection of sediment sampling at the point of outfall into the surface water pond on-site, which is consistent with methods in Appendix J.
3. Collection of one representative surface water collected from the pond located on the property north of the parking area and facility.

Veolia contracted AECOM to prepare the work plan outline in Appendix V to collect the additional RFI data requested by the WDNR. The work plan also includes the collection of soil samples to update the RFI environmental data associated with the Area of Concern (AOC) Number 1, outlined in Section 2.1 of the report in Appendix J.

Veolia understands the execution of the work plan outlined in Appendix V will be incorporated into any required RCRA Facility Investigation (RFI) and as an operating condition in the license.

2.6.1.4 Additional Monitoring Data

Over the past several years, VESTS has collected surface water run-off samples from the out-fall discharging into the facilities retention pond (natural surface water). The collected water samples were analyzed for pH, oil and grease, biological oxygen demand (BOD), chemical oxygen demand (COD), total lead and total mercury. As indicated in Table 2-2, the sample results were below the MSGP standards and were determined to below the standards.

2.6.2 Updated SWMU List (NR670.014(4)(a)1. thru 5.)

The operations of the TSDF have generally remained constant since the issuance of the RFA and completion of the RFI. However, the following changes have occurred at the facility:

- In July 2003, an air permit application was submitted to the WDNR for the construction of the ASE, MR-25 Retort Operation (P12), which consists of two (2) retort ovens. On November 12, 2004, an air permit application was submitted to the WDNR for the conversion of the construction permit to an operation permit. The WDNR issued Operating Permit 01-DJH-339-OP on March 1, 2005. On August 31, 2009, a permit renewal application for operation permit was submitted to the WDNR.
- On August 17, 2010, a minor permit revision was submitted to the WDNR for the installation of the facility's 500 kw back-up emergency generator.

The above changes have not resulted in the establishment of any new SWMUs.

In accordance with NR670.014(4)(a), Table 2-3 lists the past and current SWMUs. Four new or updated SWMUs have been added to the list of units identified during the WDNR RFA completed in 2003, including:

- SWMU #10 consists of the lamp processing equipment moved in 2002 to the north side of the building and the compact fluorescent lamp line.
- SWMU #11 consists of a collection bin for commingled recyclables (e.g., office paper, plastic bottles and food containers, aluminum beverage cans, metal food cans) located along the east side of the operations building.
- SWMU #12 consists of the non-hazardous solid waste roll-off box location used to accumulate general facility non-hazardous solid waste and post retort non-hazardous debris. SWMU #12 was associated with the past SWMU #7.
- SWMU #13 consist of the 90-day hazardous waste accumulation area. SWMU #13 is used to accumulate mercury-containing phosphor powder generated during the lamp processing operations; mercury-contaminated water generated from retort operations; mercury-contaminated debris generated from retort operations destined for microencapsulation; post retort non-hazardous solid waste debris; and post retort commercial product phosphor powder meeting the TCLP and LDR mercury levels and destined of rare earth element recycling.

Drawing D2 provides the topographic map showing the building location. Figure 2-8 shows the active SWMUs inside and adjacent to the building.

2.6.3 Releases of Hazardous Waste Constituents (NR670.014(4)(b).

Hazardous waste at the facility has been stored in licensed sections of the TSDF, which will continue to operate after the new license is issued. In accordance with NR 670.014(4)(b), the operating record of the facility has been reviewed to identify any accidental release of hazardous waste constituents.

As a condition to the existing license, the TSDF immediately reports to the WDNR spills and discharges of hazardous waste outside of the designated hazardous waste storage secondary containment structures and spills of 10 gal or greater of hazardous waste inside of the designated hazardous waste secondary containment structures at the TSDF. Table 2-3 lists the releases of hazardous materials, hazardous waste, and hydraulic fluids that have occurred since the July 2003 RFA was published by the WDNR.

The TSDF has implemented timely mitigation actions for the above releases identified in Table 2-1. Based on the information, corrective measures do not appear to be necessary as part of the re-licensing process. No hazardous constituents are anticipated to be present in the soil or groundwater from the releases at the point of standards application at the time of this FPOR submittal.

Under Condition #6 of the WDNR's September 25, 2003 "Final Determination to Conditional Approval", the TSDF reports quarterly hazardous waste or other hazardous substance releases in volumes less than 10 gal within the secondary containment structure of a designated hazardous waste storage area to the WDNR. Table 2-1 also summarizes these releases. The operating record includes the type and quantity of waste spilled, the location of the release, the source of the release, what actions were taken to cleanup the release, and what actions were implemented to prevent the release from reoccurring. If no spills or discharges occur in a quarter, then the TSDF sends a letter stating there were none. Copies of these release reports remain part of the operating record. Because the releases were less than 10 gal in size, confined to the secondary containment structures and mitigated, corrective action measures do not appear to be necessary as part of the re-licensing process.

Table 2-1
Summary of Releases

Veolia ES Technical Solutions, L.L.C.
1275 Mineral Springs Drive
Port Washington, Wisconsin
WID988566543

Date of Release	Released Material	Quantity of Release	Location of Release
December 22, 2003	Lead Acid Batteries (2)	Less than two gallons of sulfuric acid	Trailer
January 19, 2004	Liquid mercury	Two fluid ounces	Trailer
July 14, 2004	PCB Contaminated mineral oil	One pint	Trailer
August 20, 2004	F006 sludge	Less than one-gallon	Roll-off box onto asphalt parking lot and concrete pad
July 11, 2005	Liquid mercury	Less than ½ pound	Trailer
September 9, 2005	PCB Contaminated mineral oil	Approximately eight ounces	Concrete pad
February 21, 2006	Flammable paint thinner	Less than one gallon	Trailer
June 21, 2006	Sulfur Acid from Battery	Less than 4 ounces	Battery Accumulation Area
September 13, 2006	Liquid mercury	Less than 1 ounce	Pod E-4 to Retort Room
September 25, 2006	PCB Mineral Oil (50-499 PPM)	Less than 1 gallon (< 1 pound)	Contained to Freehold Trailer
December 18, 2006	PCB Mineral Oil (83 PPM) – Bushing	Not more than 1.5 gallons (0.000988 pounds PCB)	Concrete Pad
March 26, 2007	PCB Mineral Oil (50-499 PPM)	Less than 8 ounces (< ½ pound)	Concrete Pad
May 12, 2008	Mercury	Less than 1 ounce	Pod E-5 (2B)
September 3, 2008	Mercury	Less than 1 ounce	Pod E-4, Loading dock area
September 22, 2008	Non-PCB Mineral Oil	Less than ½ gallon	Trailer
September 22, 2008	Mercury	Less than 1 ounce	Wooden crate containing lamps inside the building
November 8, 2008	Hazardous waste liquid, NOS (D006, D008)	Less than 1 gallon	Trailer, Asphalt Pavement
December 24, 2008	Mercury	Less than 1 ounce	Trailer, Loading dock area
April 10, 2009	PCB Mineral Oil (273 PPM)	Approximately 1 gallon (0.00218 pounds)	Trailer
June 5, 2009	Hydraulic fluid	Two-three gallons	Asphalt pavement
July 9, 2009	Lead acid battery fluid	Less than ¼ gallon	Trailer
October 5, 2009	Non-PCB Mineral Oil	Less than 1 gallon	Trailer, Concrete Loading Dock Pad

Table 2-1
Summary of Releases

Veolia ES Technical Solutions, L.L.C.
1275 Mineral Springs Drive
Port Washington, Wisconsin
WID988566543

Date of Release	Released Material	Quantity of Release	Location of Release
May 23, 2011	PCB containing Mineral Oil	Less than 1 pint (<1 pound of PCBs)	Trailer and asphalt pavement
September 11, 2012	F006 Sludge	Less than 0.5 gallons (<RQ)	Trailer and asphalt pavement
February 18, 2013	Mercury	Several beads (<RQ)	Trailer, Inside Loading Dock Area
March 28, 2013	Non-Haz Surfactant	10 ounces	Trailer and asphalt pavement
April 25, 2013	Non-Haz Inorganic Reagents	Less than 1 pint	Trailer
June 6, 2013	Non-Haz Inorganic Reagents	Less than 1 pint	Trailer and asphalt pavement
June 25, 2013	Non-Haz Hydraulic Fluid	Less than 8 ounces	Forklift hose and Lamp Room
August 1, 2013	Non-Haz Hydraulic Fluid	25 gallons	Roll-off Truck Hydraulics and asphalt pavement
September 18, 2013	Non-Haz, Non-PCB Mineral Oil	Less than 0.5 gallons	Concrete pad
October 2, 2013	Non-Haz Inorganic Reagents	Less than 1 pint	Trailer
October 12, 2013	R22 Refrigerant – Chiller	1.5 pounds	Chiller Unit
October 25, 2013	Mercury	0.75 pounds (<RQ)	Indoor Pod F-3
October 28, 2013	Mercury	Several beads (<RQ)	Indoor Pod E-2
February 26, 2014	Mercuric chloride solution	Less than 8 ounces	Inside Storage Room 3, Pod D containment
June 24, 2014	Sodium Hydroxide solution	2 gallons	Trailer and asphalt pavement
June 26, 2014	Mercury	Several beads (<RQ)	Storage Room 3, Pod E containment
July 14, 2014	Organic acid solution	3 gallons	Trailer and asphalt pavement
December 22, 2014	Mercury	Several beads (<RQ)	Asphalt pavement and loading dock area
May 26, 2015	Mercury	Several beads (<RQ)	Storage room 1, Pod A containment

Table 2-2
Summary of Storm Water Outfall Analytical Results

Veolia ES Technical Solutions, L.L.C.
1275 Mineral Springs Drive
Port Washington, Wisconsin
WID988566543

Sample Collection Date	pH S.U.	Total Suspended Solids (TSS) mg/L	Biological Oxygen Demand (BOD) mg/L	Chemical Oxygen Demand (COD) mg/L	Total Mercury mg/L	Total Lead mg/L
MSGP Benchmark Levels	**6-9**	**88**	**220**	**120**	**0.0014**	**0.122**
11/1/2004	NA	NA	NA	NA	<0.00011	NA
11/1/2004 dup	NA	NA	NA	NA	0.00011	NA
07/16/07	NA	NA	NA	NA	0.00013	NA
08/08/09	7.2	61	<3.0	39	0.0011	0.018
06/16/11	7.35	18	3.1	36	0.00025	<0.00020
05/09/12	7.30	63.6	2.40	29.3	0.00118	0.00530

Table 2-2
Summary of Storm Water Outfall Analytical Results

Veolia ES Technical Solutions, L.L.C.
1275 Mineral Springs Drive
Port Washington, Wisconsin
WID988566543

Sample Collection Date	pH S.U.	Total Suspended Solids (TSS) mg/L	Biological Oxygen Demand (BOD) mg/L	Chemical Oxygen Demand (COD) mg/L	Total Mercury mg/L	Total Lead mg/L
MSGP Benchmark Levels	**6-9**	**88**	**220**	**120**	**0.0014**	**0.122**
11/1/2004	NA	NA	NA	NA	<0.00011	NA
11/1/2004 dup	NA	NA	NA	NA	0.00011	NA
07/16/07	NA	NA	NA	NA	0.00013	NA
08/08/09	7.2	61	<3.0	39	0.0011	0.018
06/16/11	7.35	18	3.1	36	0.00025	<0.00020
05/09/12	7.30	63.6	2.40	29.3	0.00118	0.00530
7/30/13	7.50	73.2	16.5	18.8	0.00188	0.00930
9/9/13					0.000322	
7/1/14	7.55	8.13	<2.0	<20.0	<0.000200	<0.0050
8/4/15	6.93	13.0	17.5	25.0	<0.000200	<0.00500

Table 2-3
Summary of Solid Waste Management Units (SWMU)

Veolia ES Technical Solutions, L.L.C.
1275 Mineral Springs Drive
Port Washington, Wisconsin
WID988566543

SWMU	Description of Unit	Location of Unit	When Unit Operated	Specification of Wastes Managed	Past RFI Activities
SWMU #1 **Active Unit**	Hazardous Waste Storage Rooms consisting of three separate rooms. Refer to Sections 3.1 and 5.4.1 of the FPOR for description details.	South side of Main Building	The rooms were built as an original part of the facility in 1989. The use of the rooms has not changed.	Hazardous and universal wastes are stored in these rooms in containers that range in size from pint up to cubic-yard DOT approved boxes on pallets.	No RFI Activities Required by the WDNR in the 2003 RFA Report.
SWMU #2 **Active Unit**	South Loading Dock Area. Four dock doors are located under a roof. The dock area consists of a concrete slab that slopes inward toward the building to a sealed trench.	South side of Main Building	The loading dock was built as an original part of the facility in 1989.	Incoming and outgoing wastes pass through the loading docks. Liquid waste containers are moved from the storage pods to the loading dock before bulking into tanker trucks.	No RFI Activities Required by the WDNR in the 2003 RFA Report.
SWMU #3 **Closed Unit**	North Loading Dock	Two former loading docks were located on the north side of the Main Building.	Constructed in 1996 as part of a building expansion. In late 1996 or early 1997, the area was enclosed with walls and a roof. In 2001, the area remodeled and currently houses the lamp recycling area.	Prior to enclosure, the loading docks were used to off-load non-hazardous liquid solid waste as part of the solidification process. In 2001 the solidification process was closed.	RFI Activities Required by the WDNR in the 2003 RFA Report. Soil and groundwater samples were collected during the RFI in association with SWMU #7. Findings of the RFI submitted to the WDNR in October 2004. No Corrective Action required for SWMU.

Table 2-3
Summary of Solid Waste Management Units (SWMU)

SWMU	Description of Unit	Location of Unit	When Unit Operated	Specification of Wastes Managed	Past RFI Activities
SWMU #4 **Moved Unit**	Original Lamp Crushing/Processing Machine	Northwestern corner of the original building, current location of the retort operations.	Lamp processing activities began in 1993 in the SWMU #4 location. A new lamp processing line was installed in 1995. The processing line was moved in 2002 to the current location (SWMU #10).	The lamp machine crushed fluorescent light lamps, separated the glass, the phosphor powder, and the aluminum end caps and metal wire. The phosphor powder was collected in drums for processing in the mercury recovery furnaces (SWMU #5). The glass was stored in a roll-off box outside northwest of the building, in the current location of the air emission control equipment and chiller units for the mercury recovery furnaces.	RFI Activities Required by the WDNR in the 2003 RFA Report. Soil samples were collected in association with SWMU #6 during the RFI. Findings of the RFI submitted to the WDNR in October 2004. No Corrective Action required for SWMU.
SWMU #5 **Active Unit**	Mercury Retort Operations (Miscellaneous Units). Refer to Section 4.5 of the FPOR for details.	Northwestern corner of the original building	Retort processing activities began in 1993. Two units are electric ovens (R1 and R2). These units are scheduled for retirement in approximately March 2014. These units are used to recover mercury from other mercury bearing wastes such as batteries, switches, thermometers, etc. The mercury is driven off as a vapor into three condenser vessels, which are cooled by glycol containing tubes looking through the vessels. The elemental mercury condenses in the vessels.	The retort operations consist of opening containers; sorting, and segregating, and repackaging mercury containing devices and contaminated debris, devices, soils, activated carbon, and mercury compounds into containers, vessels or trays. A total of three retort processing chambers are used. Two of the units (R3 and R4) are natural-gas fired ovens. Theses chambers are primarily used for mercury-containing phosphor powder, soils, activated carbon, and contaminated metals housings. The mercury is driven off as a vapor to a scrubber and packed tower, where it condenses with water, then is collected in a tank as elemental mercury. The third unit (R5) is also natural gas fired and is scheduled for installation in March 2014. This unit is used for mercury-containing phosphor powder, soils, activated carbon, contaminated metals housings, and recover mercury	RFI Activities Required by the WDNR in the 2003 RFA Report. The RFI activities were associated with assessing the soil conditions associated with the roof drains. Findings of the RFI submitted to the WDNR in October 2004. Pending response from WDNR regarding RFI recommendations.

Table 2-3
Summary of Solid Waste Management Units (SWMU)

SWMU	Description of Unit	Location of Unit	When Unit Operated	Specification of Wastes Managed	Past RFI Activities
				from other mercury bearing wastes such as batteries, switches, thermometers, etc. The mercury is driven off as a vapor into three condenser vessels, which are cooled by glycol containing tubes looking through the vessels. The elemental mercury condenses in the vessels. The mercury from the condenser units is collected in metric ton flasks and shipped off-site as a commercial product. The air emissions from the condenser units and tower are passed through sulfur-impregnated activated carbon to adsorb residual mercury. The spent carbon is drummed and retorted on-site to recover the mercury. The air emissions for the activated carbon vessels then mixes with the fugitive air emission being removed from the retort room. The combined air emission then passes through a large sulfur-impregnated activated carbon vessel located outdoors directly north of the retort room. The air emission from this unit passes out a stack, which is covered and monitored in accordance with a WDNR air permit(s).	

Table 2-3
Summary of Solid Waste Management Units (SWMU)

SWMU	Description of Unit	Location of Unit	When Unit Operated	Specification of Wastes Managed	Past RFI Activities
SWMU #6 **Moved Unit**	Outside Waste Glass Lugger Box Areas	Original location located outside northwest of the former lamp processing room. From 2000-2003 located outside north of the building.	Lamp processing activities began in 1993 in the SWMU #4 location. A new lamp processing line was installed in 1995. The processing line was moved in 2002 to the current location (SWMU #10).	Post lamp recycling silica glass.	RFI Activities Required by the WDNR in the 2003 RFA Report. Soil samples were collected during the RFI. Findings of the RFI submitted to the WDNR in October 2004. No Corrective Action required for SWMU.
SWMU #7 **Closed Unit**	Solid Waste Solidification Area closed in 2001.	The unit consisted of a waste separation pit and frac tank in the northern most portion of the building. A Maxon Mixer in the main building area.	The non-hazardous solid waste solidification process operated from 1993 to 2001. In May 2001 a closure report from Montgomery Watson was submitted to the WDNR documenting the closure activities.	Non-hazardous liquids were separated from solids in the pit and then pumped to the frac tank. Solids from the pit were mixed with sawdust and disposed of at an off-site landfill. Liquids were solidified by mixture with fly ash in the Maxon Mixer inside the building, prior to being shipped off-site for landfill disposal. Liquids were also run through the process without passing through the pit.	RFI Activities Required by the WDNR in the 2003 RFA Report. Soil and groundwater samples were collected during the RFI. Findings of the RFI submitted to the WDNR in October 2004. No Corrective Action required for SWMU.
SWMU #8 **Active Unit**	Household Hazardous Waste Storage Area	Located in the eastern portion of the Main Building.	TSDF submitted a plan of operation for this ongoing operation in 1999.	The Permanent Collection Facility accepts household hazardous waste from the local community on Mondays. The HHW is segregated into compatibility groups and packed into DOT approved shipping containers. Some of the HHW is consolidated or commingled into containers in the storage pod rooms and then stored in the rooms (SWMU #1). The HHW is then shipped off-site for treatment or disposal.	No RFI Activities Required by the WDNR in the 2003 RFA Report.

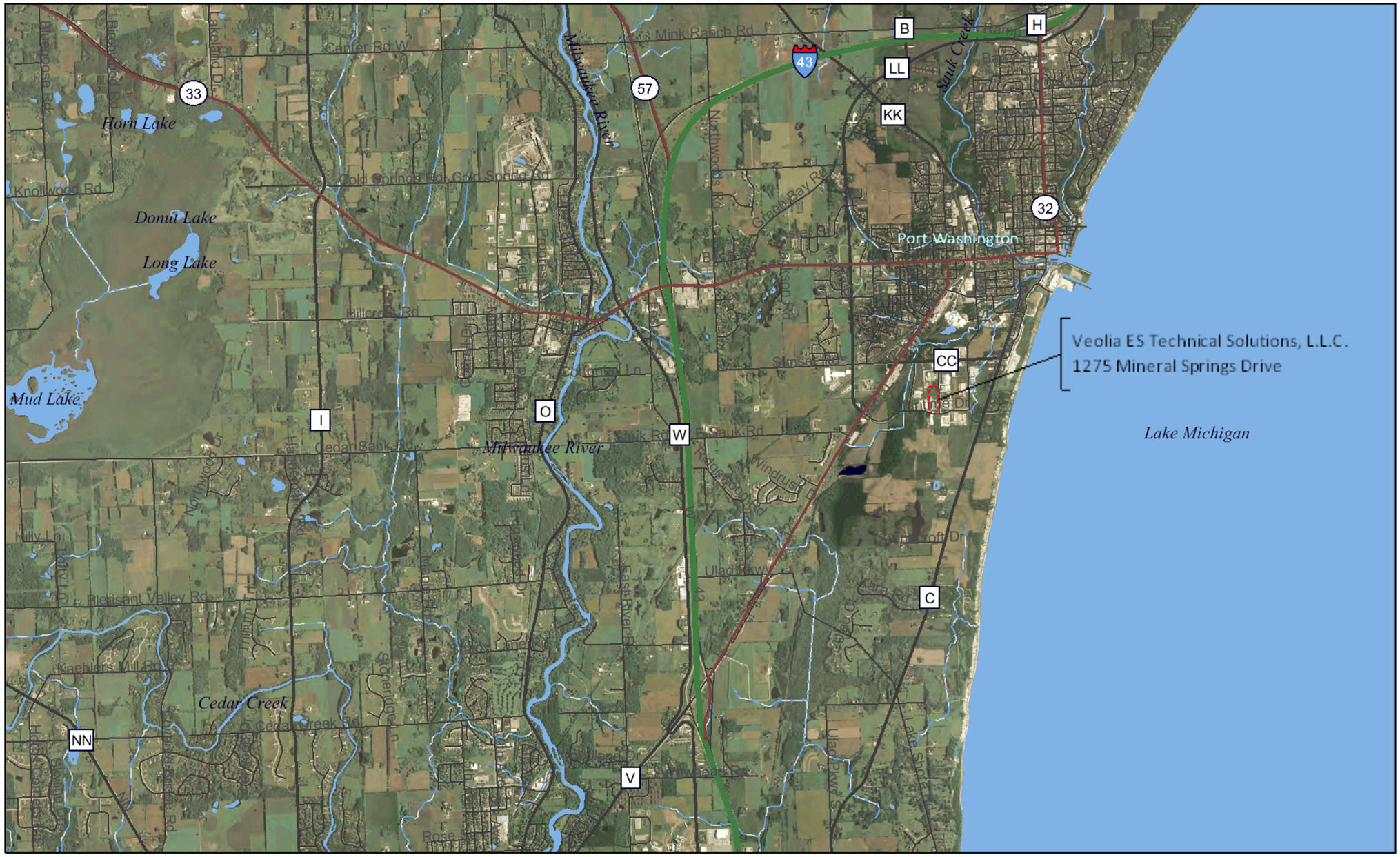
Table 2-3
Summary of Solid Waste Management Units (SWMU)

SWMU	Description of Unit	Location of Unit	When Unit Operated	Specification of Wastes Managed	Past RFI Activities
SWMU #9 **Active Unit**	Trailer 10-day Transfer/Parking Lot Area. The area has been paved with asphalt since the operation began. A concrete pad area is also present.	South side of Property	The unit has existed since the operation began in 1990.	The area is used for a OCB storage trailer and 10-day transfer area for hazardous waste. Roll-off boxes are stored on the concrete pad. The area drains to a catch basin that discharges to a controlled flow outfall near the pond north of the building. The area is inspected daily.	RFI Activities Required by the WDNR in the 2003 RFA Report. The RFI activities were associated with assessing the pond sediment adjacent to the outfall. Findings of the RFI submitted to the WDNR in October 2004. No Corrective Action required for SWMU
SWMU #10 **Active Unit**	Lamp Crushing/Processing Machines. Details regarding the operations are presented in Section 4.6.1 of the FPOR.	Northern section of the building	Lamp processing activities began in 1993 in SWMU #4 location. The lamp processing activities were moved in 2002 to the current location.	Two straight tube lamp machines crush fluorescent light lamps, separated the glass, the phosphor powder, and the aluminum end caps. The phosphor powder is collected in drums for processing in the mercury recovery furnaces (SWMU #5). The glass is accumulated indoors in a roll-off box. Once the roll-box is full, the box is moved outside to the concrete pad located in the south parking lot area (SWMU #9). The glass is either shipped off-site for disposal or managed by a company as a beneficial reuse product as an abrasive silica glass grit. A compact fluorescent lamp machine is also located in the northern section of the building. The machine separates the electronic base from the glass portion. The electronic bases are accumulated and shipped off-site to an electronics recycling firm. The glass portion is introduced into straight tube lamp line.	SWMU #10 has not been confirmed by the WDNR as an active unit (moved from previous location) as part of a RFA process or subjected to RFI activities.

Table 2-3
Summary of Solid Waste Management Units (SWMU)

SWMU	Description of Unit	Location of Unit	When Unit Operated	Specification of Wastes Managed	Past RFI Activities
				The lamp machines are equipped with bag filters and in-line filters to capture particulates. The air emissions pass through sulfur-impregnated activated carbon to adsorb residual mercury. The air emissions from these units pass out stacks, which are covered and monitored in accordance with a WDNR air permit.	
SWMU #11 **Active Unit**	Recyclable Collection Bin – 2 cubic yards in size.	East of Operations Building	Implemented in 2010.	Commingled recyclables including office paper, plastic bottles and food containers, aluminum beverage cans, metal food cans. The recyclables are shipped off-site.	SWMU #11 has not been identified by the WDNR as an active unit (moved from previous location) as part of a RFA process or subjected to RFI activities.
SWMU #12 **Active Unit**	Non-hazardous solid waste roll-off box area	Inside Northeast Corner of Building	Began operation in 1993 associated with SWMU #7 operations.	Non-hazardous solid wastes accumulated from general facility trash and post retort non-hazardous debris.	SWMU #12 has not been identified by the WDNR as separate active unit (previously part of SWMU #7) as part of a RFA process or subjected to RFI activities.
SWMU #13 **Active Unit**	90-day Hazardous Waste Accumulation Area	Inside Northern Section of Building	Began operation in this location in 2001.	SWMU #13 is used to accumulate mercury-containing phosphor powder generated during the lamp processing operations; mercury-contaminated water generated from retort operations; mercury-contaminated debris generated from retort operations destined for microencapsulation; post retort non-hazardous solid waste debris; and post retort commercial product phosphor powder meeting the TCLP and LDR mercury levels and destined of rare earth element recycling.	SWMU #13 has not been identified by the WDNR as separate active unit as part of a RFA process or subjected to RFI activities

Site Location Map



0 5000 10000 15000 ft.

Legend

Major Highways

- Interstate
- State Highway
- U.S. Highways
- County Roads
- Local Roads

- 24K Open Water

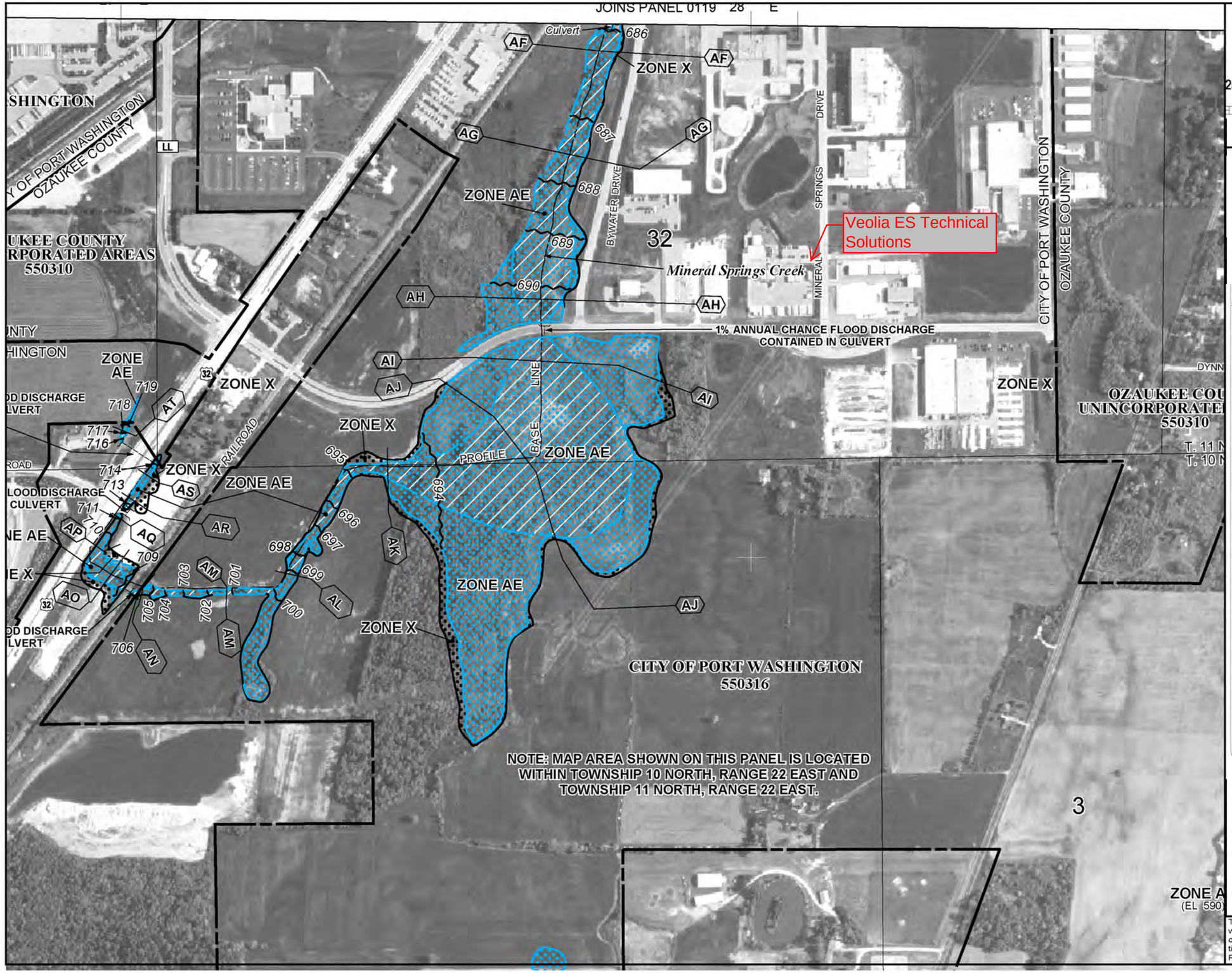
24K Rivers and Shorelines

- Intermittent
- Fluctuating
- Perennial

Scale: 1:50,000

This map is a user generated static output from an Internet mapping site and is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. THIS MAP IS NOT TO BE USED FOR NAVIGATION.

Notes: Source: WDNR Surface Water Data Viewer



MAP SCALE 1" = 500'

250 0 500 1000 FEET METE

LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0182F

FIRM

FLOOD INSURANCE RATE MAP

OZAUKEE COUNTY, WISCONSIN AND INCORPORATED AREAS

PANEL 182 OF 270

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
OZAUKEE COUNTY	550310	0182	F
PORT WASHINGTON, CITY OF	550316	0182	F

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
55089C0182F

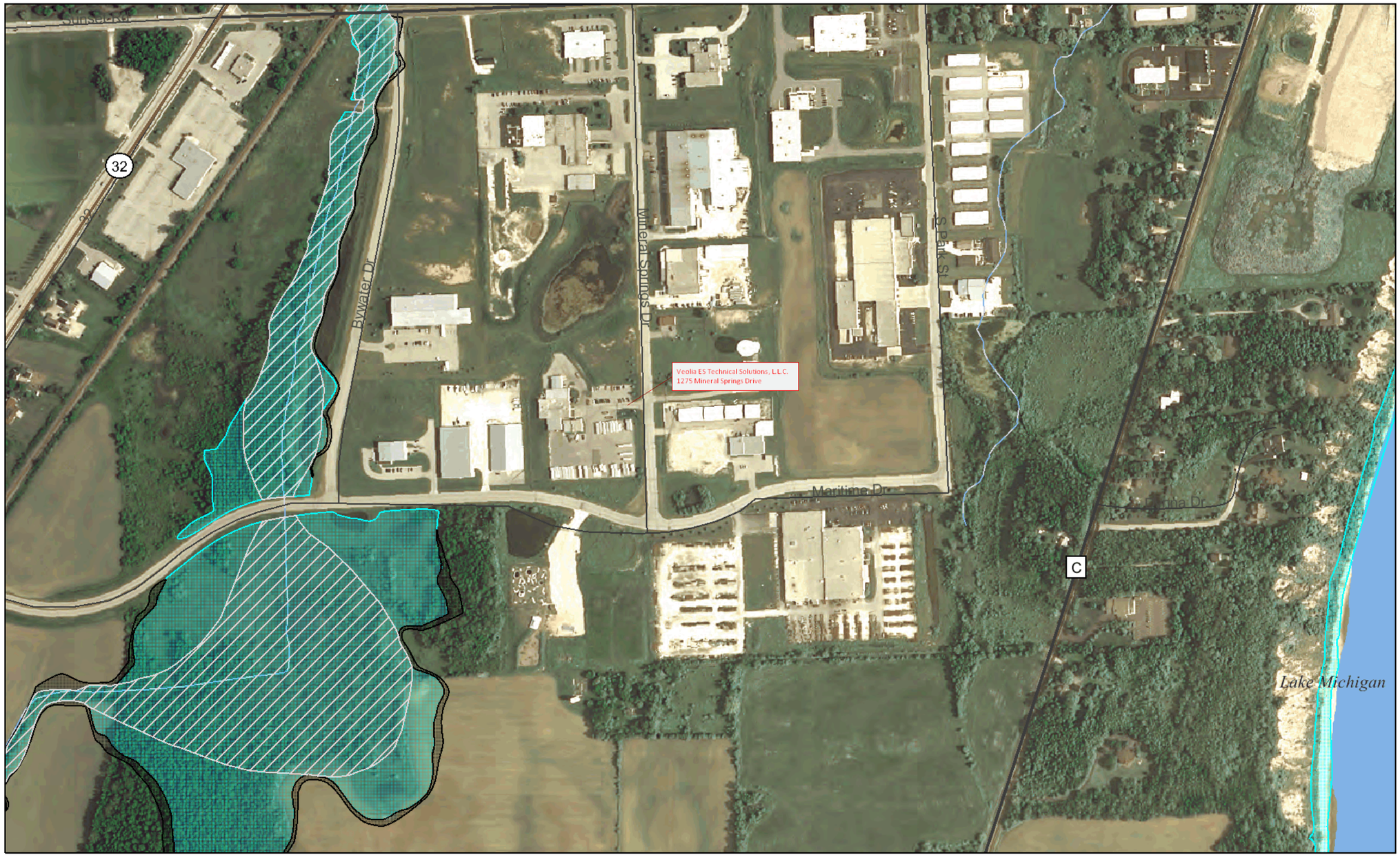
MAP REVISED
DECEMBER 4, 2007

Federal Emergency Management Agency

Figure: 2-2A
FEMA Flood Plain Map

Veolia ES Technical Solutions, L.L.C.
Feasibility and Plan of Operation Report
Date of Issuance: August 6, 2013
Revision Date :
Control Document Number 999A128
S:\Secure\Shared\Facility\FPOR\Renewal 2014\080613\FIG 2-2A FPOR_080613.pdf

Flood Insurance Rate Map



0 500 1000 1500 ft.

Legend

Major Highways

- Interstate
- State Highway
- U.S. Highways

County Roads

Local Roads

Digital Flood Boundaries

- 100 Year Floodplain
- 500 Year Floodplain
- Floodway

24K Open Water

24K Rivers and Shorelines

- Intermittent
- Fluctuating
- Perennial

N

Scale: 1:5,000

This map is a user generated static output from an Internet mapping site and is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. THIS MAP IS NOT TO BE USED FOR NAVIGATION.

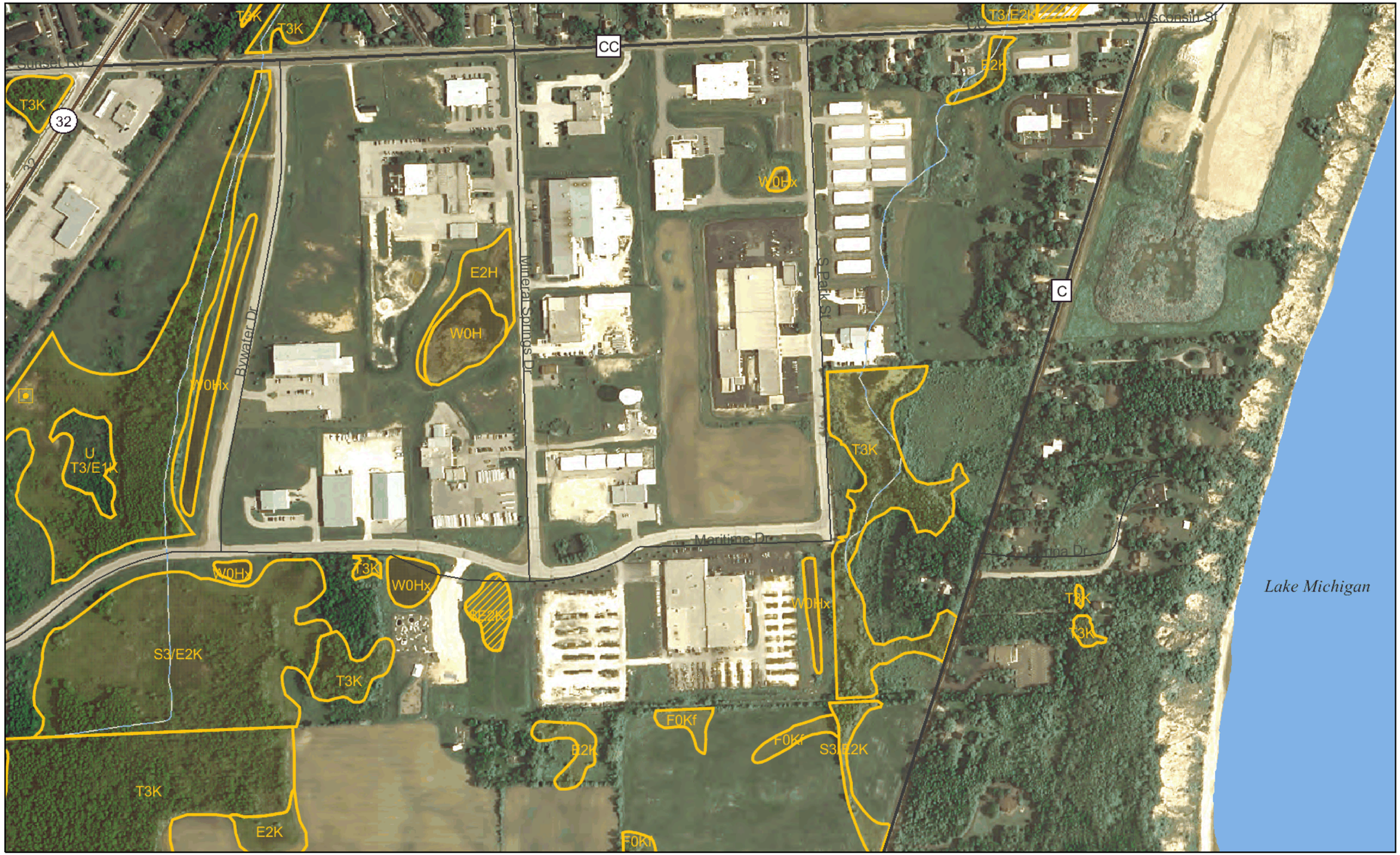
Notes: Source: WDNR Surface Water Data Viewer

Feasibility and Plan of Operation Report
Date of Issuance: August 6, 2013
File Name: S:\Secure\Shared\Facility\FPOR\Renewal 2014\080613\FIG 2-2B FPOR_080613.pdf

Figure: 2-2B
Flood Insurance Rate Map

Veolia ES Technical Solutions, L.L.C.
Revision Date:
Control Document Number: 999A128

Wetlands Inventory



0 500 1000 1500 ft.

Legend

Major Highways

- Interstate
- State Highway
- U.S. Highways

County Roads

Local Roads

DNR Wetland Points

- Excavated Pond
- Dammed Pond
- Wetland Too Small to Delineate
- Filled Excavated Pond
- Filled Dammed Pond
- Filled Wetland Too Small to Delineate
- Filled or Drained Wetland

DNR Wetland Areas

- Upland
- Wetland
- Filled or Drained Wetland

24K Open Water

24K Rivers and Shorelines

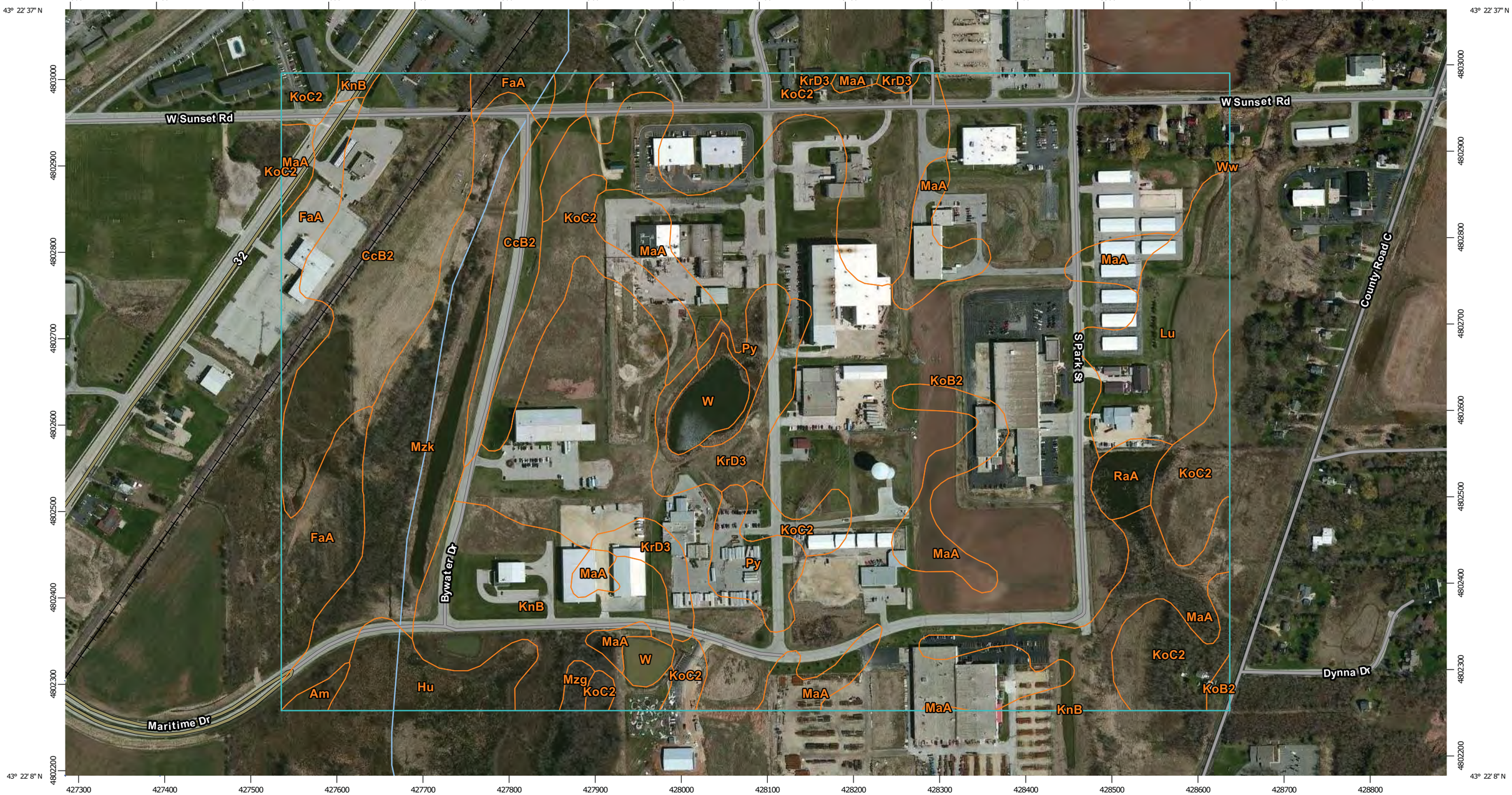
- Intermittent
- Fluctuating
- Perennial

NAIP 2010 Color Air Photo

N

Scale: 1:5,000

Wisconsin Wetland Inventory (WWI) maps show graphic representations of the type, size and location of wetlands in Wisconsin. These maps have been prepared from the analysis of high altitude imagery in conjunction with soil surveys, topographic maps, previous wetland inventories and field work. State statutes define a wetland as "an area where water is at, near or above the land surface long enough to be capable of supporting aquatic or hydrophytic vegetation and which has soils indicative of wet conditions." The principal focus of the WWI is to produce wetland maps that are graphic representations of the type, size and location of wetlands in Wisconsin. Within this context, the objective of the WWI is to produce reconnaissance level information on the location, type, size of these habitats such that they are accurate at the nominal scale of the 1:24,000 (1 inch = 2000 feet) base map. The DNR recognizes the limitations of using remotely sensed information as the primary data source. They are to be used as a guide for planning purposes. There is no attempt, in either the design or products of this inventory, to define the limits of jurisdiction of any Federal, State, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, State, or local agencies concerning specified agency regulatory programs and jurisdictions that may affect such activities. The most accurate method of determining the legal extent of a wetland for federal or state regulations is a field delineation of the wetland boundary by a professional trained in wetland delineation techniques.



Map Scale: 1:4,320 if printed on B landscape (17" x 11") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 200 400 800 1200

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

Feasibility and Plan of Operation Report Date of Issuance: August 6, 2013 File Name: S:\Secure\Shared\Facility\FPOR\Renewal 2014\080613\FIG 2-4 FPOR_080613.pdf	**Figure 2-4** **USDA Soil Survey Information**	Veolia ES Technical Solutions, L.L.C. Revision Date: Control Document Number: 999A128

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Ozaukee County, Wisconsin
Survey Area Data: Version 9, Jun 15, 2012

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jan 1, 1980—Sep 6, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Ozaukee County, Wisconsin (WI089)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
Am	Alluvial land	0.4	0.2%
CcB2	Casco sandy loam, 1 to 6 percent slopes, eroded	18.1	9.0%
FaA	Fabius loam, 1 to 3 percent slopes	8.6	4.3%
Hu	Houghton mucky peat	3.8	1.9%
KnB	Kewaunee silt loam, 2 to 6 percent slopes	10.7	5.3%
KoB2	Kewaunee silty clay loam, 2 to 6 percent slopes, eroded	80.4	39.9%
KoC2	Kewaunee silty clay loam, 6 to 12 percent slopes, eroded	25.8	12.8%
KrD3	Kewaunee silty clay, 12 to 20 percent slopes, severely eroded	5.3	2.6%
Lu	Loamy land	8.1	4.0%
MaA	Manawa silt loam, 1 to 3 percent slopes	18.2	9.0%
Mzg	Muskego muck	0.4	0.2%
Mzk	Mussey loam	13.7	6.8%
Py	Poygan silty clay loam	4.1	2.0%
RaA	Radford silt loam, 0 to 3 percent slopes	1.4	0.7%
W	Water	2.5	1.2%
Ww	Wet alluvial land	0.0	0.0%
Totals for Area of Interest		**201.5**	**100.0%**

Feasibility and Plan of Operation Report Date of Issuance: August 6, 2013 File Name: S:\Secure\Shared\Facility\FPOR\Renewal 2014\080613\FIG 2-4 FPOR_080613.pdf	**Figure 2-4** **USDA Soil Survey Information**	Veolia ES Technical Solutions, L.L.C. Revision Date: Control Document Number: 999A128

0 500 1000 1500 ft.

Legend

Major Highways

- Interstate
- State Highway
- U.S. Highways

County Roads

Local Roads

24K Open Water

24K Rivers and Shorelines

- Intermittent
- Fluctuating
- Perennial

N

Scale: 1:5,000

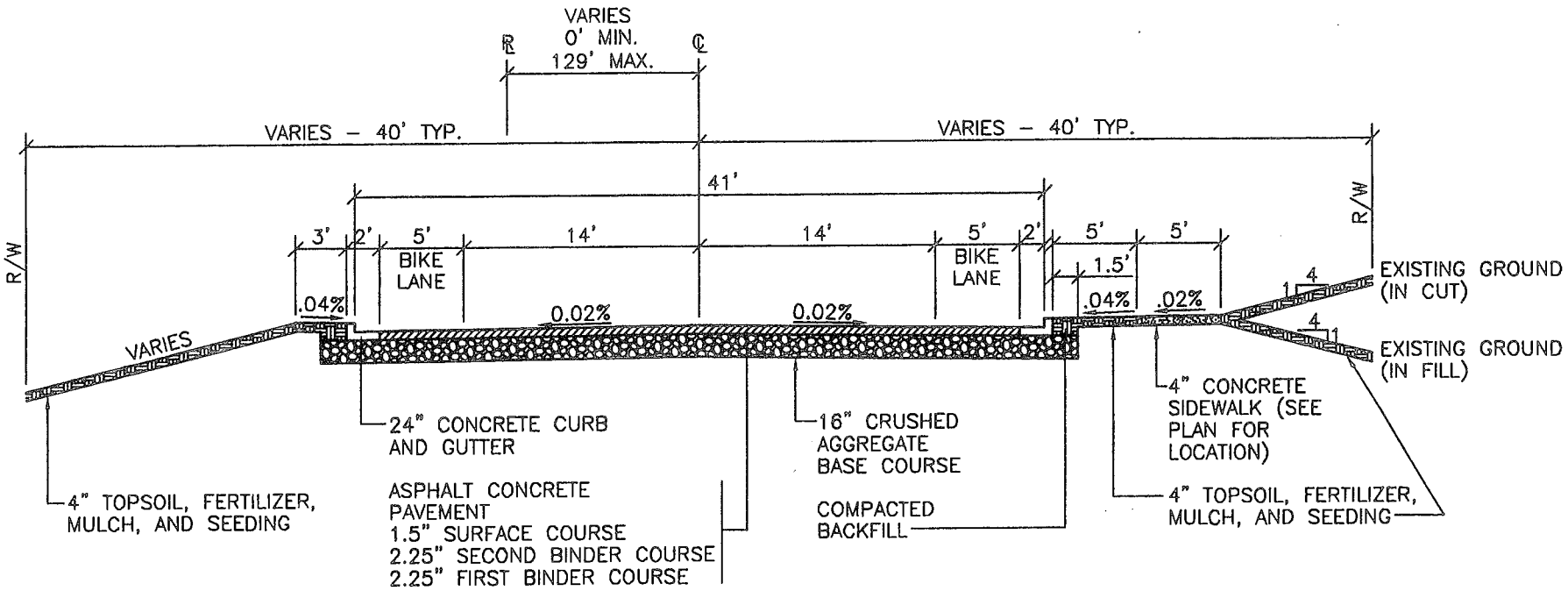
This map is a user generated static output from an Internet mapping site and is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. THIS MAP IS NOT TO BE USED FOR NAVIGATION.

Notes: August 2013

Feasibility and Plan of Operation Report
Date of Issuance: August 6, 2013
File Name: S:\Secure\Shared\Facility\FPOR\Renewal 2014\080613\FIG 2-5 FPOR_080613.pdf

Figure 2-5
Traffic Patterns and Roadways Map

Veolia ES Technical Solutions, L.L.C.
Revision Date:
Control Document Number: 999A128



0 10

SCALE IN FEET

Feasibility and Plan of Operation Report Date of Issuance: August 6, 2013 File Name: S:\Secure\Shared\Facility\FPOR\Renewal 2014\080613\FIG 2-6 FPOR_080613.pdf	**Figure: 2-6** **Roadway Typical Cross-section**	Veolia ES Technical Solutions, L.L.C. Revision Date: Control Document Number: 999A128

0 875 1,750 3,500 5,250 7,000
Feet

City of Port Washington Zoning District Map

Veolia ES Technical Solutions, L.L.C.
1275 Mineral Springs Drive

N
W E
S

Legend

CPW-ZONING

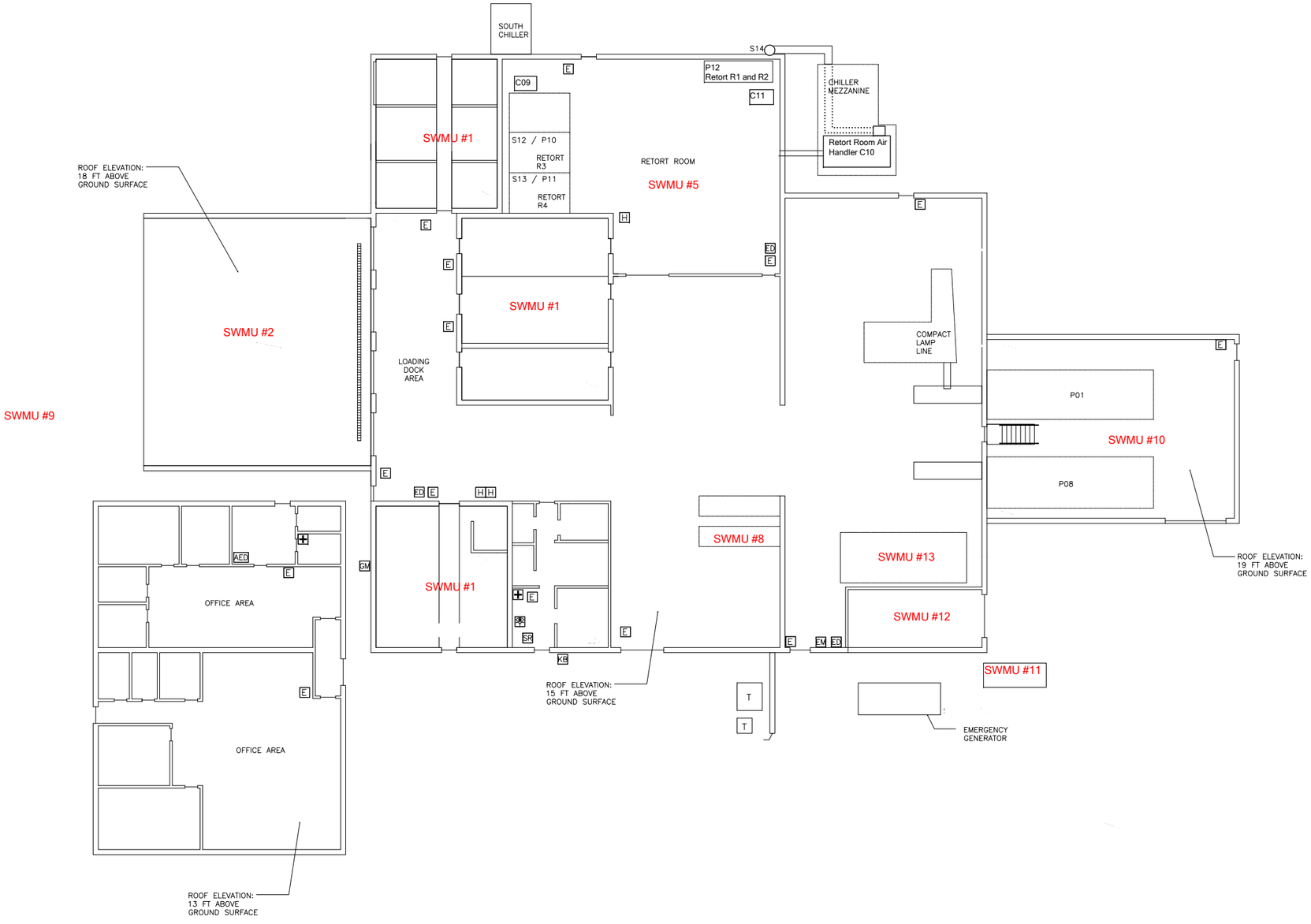
<all other values>

CLASS

- AG Agriculture
- B1 Office District
- B2 Local Service Center Business
- B3 General Business
- B4 Central Business District
- BP Business Park District
- CCM Multiple Family Central City MIxed
- I1 Existing Industrial
- I2 Industrial Park
- PUL Public & Utility Lands
- RM1 Single & Two Family Residence
- RM2 Multiple Family (Garden Apt. & Townhouses
- RM3 Multiple Family (Low Rise Apts.)
- RM4 Multiple Family (Med Rise Apts.)
- RS-1 Single Family Detached Residence
- RS-2 Single Family Detached Residence
- RS-3 Single Family Detached Residence
- RS-4 Single Family Detached Residence
- RS-5 One and Two Family Residence
- RS-6 One and Two Family Residence
- CPW_boundary-dec-6-2006.dwg Polyline

N:\GIS\Planning & Zoning\Official Zoning.mxd Compiled by Ross Kroeger December 13, 20

Feasibility and Plan of Operation Report Date of Issuance: August 6, 2013 File Name: S:\Secure\Shared\Facility\FPOR\Renewal 2014\080613\FIG 2-7 FPOR_080613.pdf	**Figure: 2-7** **City of Port Washington Zoning District Map**	Veolia ES Technical Solutions, L.L.C. Revision Date: Control Document Number: 999A128



Legend

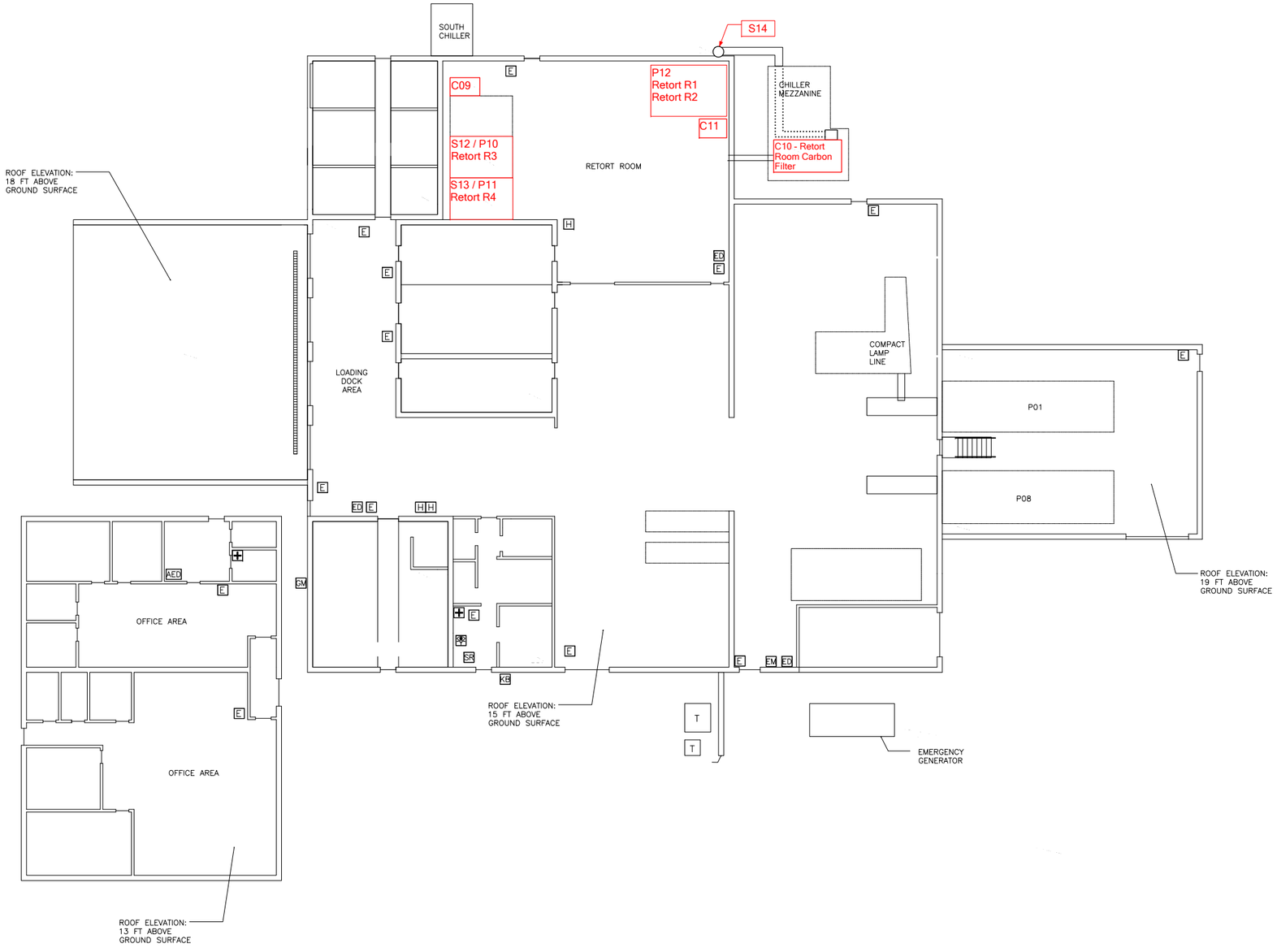
SWMU # -- Active Solid Waste Management Units

north

0 10 20

SCALE IN FEET

Feasibility and Plan of Operation Report Date of Issuance: August 6, 2013 File Name: S:\Secure\Shared\Facility\FPOR\Renewal 2014\080613\FIG 2-8 FPOR_080613.pdf	**Figure: 2-8** **Location of Active Solid Waste Management Units**	Veolia ES Technical Solutions, L.L.C. Revision Date: Control Document Number: 999A128



Legend

Miscellaneous Unit/ Retort Operations

SXX - Stack Locations

PXX - Process Locations

CXX - Control Device Location

north

0 10 20

SCALE IN FEET

Feasibility and Plan of Operation Report Date of Issuance: August 6, 2013 File Name: S:\Secure\Shared\Facility\FPOR\Renewal 2014\080613\FIG 2-9 FPOR_080613.pdf	**Figure: 2-9** **Stack Layout**	Veolia ES Technical Solutions, L.L.C. Revision Date: Control Document Number: 999A128

3.0 FACILITY DESCRIPTION (NR670.014(2)(a))

The primary areas of the facility include the hazardous waste storage rooms, loading dock area, fluorescent light recycling area, mercury recovery/retort operations – miscellaneous units, household hazardous waste accumulation area, and office/laboratory area. The areas associated with the TSDF include the hazardous waste storage rooms and the mercury recovery/retort operations – miscellaneous units.

3.1 HAZARDOUS WASTE STORAGE ROOMS (NR670.015(1)(a), NR664.0176 and NR664.0177(3))

Active areas of the TSDF storing ignitable and reactive waste are located at least 50 ft from the property line, as shown on Drawing D2 (NR664.0176). The detailed layout for the facility is shown on Drawing D3. Drawing D3 demonstrates the storage of hazardous waste containers, which are incompatible with other wastes or materials, are segregated in separate rooms and/or separated by berms or walls (NR664.0177(3)).

The existing hazardous waste storage rooms were constructed in 1989 in accordance with the National Fire Protection Associated (NFPA) "Liquid Warehouse" standard for flammable liquids. The WDNR approved the design of the storage rooms during the TSDF's initial licensing activities. The rooms consist of 4-hour fire prevention concrete walls, ceiling, and floor (NR670.015(1)(a)). The storage rooms have a total surface area of approximately 2,498 sf for hazardous waste storage.

Storage Room 1 is divided into two segregated pods for storage. Each pod is segregated on three sides by concrete walls in combination with 3.5-in. high concrete berms. The front area of the pods has a raised walkway to allow for the removal or placement of hazardous waste containers. This walkway in itself serves as a berm in front of each pod. The surface area of the Pod 1A in Room 1 is approximately 360 sf. The surface area of the Pod 1B in Room 1 is approximately 300 sf, including a separately segregated 68 sf enclosed sub room. The sub room is constructed of 2-hour fire prevention concrete walls, door, ceiling and floor.

Storage Room 2 is divided into three bermed pods. Pods 2B and 2C are segregated by 6-in. wide and 2-ft high impervious concrete wall. The area comprising Pods 2A and 2B pod have three access points. Pod 2C has two access points. The surface areas of the three pods in Room 2 are 394 sf, 400 sf, and 336 sf, respectively.

Storage Room 3 is divided into two sections, each containing three bermed pods. Each pod is segregated by 6-in. wide and 2-ft high impervious concrete walls. The front area of the pods has a raised walkway to allow for the removal or placement of hazardous waste containers. This walkway in itself serves as a berm in front of each pod. The surface areas of the three pods on the north side of Room 3 (i.e., Pods 3A, 3B, and 3C), are 98 sf, 95 sf, and 98 sf, respectively. The southern section of Storage Room 3 also contains three

bermed pods (i.e., Pods 3D, 3E, and 3F). The surface areas of the three pods are 117 sf, 114 sf, and 118 sf, respectively.

Containers stored inside the storage rooms typically range in size from less than one pint bottles packaged in DOT approved boxes up to DOT approved cubic yard boxes on a pallet. Containers are properly covered and sealed to eliminate air emissions or leakage of waste.

Storage Rooms 1 and 3 have two access points each. One access is to the outside and the other to the loading dock area. Storage Room 2 has three access points for Pods 2A and 2B. Pod 2C has two access points. The access points for Room 2 are from the loading dock area and the area east of the mercury retort room. Access points are equipped with a fire door and are only accessible to authorized VESTS personnel.

3.2 MERCURY RECOVERY/RETORT OPERATIONS

The mercury recovery/retort operations are contained inside a segregated 2070 sf room. The room is used to depack, sort, process and retort mercury-contained devices, mercury-containing compounds and solutions, and mercury contaminated debris. Details regarding the mercury recovery/retort operations are described in Section 4.5 of the FPOR.

4.0 FACILITY OPERATIONS

4.1 GENERAL

4.1.1 Projected Waste Types, Volumes and Accumulation Time

The following sections describe the volumes and accumulation time of hazardous waste and universal waste stored in the TSDF.

4.1.1.1 Hazardous Wastes - The types of hazardous wastes stored at the TSDF are indicated in the Part A Application (Appendix E). The maximum permitted volume of hazardous waste stored in the facility is 20,000 gallons. The hazardous wastes are stored or packaged in DOT specification/authorized containers, ranging in size from less than a quart to as large as a DOT specification cubic yard boxes and totes.

The hazardous wastes will be received at the TSDF only if properly manifested and identified in accordance to EPA hazardous waste code, UN/NA ID number, and DOT shipping name. Very small quantity generator (VSQG) wastes, household hazardous wastes (HHW) and non-hazardous wastes may be received by the facility without manifests. The general types of wastes that will be received at the TSDF include the following:

- Mercury-contaminated debris, mercury-containing phosphor powder, mercury-containing solutions, mercury compounds, spent solvents and solvent mixtures; spent oils (fatty and petroleum); spent acids (inorganic and organic); spent alkaline solutions and solids; cyanide and sulfide bearing wastes; halogenated mixtures; flammable and combustible wastes; water reactive wastes; poison/toxic wastes; oxidizers; certain pesticides and herbicides.

The following wastes, however, will not be accepted for storage in the TSDF:

- Radioactive materials; explosive materials; pyrophoric materials; and select agent materials.

The majority of the projected volumes and weights of hazardous wastes stored at the TSDF will be mercury-contaminated debris and mercury-containing phosphor powder. Accumulation times for stored wastes inside the rooms will vary depending upon the type of waste and the approval review time required by the final disposal site. Generally the maximum storage period is one year.

On January 17, 2013, the WDNR issued a determination that it will use its enforcement discretion to allow the TSDF to store elemental mercury that is subject to the Mercury Export Ban Act of 2008 (MEBA) for more than one year provided VESTS complies with the conditions outlined in the letter.

4.1.1.2 Universal Wastes - Universal waste destined for processing at the TSDF will be stored in the hazardous waste storage rooms and may include batteries (NR673.02), thermostats (NR673.04), mercury-containing lamps (NR673.05), mercury-containing articles, and mercury-containing devices (WDNR 11/8/08 publication WA-742 08). The universal wastes will be stored or packaged in accordance with the DOT regulations. Containers will range in size from less than a quart in size to as large as a DOT specification cubic yard boxes.

Some universal wastes may be manifested to the facility, but the majority of the universal waste will be received by the facility on bill-of-lading or other shipping papers.

The majority of the projected volumes and weights of universal wastes to be stored within the hazardous waste storage rooms will be mercury containing thermostats and equipment. However, these universal wastes may also include mercury-containing lamps. The largest percentage of these lamps will be four (4) foot fluorescent lamps. Each four foot lamp weighs 0.62 pounds, which equates to approximately 0.075 gallons and will be used as a conversion factor for all lamps stored in the area. The other universal waste will be weighed and converted to gallons using a specific gravity of 8.34 lbs/gal.

Accumulation times for stored universal wastes will vary. However, the maximum storage period is one year.

4.1.2 Management Structure

The management structure of TSDF personnel is presented in Figure 4-1. The structure consists of an Operations Manager who is responsible for the overall facility operations, permitting and compliance. The Facility Manager is responsible for the daily operations of the TSDF. Material handlers and technicians perform the daily activities of the TSDF as described in this FPOR. Administrative assistants support the operations primarily in association with the recordkeeping aspects.

The number of employees at the TSDF may vary due to increases or decreases in the amount of waste brought through the TSDF, although certain operations require a specific number of people. In order to process waste materials, at least two people must be present at the TSDF.

4.1.3 Operating Hours and Daily Shutdown

The TSDF generally operates during normal business hours (6:00 a.m. to 1:30 a.m.), or during non-business hours under the direct supervision of the Operations Manager or an approved alternate. A third shift (11:00 p.m. to 7:00 a.m.) will operate when workload for processing wastes necessitates. Normally, the only activities during off hours will be parking vehicles near the loading docks for loading/unloading equipment, tools, supplies, etc., maintenance activities, or in support of off-site emergency response actions.

At the end of the working day, the following steps are taken to shut down the facility:

- Containers will be maintained with lids and devices secured closed unless adding or removing waste, sampling, monitoring, inspecting, repacking, commingling, or performing maintenance. The lid or closure device will be secured closed when a filling, repacking, or commingling container becomes full, when the attendant leaves the area, or whenever loading has ceased for 15 minutes or more. This does not apply to empty containers as defined in NR661.07.

- New waste containers (bulk drums or repack drums) are properly labeled.

- Containers that have not been checked into storage pods will remain in transit and stored in trailers parked in the lot area of the TSDF. Manifests for these wastes will be returned to the manifest cabinet inside the TSDF. The wastes will then be checked into the facility the following operating day.

- After checking for personnel in the storage rooms, the doors to the rooms are closed and locked. After checking for personnel in the trailers, the loading dock doors are closed and locked.

- Tools are returned to their proper places.

- Lights in the storage rooms, loading dock and warehouse area are turned off.

- Office equipment and lights are turned off.

- After personnel have left the facility, the outer doors are locked and entrance gate closed.

4.1.4 Personal Protective Equipment (NR670.014(2)(h)5.)

The following sections describe the type of personal protective equipment (PPE) personnel working in the TSDF and retort operation will wear under various operating conditions.

4.1.4.1 Normal Operations. Personnel entering the TSDF under normal working conditions (e.g., removal or placement of drums); repacking intact containers of chemicals, sorting light bulbs, batteries, and computer equipment; and accepting household hazardous waste will be required to wear, at a minimum, Level D Personal Protective Equipment (PPE).

Level D PPE Includes:

a. Safety boots with steel shank and toe.
b. Safety eyeglasses or chemical splash goggles.
c. Uniforms.

4.1.4.2 Bulking Operations. Personnel conducting bulking of compatible chemicals will be required to wear, at a minimum, Level C PPE.

Level C PPE Includes:

a. Full face or half face cartridge respirator.
b. Chemical resistant protective clothing including, but not limited to, overboots, suits, and gloves.
c. Safety boots with steel shank and toe.

4.1.4.3 Emergency Response. Personnel working in the TSDF under the implementation of the Contingency Plan and emergency procedures may be required to wear Level B PPE. Air monitoring results and site conditions will determine the level of PPE required.

Level B PPE Includes:

a. Self-Contained Breathing Apparatus (SCBA).
b. Chemical resistant protective clothing including, but not limited to, overboots, suits, and gloves.
c. Safety boots with steel shank and toe.

PPE and decontamination equipment for use in TSDF emergency response is outlined in Section 8.0. Personnel involved with closure activities will also wear PPE.

4.1.4.4 Retort Operations and Lamp Processing Operations. Personnel working in the TSDF's retort operations and performing certain lamp processing operations will be required to wear a minimum of Level C PPE. Level B PPE may also be used during the retort and lamp processing operations. Air monitoring results and site conditions will determine the level of PPE required.

Level C PPE Includes:

a. Full face cartridge respirator with mercury adsorbant cartridges.
b. Chemical resistant protective clothing including, but not limited to, overboots, suits, and gloves.
c. Safety boots with steel shank and toe.

Level B PPE Includes:

a. Self-Contained Breathing Apparatus (SCBA) or Airline Supplied Air Respirators.
b. Chemical resistant protective clothing including, but not limited to, overboots, suits, and gloves.
c. Safety boots with steel shank and toe.

4.2 CONTAINER STORAGE AND MANAGEMENT

The following sections will describe how containers of hazardous waste will be managed during the facility operations and in storage.

4.2.1 General Management (NR670.014(2)(h)1.)

Hazardous waste containers retained in the TSDF are kept closed and sealed to ensure minimal vapor escape and to prevent spillage if the containers were accidentally overturned. Drums (85-gal and 55-gal) are sealed tightly with a top head and bolt ring or a bung cap. Other intermediate sized containers are sealed with tight-fitting lids (e.g., metal, plastic, and polyethylene). Drums and containers are checked for proper sealing immediately upon receipt into the TSDF and on a weekly inspection as part of the inspection and record keeping procedures. Containers holding ignitable or reactive waste are located at least 50 feet from the facility's property line.

Drums and containers are opened in the TSDF when a representative sample is required for verification of properly manifested waste, or when adding or removing (e.g., bulking) waste to the drum. Drums and containers are opened with non-sparking tools (e.g., brass bung wrench) to prevent ignition of flammable vapors.

Drums and containers such as lab packs may be repacked into larger sized containers or different material type containers (e.g., fiber vs. metal) to facilitate proper and economic disposal at off-site RCRA disposal sites. The inside containers of lab packs (e.g., reagent bottles) may be consolidated or commingled. Lab packs from different generators may be repackaged or commingled in the same outside container and re-profiled as TSDF generated waste. The TSDF record keeping procedures will track the status of each individual container during storage and to the final off-site RCRA treatment disposal site.

Handling of drums during unloading, unloading, and during movement through the TSDF is done through use of a drum cart or forklift. Handling in this manner minimizes the possibility for drum rupture or spilling. Other smaller volume containers are carefully handled in an upright position to prevent leakage from the lid area.

Storage of drums and containers is completed according to proper segregation into the appropriate storage rooms and pods. These drums will be segregated in accordance with DOT requirements. In order to allow for the unobstructed movement of personnel, fire protection equipment, spill control equipment and decontamination equipment to any area of the facility in an emergency, an aisle space of at least 24 inches will be maintained in the storage pods. The 24-inches of. aisle space is based on the approximate diameter of a 55-gal drum. If a drum was found to be leaking, it could be removed without having to move other drums. Alternatively, a 55-gal drum could be easily brought into a pod, in order to transfer the contents of a leaking drum to a new drum.

The TSDF also handles containers smaller than 55-gal drums. Spacing is maintained between the containers so that an inspection can be made for possible leaks. No drums or intermediate sized containers are stored in walkways, doorways, or adjacent building areas.

When cubic yard boxes, bags, and pallets are stored inside a pod, the aisle space is increased. An increased aisle space allows for the movement of pallets for access to any leaking containers. Smaller containers may be stored on top of larger containers in a manner that prevents accidental tipping.

4.2.2 Container Compatibility (NR670.014(2)(i), (3), and (4), NR664.0017(2) thru (2)(e), and (3) and NR664.0177(2))

Veolia utilizes as much information as is available to ensure wastes are managed to prevent any unwanted reactions or mixing of incompatible materials. Veolia has a full time corporate Chemical Information Specialist on staff whose job responsibilities include performing research on chemical properties and compatibilities. This data is accumulated in Veolia's Chemical Database and is accessible to the Approvals Coordinator. The Approvals Coordinator, as part of the waste approvals process uses this data and reviews waste streams received at the facility and ensures that they are being managed properly and in a manner that will prevent unwanted reactions.

Wastes received at the TSDF are reviewed for chemical characteristics and container compatibility. If a waste is potentially incompatible with the receiving container, the waste is immediately transferred into an appropriate compatible container (e.g., a corrosive acid waste received in a 55-gal steel drum would be transferred into a drum with a corrosion-resistant liner). In addition, containers are inspected for leakage, degradation, and deterioration. Waste in problem containers are immediately transferred into compatible, stable containers (e.g., a dented, slow-leaking 55-gal steel drum of waste paint would be over packed into a new 85-gal drum).

Hazardous wastes are not placed into containers that previously contained incompatible materials (NR664.0177(2)). Potential incompatibilities are determined by the Approvals Coordinator, with the assistance of the corporate support staff described above, by reviewing the chemical composition of the waste previously held in the container and the composition of the waste to be placed into the container. Residual incompatible materials in tankers or roll-off boxes will be removed prior to use. Residuals from the tankers and roll-off boxes will be removed at the destination disposal facility. Cleaning of tankers and roll-off boxes will not occur at the Port Washington facility. Containers that are deemed unusable for safe and proper storage of hazardous waste will not be utilized.

To prevent ignition or adverse chemical reactions by accidental mixing of incompatible wastes, containers of incompatible wastes are kept in separate storage rooms and pods of the TSDF (NR670.014(2)(i) and NR664.0017(1)). Also, incompatible wastes are not placed in the same container.

To prevent ignition or adverse chemical reaction during the bulking of wastes, the Operations Manager or designated alternate makes an initial determination of chemical compatibility before the wastes are bulked (NR670.014(2). The waste stream profiles are

reviewed for the chemical properties and their potential to react with one another. Technical chemical reference materials will be used to review the incompatibility and reactionary properties of the chemicals. If technical reference materials indicate a waste stream is potentially reactive, the Operations Manager or designated alternate will utilize the National Enforcement Investigations Center (NEIC) protocol to calculate the potential reactivity of the chemical compound. The NEIC protocol is presented in Appendix K. The data will be evaluated for the potential release of toxic gases, vapors, or fumes in a quantity sufficient to present a danger to human health or the environment, per NR664.017(2) and (3). Wastes are not bulked without the authorization of the Operations Manager or designated alternate.

Before a waste is bulked either into a drum, roll-off box or tanker, it is tested to make sure it is compatible with the consolidated container contents. A small quantity of waste is taken from the drum and placed into a 4-oz jar. A small amount of each new waste is added to this jar. The mixture will be observed for heat generation, phase transformation, vapor generation, color change and other physical changes that potentially denote a reaction. If no reaction takes place, the waste is added to the consolidated container. The 4-oz jar containing the mixed waste will be emptied into the receiving container. If a reaction does take place, the chemical or waste is set aside and repacked.

Open flames, smoking, cutting and welding, hot tools, or sparking equipment are not allowed in the storage pods. Cutting and welding operations are conducted in other areas of the facility under a hot work permit. "No Smoking" and "Danger-Unauthorized Personnel Keep Out" signs are placed at each entrance of the TSDF. A "No Smoking" sign is also posted on the entrance doors. The signs are legible from a distance of at least 25 feet.

4.3 BULKING OPERATIONS

The TSDF conducts hazardous waste bulking operations. The bulking operations are not considered hazardous waste treatment because the physical, chemical, or biological character or composition of the waste will not be changed so that the waste is rendered less hazardous. The bulking operations are subject to the requirements of NR664.0017(2) regarding the commingling of compatible wastes and NR664.0172 regarding the management of containers. Wastes that are candidates for bulking include wastes of the same waste codes, wastes of similar EPA codes, and chemically compatible wastes. Before wastes are recontainerized or bulked, the Operations Manager, or appointee, makes an initial determination of chemical compatibility based on incoming waste characterization information supplied by the generator and the analytical results of the qualitative screening analysis. Only those waste streams that readily lend themselves to this process are considered, and only those wastes approved by the Operations Manager or appointee are bulked. Also, bulking is not intended to eliminate EPA codes. Wastes are only bulked if they are chemically compatible, and not in such a way as to remove a characteristic from the waste.

Wastes with the same EPA code may be bulked. For example, several drums of F006, waste water treatment sludges from electroplating operations, would be bulked together in a cube or roll off and sent to a TSDF which, by permit, can only treat F006 wastes in bulk. Not all wastes with the same waste codes are bulked, only wastes which are chemically compatible. D002 acids for example are not bulked with D002 bases.

Wastes with similar waste codes may be bulked together provided that they are chemically compatible. Chemically compatible wastes, with or without EPA codes, may be also be bulked. For example a drum of fuels may contain spent xylene (F003), virgin xylene (U239), spent toluene (F005), virgin toluene (U220), gasoline from a HHW collection program (D001), and non-regulated motor oils.

Bulking of wastes is not conducted to eliminate EPA codes. EPA codes for each waste will be indicated on the outgoing hazardous waste manifest for the bulked material. Individual waste streams that are candidates for bulking include but are not limited to:

- Flammables, ignitables, combustibles, and non-regulated oils.
- Chlorinated solvents for reclamation or disposal.
- Acids for deactivation.
- Alkalines for deactivation.
- Solid listed and characteristic hazardous waste.

Wastes that are classified as non-hazardous solid waste may also be bulked at the facility. The facility is permitted to conduct solid waste processing in accordance with the solid waste processing license and the August 22, 2001 Plan of Operation.

The advantages of bulking wastes are numerous. Lab packs are often incinerated. However, there are certain wastes that can be bulked, then treated by more efficient methods than incineration. Corrosive materials, for example, can be simply neutralized. Some TSDF's will use these wastes (particularly caustics) to treat other wastes rather than using virgin products. Flammable liquids can be used in fuel blending for energy recovery.

Bulking is also consistent with the federally mandated waste minimization laws. A typical 55-gal lab pack contains only about 15 gal of actual waste, with the balance being an absorbent such as vermiculite. During incineration, the entire lab pack is fed into the incinerator, absorbent and all. This creates more ash than would be generated if only the waste was incinerated. This ash then has to be tested, stabilized, and buried in a secure landfill. By using alternate methods that are designed for specific types of waste, only the actual waste is treated while the amount of unnecessary residue created is minimized. The ability to shred and compact also results in a reduction in the number of drums of waste undergoing treatment.

The TSDF maintains as part of the operating records, a record of which hazardous waste have been bulked and recontainerized.

4.3.1 Commingling of Lab Packs

Once the material has been approved for bulking, the following procedures are followed:

1. The drums that the wastes are commingled into are taken into the appropriate storage room by a drum cart or forklift. If a drum for the appropriate bulk waste category has not already been started, an empty drum will be utilized. The drums containing ignitable wastes are grounded to eliminate the possibility of fire due to a static charge, and only nonsparking tools are used. The drums are constructed of materials that are chemically compatible with their contents.

2. Facility personnel use appropriate PPE. At least two people will be working in the TSDF when commingling or bulking operations are completed.

3. Before a chemical is added to a drum, it is first tested to make sure that it is compatible with the drum contents. A small quantity of waste is taken from the drum and placed in a 4-oz jar. A small amount of each new waste is added to this jar before it is added to the drum. If no reaction takes place after thirty seconds, the waste is added to the drum. If a reaction does occur, the chemical is set aside and repacked for proper disposal. The contents of the jar is poured into the consolidation drum to finish filling the drum or when bulking is completed for the day. The empty bottles from lab pack wastes and empty waste stream drums are disposed of in accordance with NR661.07. The containers will be emptied by pouring such that no more than 3% by weight of the total capacity of the container remains. These containers are not subject to the regulations under Chapters NR660 to NR673 and will be disposed as a non-hazardous solid waste. Those containers that contain acute hazardous wastes, as defined in NR661.33 will be managed as a hazardous waste. These containers will be accumulated in a drum or cubic yard box for disposal. The empty containers previously holding an acute hazardous waste will carry the original waste codes.

4. Once a drum is filled, the drum is placed into the appropriate storage pod. Waste drums are labeled in accordance with the procedures outlined in Section 7.2. The drums will be labeled with an accumulation date indicating the oldest date of inventory for the individual original container.

4.3.2 Drum Consolidation

The filling of partially full drums can occur after a review of the chemical hazards and by compatibility testing. The procedure(s) used to remove and transfer material from one container to another is determined by the type of material to be handled and the container in which it is received. These processes are either conducted in the storage pods or the loading dock area, all of which are equipped with the proper fire suppression and spill containment devices. Consolidation activities will only occur when more than one person is on the premise and the employees have visual or voice contact with each other. The employees will have immediate access to a telephone located on the loading dock area.

Prior to bulking into container, Operations Manager or designated alternate evaluate the waste streams and containers in accordance with the requirements of Section 4.10. A determination will be made whether Level 1 or Level 2 standard apply to the "in light material service". The term "in light material service" means the container is used to manage a material of which the vapor pressure of one or more of the organic constituents is greater than 0.3 kPa at 20^{o} C and the total concentration of these constituents is equal or greater than 20% by weight.

1. Containers of liquid: These containers are pumped either by vacuum pumps or by positive displacement pumps, directly into larger containers, via fixed piping or compatible product hose. When the transferring involves Level 2 containers (>0.46 m^3 or > 120-gallons), submerged fill pipes will be used for transferring the liquid. Level 2 containers having "in light material service" will not be transferred.

2. Containers of liquid/solid mix: Multi-phase materials are the most difficult to manage. Often, it is best to separate the phases. These materials are emptied, by using a forklift mounted inverter, into a specially designed container holder. This container allows for the straining out of the solids phase and decanting off the liquid phase. Light material will be handled in a manner that minimizes the release of vapors to the atmosphere through the use of good engineering practices. The lid or closure devices on the containers will be secured closed when the consolidation container becomes full, when the attendant leaves the area, or whenever operations have ceased for 15 minutes or more. This does not apply to empty containers as defined in 40 CFR § 261.7(b). Level 2 containers having "in light material service" will not be transferred.

3. Containers of solids: Solids are removed from containers primarily through the use of a forklift mounted drum inverter. Level 2 containers having "in light material service" will not be transferred.

4.3.3 Bulking Into Tankers

Liquid drums to be bulked into tankers are stored in the storage pods. Prior to pumping, the drums are moved to the loading dock area. The storage pods are designed to be able to contain a minimum of 10% of the total volume of wastes stored and on average are designed to contain 30% of the volume stored. The specific spill retention capacity of the storage pods is described in Section 5.5.1. The loading dock area is comprised of a continuous base concrete slab designed to contain any spills that would occur during loading/unloading procedures. The floor is designed to slope away from the doors so as to prevent any spills from escaping the building. The tanker will be parked in the south loading dock area during the bulking operation. A portable collection basin is placed under the hosing connections prior to conducting the bulking operation to collect any incidental residue from hosing connections or disconnection.

The existing trailer parking area is comprised of a concrete slab, sloped to aid in spill containment. At the base of the slope is a drain trench. The drain trench has been sealed and the outlet is locked closed. If a spill were to occur, the spill would be contained in this area and would be pumped into the vacuum truck. The transport tankers will then be placed directly into transport for off-site disposal.

4.3.4 Bulking Into Roll-Offs

The bulking of hazardous waste drummed solids into roll-off box occurs in the south loading dock. The floor of the area is concrete and is able to contain any spilled solids. Spilled solids can be simply swept up and placed into the roll-off. The roll-off box will be placed directly into transport by manifesting the waste to the off-site disposal location.

4.4 TRANSPORTATION OPERATIONS

The operations of the TSDF are supported by the VESTS's licensed transportation services that transports incoming hazardous wastes from generator facilities and transports outgoing waste to the appropriate treatment or disposal facilities. Loading and unloading of waste generally occurs during normal hours (6:00 a.m. to 11:30 p.m.), or during non-business hours under the approval of the Operations Manager. The operations are principally conducted in the loading dock areas along the south side of the facility (Drawing D3). The operations include reworking loads of containers between licensed vehicles and the TSDF areas. Until the wastes are received by the TSDF, as described in Section 6.5, they remain in transit and manifested. The waste will be received into the TSDF, if so designated by the manifest, within 24 hours on receipt.

As part of VESTS's transportation license, the facility can operate as a 10-day transfer facility. The hazardous wastes remain in transit and manifested in transportation vessels, containers, or trailers in the parking lot area or the southern loading dock. While the vehicles are parked inside VESTS's facility, the manifests are stored in a cabinet in the facility. The location of the parking lot is depicted on Drawing D2.

4.5 MISCELLANEOUS UNIT - MERCURY RECOVERY/RETORT OPERATIONS (NR670.014(2)(h)6.)

On August 7, 2012, the WDNR issued a call-in letter to begin the renewal process for the third hazardous waste operating license. The WDNR has requested the existing mercury recovery/retort operations be added as miscellaneous units to the TSDF's operating license. The maximum daily through-put for the units is 25,000 pounds per day. The units are identified on Drawing D3 as R3, R4, and R5. These units' sources and control devices are covered under a WDNR issued Air Pollution Construction Permit No. 13-KB-181, Air Pollution Operation Permit Renewal No. 246076050-S03 and Wisconsin Regulations NR 439.11. On August 31, 2009, VESTS submitted a Renewal Application for the Air Pollution Control Operation Permit 01-DJH-339-OP for the continued operation of units R1, R2, R3 and R4, and identifies the operations as the following processes (P), stacks (S), control devices (C) and fugitive emissions (F). On December 6, 2013, VESTS submitted a

Construction Permit Application for the construction and operation of unit R5. This construction permit application and its subsequent updates, includes all on-site processes and replaces the renewal application submitted August 31, 2009. The construction of unit R5 and the removal of units R1 and R2 is covered under the WDNR issued Air Pollution Construction Permit No. 13-KB-181 Units R1 and R2 were removed under the regulatory classification as exempt metal recovery units under NR 666.100(4).

- P10: RipSys Retort Natural Gas fired Oven (R3) equipped with a scrubber reservoir/packed column condensing system using chilled water to condense the mercury. Sulfur-impregnated carbon adsorber (C09) collects the mercury vapor not trapped by the condensing system. The air emissions then discharge through the process stack (S11) to the retort room stack (S14) equipped with sulfur-impregnated carbon adsorber (C10). The natural gas combustion by-products from P10 discharge through flue stack (S12).
- P11: Magna Drum Retort Natural Gas fired Oven (R4) a scrubber reservoir/packed column condensing system using chilled water to condense the mercury. Sulfur-impregnated carbon adsorber (C09) collects the mercury vapor not trapped by the condensing system. The air emissions then discharges through the process stack (S11) to the retort room stack (S14) equipped with sulfur-impregnated carbon adsorber (C10). The natural gas combustion by-products from P10 discharge through flue stack (S13).
- P12: Two ASE MR25 Retort Electric Ovens (R1 and R2) equipped with three in-series condensers chilled with propylene glycol to condense the mercury. Sulfur-impregnated carbon adsorber (C11) collects the mercury vapor not trapped by the condensing system. The air emissions then discharges through the process stack (S15) to the retort room stack (S14) equipped with sulfur-impregnated carbon adsorber (C10). Units R1 and R2 have been removed from service prior to the installation of unit R5. The removal of units R1 and R2 were removed under the regulatory classification as exempt metal recovery units under NR 666.100(4).
- P14: One Wisconsin Oven Corporation (WOC) Natural Gas Fired Oven, a Model Batch-8/8/6-12G (R5) is connected to three in-series condensers chilled with propylene glycol to condense the mercury. Sulfur-impregnated carbon adsorber (C11) collects the mercury vapor not trapped by the condensing system. The air emissions then discharges through the process stack (S15) to the retort room stack (S14) equipped with sulfur-impregnated carbon adsorber (C10). The natural gas combustion by-products from P14 discharge through flue stack (S17).
- F99: The fugitive emissions from the retort room (F99) discharge through the retort room stack (S14) equipped with the Waterlink Barnebey Sutcliffe HECA-500-24/CB11 Carbon Absorber (C10).

A copy of the final Application for the Air Pollution Control Construction Permit is provided in Appendix L. This application was originally submitted to the WDNR on December 6, 2013. In response to requests for additional information from the WDNR the permit application was updated June 17, 2014, July 18, 2014 and July 25, 2014.

The following sections have been developed to meet the requirements of NR670.023 and NR664 Subchapter X. Some of the required information has already been provided in other sections of the FPOR relative to overall site conditions. In these instances, the reader will be referred to the relevant section(s).

4.5.1 Description of Units (NR670.023(1) and (1)(a),and NR664.0601)

The mercury reclamation/recovery retort units are located in the western section of the building (Drawing D3). The room is in a portion of the originally constructed and permitted facility. The retort room is a segregated 2070 sf room. The room is constructed of an impervious concrete floor, concrete block walls and built-up roof. The room has an isolated ventilation system, which collects and controls the fugitive mercury emissions from the retort room (F99).

4.5.1.1 RipSys (R3) and Magna Drum (R4)Retort Natural Gas Fired Oven (P10 and P11)

Retort units R3 and R4 are natural-gas heated chambers. Both oven chambers (P10 & P11) are used to process the drummed mercury contaminated wastes including phosphor powder generated during the lamp recycling operations; soils; sulfur-impregnated activated carbon; and mercury contaminated sludge. In addition, scrap metals contaminated with mercury; neon, UV and HID contaminated lamps and glass may be processed in drums or a specially designed kettle in P11. The restrictions to the types of mercury-contaminated debris acceptable for retort processing is described in Section 6.2. The process of reclaiming the elemental mercury is accomplished by heating the closed drums or kettle in the convection heated chamber to a temperature sufficient to volatilize the mercury contained in the waste. A vacuum is applied to the drums or kettle during heating. The mercury vapors are then condensed with water in a scrubber and packed tower. The liquid mercury accumulates in the condenser tank and then transferred into a metric ton keg. Once the keg is full, the mercury is marketed. The retort time cycle for P10 and P11 depend upon the type and composition of the waste materials.

Sulfur-impregnated carbon adsorber (C09) collects the mercury vapor not trapped by the condensing system. The air emissions then discharge through the process stack S11 to the retort room stack (S14) equipped with sulfur-impregnated carbon adsorber (C10). The natural gas combustion by-products from P10 discharge through flue stack (S12).

Available equipment details regarding the equipment for P10 and P11 are contained in Appendix M.

4.5.1.2 Two ASE MR25 Retort Electric Ovens (R1 and R2)

Two other mercury reclamation/recovery retort units R1 and R2 located in the retort room at the time of the original submittal of this FPOR have been removed. Units R1 and R2 were removed under the regulatory classification as exempt metal recovery units under NR 666.100(4).

4.5.1.3 One Wisconsin Oven Corporation (WOC) Natural Gas Fired Oven, a Model Batch-8/8/6-12G (R5)

The WOC Natural Gas Fired Oven (R5) has replaced two other mercury reclamation/recovery retort units R1 and R2 which were are located in the retort room. These two units (P12) were ASE MR25 electric heated chambers. The R5 is a natural gas fired unit (P14). Mercury-containing devices (e.g., gas regulators), mercury-containing articles (e.g., switches and batteries), mercury-containing glass products (e.g., thermometers), mercury-containing lamps (e.g., HID), mercury-bearing compounds (e.g., mercuric oxide), and mercury-contaminated debris (e.g., PPE) are placed vacuum vessels and then placed into the oven. The oven will also accept drummed mercury contaminated wastes including phosphor powder generated during the lamp recycling operations; soils; sulfur-impregnated activated carbon; and mercury contaminated sludge The restrictions to the types of mercury-contaminated debris acceptable for retort processing is described in Section 6.2. The process of reclaiming the elemental mercury is accomplished by heating the oven chamber to a temperature sufficient to volatilize the mercury contained in the waste. A vacuum is applied to the drums and vacuum vessel during heating. The mercury vapors are then condensed inside a series of vacuum chambers lined (condensers) with tubes containing propylene glycol. The liquid mercury accumulates in the vacuum chambers and then transferred into a metric ton keg. Once the keg is full, the mercury is marketed. The retort time cycle for P14 depends upon the type and composition of the waste materials.

Sulfur-impregnated carbon adsorber (C11) collects the mercury vapor not trapped by the condensing system. The air emissions then discharges through the process stack S11 to the retort room stack (S14) equipped with sulfur-impregnated carbon adsorber (C10).

Available equipment details regarding the equipment for P14 is contained in Appendix M.

4.5.1.4. Retort Room Fugitive Emissions (F99): The room has an isolated ventilation system, which collects and controls the fugitive mercury emissions generated during opening containers, de-packing containers, and sorting debris and devices prior to retorting in the retort room (F99). These emissions are captured by a 5000 cfm blower which pulls the air emission through a pre-filter, a HEPA filter, and the 7700 pounds of sulfur impregnated carbon contained in the Waterlink Barnebey Sutcliffe HECA-500-24/CB11 Carbon Absorber. Appendix M presents the ventilation system design inside the retort room and a drawing of the Waterlink Barnebey Sutcliffe HECA-500-24/CB11 Carbon Absorber.

4.5.2 Operation of Units (NR670.023(1)(b))

The above sources and control devices are covered under Air Pollution Construction Permit No. 13-KB-181 and Air Pollution Operation Permit Renewal No. 246076050-S03, and Wisconsin Regulations NR 439.11. The TSDF's Malfunction Prevention and Abatement Plan (MPAP) has established inspection, maintenance and corrective action procedures necessary to ensure the air pollution control devices are operating properly. The control devices and the MPAP prevent release to the atmosphere (NR670.014(2)(h)6.). Under Air

Pollution Construction Permit No. 13-KB-181 and Air Pollution Operation Permit Renewal No. 246076050-S03, the air emissions from consolidated stack S14 are monitored daily with a mercury vapor monitor, such as the Arizona Instruments Jerome 431X portable mercury monitoring unit. The December 6, 2013 construction application for P14 outlines the daily monitoring of S14. The mercury vapor monitor sampling tube is inserted into an opening to the stack and the internal sampling pump on the meter draws a sample which passes over or through a detector and the unit calculates a concentration of mercury in the air stream. The result is displayed on the unit and the result is recorded on the air monitoring logs maintained by VESTS. The TSDF also has a Mercury Instruments VM3000 meter for back up monitoring. The Jerome 431X and VM3000 units are sent annually for certification and calibration. These records are available for review at the TSDF.

The pressure drop across the Waterlink Barnebey Sutcliffe HECA-500-24/CB11 Carbon Absorber is measured daily by reading the magnihelic gauge. The reading is recorded on air monitoring logs maintained by VESTS.

Annually, VESTS submits to the WDNR an Air Emissions Inventory Summary Report and a summary of air monitoring logs as a component of the Annual Compliance Certification summarizing and presenting the overall mercury emissions. Appendix N presents the Air Emissions Inventory Reports and Air Monitoring Log Summaries for calendar years 2012 and 2013.

Several waste streams and by-products are generated as a result of the mercury retorting operations, including:

- Post retort phosphor powder
- Post retort debris/devices
- Mercury
- Unprocessed debris with unrecoverable mercury content (e.g., empty pails)

One sample per month is collected from a batch post retort phosphor powder and analyzed for total and TCLP mercury content. The post retort phosphor powder is then accumulated as a commercial product and sold for rare earth recovery. Post retort debris/devices is sampled on batch basis and analyzed for total and TCLP mercury content. Post retort debris/devices will be managed for underlying constituents and waste codes as necessary (e.g., leaded glass from neon lights).

The mercury reclaimed from the operations is shipped off-site for further purification. The unprocessed debris with unrecoverable mercury will be shipped off-site for micro-encapsulation as a D009.

Other wastes are generated from the operations. The type of waste and how they are managed are described below:

- Mercury contaminated carbon, pre-filters and HEPA filters are accumulated in drums and then processed through the retort ovens to recover the captured mercury.
- Mercury contaminated waters are accumulated in drums and shipped off-site of disposal.

4.5.3 Preventing Releases to Groundwater and Subsurface Environment (NR664.0601(1) thru (1)(i))

As described in Section 4.5.1, the retort operations are located inside the TSDF building. The concrete floor prevents incidental releases of mercury from migrating to the subsurface environment. The indoor location of the mercury retort operations also results in a low potential for impacts to domestic animals, wildlife, crops, and vegetation. Section 8.13.4 of the FPOR's Contingency Plan describes the spill response and control measure for elemental mercury releases.

The hydrologic, geologic, and hydrogeologic characteristics and setting of the retort operation location is the same as the overall TSDF and is provide in Sections 2.1.4, 2.1.5 and 2.1.6 of the FPOR. The existing groundwater quality of the TSDF is presented in Section 2.5.3 of the FPOR.

The land use in the area of the TSDF is zoned industrial and light manufacturing. Agricultural areas are located approximately 2000 ft south west and 2500 ft northeast of the facility. Based on these distances and the retort operation being located indoors, the potential for migration of mercury into the root zone of food – chain crops and other vegetation is low.

The TSDF take various measures to manage the health risks caused by employee exposure to mercury. Section 4.1.4 describes the personal protective equipment used by employees in the retort operations. The air quality inside the retort room is monitored for mercury daily using a direct reading mercury instrument, such as a Jerome 431X. The employees are also trained in Job Safety Analysis (JSA) and retort procedures to reduce the health risks. Employees working in the retort operations participate in a medical monitoring program, which includes pre-employment screening, annual screening and post-employment screening.

The control and monitoring of the fugitive emission from inside the retort room and unit sources, as described Section 4.5.2, also reduces the potential for health risks.

4.5.4 Preventing Releases to Surface Water, Wetlands or Soil Surface (NR664.0601(2) thru (2)(k)

As described in Section 4.5.1, the retort operations are located inside the TSDF building. The concrete floor prevents incidental releases of mercury from migrating to surface waters, wetlands and the soil surface. The indoor location of the mercury retort operations also results in a low potential for impacts to domestic animals, wildlife, crops, and

vegetation. Section 8.13.4 of the FPOR's Contingency Plan describes the spill response and control measure for elemental mercury releases.

The hydrologic and climatological characteristics, data and setting of the retort operation location is the same as the overall TSDF and is provide in Sections 2.1.4 and 2.1.7 of the FPOR. The existing quality of surface water and surface soils is described in Section 2.6.1.3 of the FPOR.

The land use in the area of the TSDF is zoned industrial and light manufacturing. Agricultural areas are located approximately 2000 ft south west and 2500 ft northeast of the facility. Based on these distances and the retort operation being located indoors, the potential for migration of mercury into the root zone of food – chain crops and other vegetation is low.

The TSDF take various measures to manage the health risks caused by employee exposure to mercury. Section 4.1.4 describes the personal protective equipment used by employees in the retort operations. The air quality inside the retort room is monitored for mercury daily using a direct reading mercury instrument, such as a Jerome 431X. The employees are also trained in Job Safety Analysis (JSA) and retort procedures to reduce the health risks. Employees working in the retort operations participate in a medical monitoring program, which include pre-employment screen, annual screening and post-employment screening.

The control and monitoring of the fugitive emission from inside the retort room and unit sources, as described Section 4.5.2, also reduces the potential for health risks.

4.5.5 Preventing Releases to Air (NR664.0601(3) thru (3)(g))

Air emissions from the retort sources as and well as the overall retort operations are controlled through the use of carbon adsorbers. These sources and associated control devices are covered under a WDNR issued Air Pollution Construction Permit No. 13-KB-181, Air Pollution Operation Permit Renewal No. 246076050-S03 and Wisconsin Regulations NR 439.11. A complete copy of the final application for the Air Pollution Control Construction Permit that details the configuration and properties of the air pollution control devices is provided in Appendix L. Also included in Appendix E is a copy of Air Pollution Construction Permit No. 13-KB-181 and Air Pollution Operation Permit Renewal No. 246076050-S03 issued to the facility on November 9, 2014. The TSDF's Malfunction Prevention and Abatement Plan (MPAP) has established inspection, maintenance and corrective action procedures necessary to ensure the air pollution control devices are operating properly. The control devices and the MPAP prevent release to the atmosphere (NR670.014(2)(h)6.). Under Air Pollution Construction Permit No. 13-KB-181 and Air Pollution Operation Permit Renewal No. 246076050-S03,, the air emissions from consolidated stack S14 will be monitored daily with direct reading mercury vapor analyzer such as an Arizona Instruments Jerome 431X. The December 6, 2013 construction application for P14 outlines the daily monitoring of S14. The mercury vapor analyzer sampling tube is inserted into an opening to the stack and the internal sampling

pump on the meter draws a sample which passes over or through a detector and the unit calculates a concentration of mercury in the air stream. The result is displayed on the unit and the result is recorded on the air monitoring logs maintained by VESTS. The TSDF also has a Mercury Instruments VM3000 meter for back up monitoring. The Jerome 431X and VM3000 units are sent annually for certification and calibration. These records are available for review at the TSDF.

The pressure drop across the Waterlink Barnebey Sutcliffe HECA-500-24/CB11 Carbon Absorber is measured daily by reading the magnihelic gauge. The reading is recorded on air monitoring logs maintained by VESTS.

Annually, VESTS submits to the WDNR an Air Emissions Inventory Summary Report and Annual Compliance Certification summarizing and presenting the overall mercury emissions. Appendix N presents the Air Emissions Inventory Reports and Monitoring Data for calendar years 2012 and 2013.

The climatological characteristics, data and setting of the retort operation location is the same as the overall TSDF and is provide in Section 2.1.7 of the FPOR.

Because the air emissions from the mercury retort operations are controlled and monitored in accordance with a WDNR air emission operating permit, there is a low potential for impacts to domestic animals, wildlife, crops, and vegetation.

The TSDF takes various measures to manage the health risks caused by employee exposure to mercury. Section 4.1.4 describes the personal protective equipment used by employees in the retort operations. The air quality inside the retort room is monitored for mercury daily using a direct reading mercury instrument, such as a Jerome 431X. The employees are also trained in Job Safety Analysis (JSA) and retort procedures to reduce the health risks. Employees working in the retort operations participate in a medical monitoring program, which include pre-employment screening, annual screening and post-employment screening.

The control and monitoring of the fugitive emission from inside the retort room and unit sources, as described above, also reduces the potential for health risks.

4.5.6 Potential Pathways of Exposure (NR670.023(3))

VESTS has evaluated the mercury recovery/retort operations to determine potential pathways of exposure of humans and environmental receptors to mercury. The potential pathway is through mercury air emission. However, the processing units are associated with various control measures and subject to various monitoring requirements, as described in Section 4.5. The air emissions are regulated by the WDNR under Air Pollution Construction Permit No. 13-KB-181 and Air Pollution Operation Permit Renewal No. 246076050-S03. The WDNR air permitting section has used air emission modeling to establish the emission limits based on risk to humans and the environment. The TSDF conducts daily monitoring of Stack S14, implements weekly inspection in accordance with

the MPAP, and submits annual air emission inventory reports to the WDNR. The monitoring activities indicate the mercury emissions from S14 are within the permit limits.

4.5.7 Monitoring, Inspecting and Reporting of Units' Activities (NR664.0602)

The TSDF uses various methods for monitoring, testing, inspecting and reporting the effectiveness of the retort operations.

4.5.7.1 – Air Emission Monitoring (NR670.014(2)(h)6.): Under Air Pollution Construction Permit No. 13-KB-181 and Air Pollution Operation Permit Renewal No. 246076050-S03, the air emissions from consolidated stack S14 are monitored daily with a direct reading mercury vapor monitor, such as an Arizona Instruments Jerome 431X. The mercury vapor monitor sampling tube is inserted into an opening to the stance and the internal sampling pump on the meter draws a sample which passes over or through a detector and the unit calculates a concentration of mercury in the air stream. The result is displayed on the unit and the result is recorded on the air monitoring logs maintained by VESTS. The TSDF also has a Mercury Instruments VM3000 meter for back up monitoring. The Jerome 431X and VM3000 units are sent annually for certification and calibration. These records are available for review at the TSDF.

The pressure drop across the Waterlink Barnebey Sutcliffe HECA-500-24/CB11 Carbon Absorber is measured daily by reading the magnihelic gauge. The reading is recorded on air monitoring logs maintained by VESTS.

Annually, VESTS submits to the WDNR an Air Emissions Inventory Summary Report and Annual Compliance Certification summarizing and presenting the overall mercury emissions. Appendix N presents the Air Emissions Inventory Reports and Monitoring Data for calendar years 2012 and 2013.

4.5.7.2 – Post Retort Performance Sampling (NR670.023(4): Several waste streams and by-products are generated as a result of the mercury retorting operations, including:

- Post retort phosphor powder
- Post retort debris/devices

One sample per month is collected from a batch post retort phosphor powder and analyzed for total and TCLP mercury content. The post retort phosphor powder is then accumulated as a commercial product and sold for rare earth recovery. Post retort debris/devices is sampled on batch basis and analyzed for total and TCLP mercury content. Post retort debris/devices will be managed for underlying constituents and waste codes as necessary (e.g., leaded glass from neon lights). The samples are collected and analyzed in accordance with the Section 6.0 Waste Analysis and Management Plan. The post retort analytical results are evaluated against the TCLP mercury level (0.2 mg/L) and the total mercury Land Disposal Restriction (LDR) limit of 260 mg/kg. If the post retort testing exceeds these limits, the waste material will re-enter the retort process.

4.5.7.3 – Preventive Maintenance Program: Routine preventative maintenance (PM) is performed in accordance with manufacturer's recommendation. The PM schedule for each piece of equipment is established in the facilities computerized maintenance management system. The facility is currently using COGZ, which is a commercially available computerized maintenance tracking system. The PM activities are then documented in the system. Any necessary repairs are documented in the COGZ system as well.

4.5.7.4 – Malfunction Prevention and Abatement Plan (MPAP): A Malfunction Prevention and Abatement Plan (MPAP) has been established and implemented by the TSDF for the inspection, maintenance and if necessary employing corrective action procedures to ensure that all air pollution control devices are operating properly within the retort operations. Under the MPAP, weekly inspections are completed, documented and any corrective action made are also documented. The MPAP also provides detailed repair procedures for addressing non-conforming conditions. The inspections conducted under the MPAP, along with the PM program described above will conform with the general inspection requirements under NR 664.0015.

4.5.7.5 – Recordkeeping and Reporting: As discussed in Section 6.5.6, each container of waste entering the TSDF is assigned an inventory number. The inventory is maintained electronically and documents those wastes processed through the retort operations. This information will be used to comply with the annual reporting requirements in NR664.0075.

Un-manifested wastes will be identified during the receiving activities, as presented in Section 6.5 of the FPOR. The reporting of un-manifested wastes will be conducted in accordance with Section 6.7 of the FPOR and NR664.0075.

Additional reports relative to the retort operations will be submitted to the WDNR if release, fires or an explosion has occurred or a threat exists in accordance with NR664.0056(10) and the Contingency Plan in Section 8.0; the unit under goes closure in accordance with NR664.0115 and the Closure Plan in Section 9.0; or experiences a release under the Subchapter F requirement for SWMUs.

As outlined in Section 2.6 of the FPOR, the mercury retort operations were identified in the 2003 RFA activities as SWMU #5. However, corrective actions associated with SWMU #5 have not been required by the WDNR or implemented in accordance with NR664.0101.

4.5.8 Assessment of Compliance with Environmental Performance Standards (NR670.023(2) and NR664.0601)

VESTS has reviewed the Environmental Performance Standards outlined in NR664.0601 and has determined the mercury recovery/retort operations – miscellaneous units are in compliance with the standards. The units are covered under WDNR issued Air Pollution Construction Permit No. 13-KB-181 and Air Pollution Operation Permit Renewal No. 246076050-S03, which regulate the mercury emissions to the air. The WDNR air permitting section has used air emission modeling to establish the emission limits. The TSDF conducts daily monitoring of Stack S14, implements weekly inspection in

accordance with the MPAP, and submits annual air emission inventory reports to the WDNR.

VESTS has also implemented personal protective equipment (PPE), industrial hygiene monitoring, and medical surveillance programs to protect and monitor employee exposure to mercury.

As discussed in Section 2.5.1.2 of the FPOR, the RFA Report also identified the retort operations as SWMU #5. The RFA Report concluded "the retort operation may have some potential for accumulation of contaminants from fallout to the roof then to the soil at the base of the roof drains". On October 19, 2004, VESTS submitted to the WDNR the RCRA Facility Investigation (RFI) Report (Appendix K). The RFI results for SWMU #5 (AOC#1) indicated near surface soil impacts (0 to 1.5 ft below ground surface) of mercury (0.23 to 2.4 mg/kg) above the ground water protection residual contaminate level (RCL) of 0.21 mg/kg. The mercury concentrations in soils samples for below 2ft bgs were below the RCL. This area of soil impacts needs to be remediated.

The RFI Report also presents groundwater monitoring data from a well located hydraulically side-gradient (MW-1). The data indicates no detectable concentration of mercury (<0.11µg/L) in the groundwater. Based on the information, there appears to be a low potential for any groundwater impacts associated with SWMU#5.

The removal of R1 and R2 and the installation of R5 are not anticipated to impact the soil and groundwater monitoring data associated with SWMU#5. These activities will be completed inside the retort room and the air emissions are controlled by S14.

4.6 OTHER REGULATED WASTE OPERATIONS

4.6.1 Fluorescent Light Recycling

VESTS operates three fluorescent lamp recycling units at the facility. The recycling operation recovers the fluorescent lamp components, including glass, aluminum, electronic bases from compact fluorescent lamps (CFL) and mercury bearing phosphor powder. The three lamp recycling machines are located in the northern section for the building, as depicted on Drawing D3.

The waste streams are generated as byproducts from the fluorescent light recycling operations including:

- Lamp glass
- Lamp aluminum end-caps
- CFL electronic bases
- Pre - retort phosphor powder

One sample per month is collected from both the lamp glass and lamp aluminum end-caps and tested for TCLP mercury and total mercury concentrations. The CFL bases are tested

annually for TCLP mercury and total mercury. The pre-retort phosphor powder is accumulated into 55-gallon drums and then retorted on-site..

Mercury contaminated carbon, pre-filters and HEPA filters are accumulated in drums and then processed through the retort ovens to recover the captured mercury.

The lamp processing sources and control devices are covered under a WDNR Pollution Control Operating Permit and Wisconsin Regulations NR 439.11. On August 31, 2009, VESTS submitted a Renewal Application for the Air Pollution Control Operation Permit 01-DJH-339-OP. On December 6, 2013, VESTS submitted a Construction Permit Application for the construction and operation of unit R5. This construction permit application and its subsequent updates, includes all on-site processes and replaces the renewal application submitted August 31, 2009. A copy of the final Air Pollution Control Construction Permit application is included in Appendix L.

4.6.2 Nonhazardous Solid Waste Storage and Processing

VESTS conducts non-hazardous solid waste storage and processing at the facility. Operations include recontainerization, phase separation, and solidification in drums. Details of the solid waste operations are presented in the August 22, 2001 Plan Modification to the Plan of Operation for the facility, which is provided in Appendix S.

4.6.3 Used Oil Management

VESTS accepts used oils (classified according to NR 590, Wis. Adm. Code, requirements) at the facility for storage and transfer. The used oil is stored in 55-gal drums on skids equipped with secondary containment. The used oil may be pumped to a tanker for transport and recycling at an off-site facility.

4.6.4 Household Hazardous Waste

On August 18, 1999, the TSDF submitted a Plan of Operation for the Household Hazardous Waste (HHW Plan of Operation) Permanent Collection Facility to the WDNR. As part of this license review, the HHW Plan of Operation has been updated in accordance with the requirements of NR666 Subchapter HH. A copy of the HHW Plan of Operation is included in Appendix P. The facility is classified as a Permanent Collection Facility. The Plan describes the HHWs are principally collected/accepted at the facility in designated household hazardous waste area depicted on Drawing D3.

The majority of the HHW are packaged in their original containers into DOT approved shipping containers. These containers are then accumulated in the HHW area depicted in Drawing D3. In some instances, HHWs are consolidated or commingled into other hazardous waste streams, as appropriate. This consolidation or commingling occurs in the storage pods. The resulting container is the stored in the permitted storage pods. Details of the storage procedure are outlined in the HHW Plan of Operation.

4.6.5 Universal Waste

In addition to operating as a destination facility for universal waste mercury containing equipment and fluorescent lamps the TSDF operates as a handle of other universal wastes defined in NR673 or WDNR Publication. WA 356. In accordance NR673.09(2), a facility that only accumulates a specific category of universal waste is not a destination facility for the purposes of that category of universal wastes. The categories of universal wastes accumulated for off-site management includes universal waste HID lamps, universal waste batteries and used antifreeze. To date the facility has not managed any pesticides as a universal waste; however the facility may choose to do so in the future on a project specific basis.

Universal waste HID lamps are received in various size, fiberboard, plastic or metal containers. Universal waste batteries are received in fiberboard, plastic or metal containers or on pallets as authorized by the US DOT. Used antifreeze is received in metal or plastic drums or is generated on-site and accumulated in plastic drums. The facility also manages as universal waste HID lamps and batteries that are separated from the universal wastes being recycled on-site. The on-site accumulation of universal waste is conducted in accordance with NR673.50 including, accumulation time limits, labeling, employee training, tracking of the material while on-site and off-site shipments. Any releases of a universal waste would be subject to the TSDF contingency plan implementation provisions.

4.7 SUPPORT OPERATIONS

The facility contains a number of support operations or facilities, including the laboratory area and office building. Refer to Drawing D3 for facility layout.

4.8 PERSONNEL TRAINING (NR664.0016 and NR670.014(2)(l))

Training of personnel is completed to instruct and refresh employees on performing operations that maintain facility compliance. The program is directed by the Operations Manager and implemented by the EHS Manager and includes training on hazardous waste handling procedures, Contingency Plan implementation, and emergency response. The training program is designed to ensure that facility personnel are able to respond effectively to emergencies through reviewing the Contingency Plan, the emergency procedures, the emergency equipment and emergency systems. The training covers the following:

- Procedures for using, inspecting, repairing and replacing facility emergency and monitoring equipment including fire extinguishers, water sprinkler and Halon systems, alarm panels, and mercury vapor monitoring instruments.
- Key parameters for shutting off process operations including lamp recycling machines and retorts.
- Alarm and communication systems.
- Responding to fires and explosions.
- Responding to incidents that could lead to groundwater contamination.

The level of training is dependent on the job title and area of responsibility relative to hazardous waste management. Experienced employees complete training as an annual review. New employees complete initial training within 6 months of the date of assignment/employment. Employees are not allowed to work in the facility in unsupervised positions until they have completed the training requirements.

Training records and job descriptions are maintained at the TSDF. The training records contain a written job description for each job title, a training matrix for each job title, a list of employees filling the job title positions, records of completed training including date, content of training and proficiency documentation as necessary by the regulatory requirement.

Training records will be kept on current (active) employees until the closure of the facility. Training records on former employees will be retained for three (3) years for the date the employee last worked.

4.9 WASTE MINIMIZATION

A Waste Minimization Plan has been developed by VESTS for the TSDF. The Plan is reviewed and certified annually and is maintained as part of the operating record for the facility. A copy of the Waste Minimization Plan is included in Appendix O.

4.10 AIR EMISSION MANAGEMENT (NR670.027, NR670.014(2)(h)6.)

NR 664 Subpart CC was written to control organic air emissions from tanks, surface impoundments, and containers at hazardous waste treatment storage and disposal facilities (TSDF's). As such, it applies to hazardous wastes with a volatile organic (VO) concentration of greater than 500 parts per million by weight (ppmw).

4.10.1 Identification of Container Area (NR670.027(1)(b))

Subpart CC rules apply to those materials that

a) Are hazardous wastes, and
b) Have a VO concentration of greater than 500 ppmw.

The TSDF is permitted to store hazardous wastes in containers in Storage Rooms 1, 2 and 3. The TSDF has no on-site hazardous waste storage tanks or surface impoundments. The TSDF is permitted to perform physical manipulation of wastes such as bulking and recontainerization, however, no chemical treatment or actual disposal occurs on this site.

The Subpart CC rules apply to only hazardous wastes received at the TSDF. Since the TSDF only deals with hazardous waste in containers, the tank and surface impoundment sections of Subpart CC do not apply.

Subpart CC NR664.1086(2) regulates containers based upon size, including:

- Containers with a design capacity of $\leq$0.1 m^3 (26 gal) are exempt from these requirements regardless of organic concentration, including lab pack quantities.
- Containers with a design capacity of >0.1 m^3 and $\leq$0.46 m^3 (26 to 119 gal) need to comply with Level 1 standards. The majority of containers at the TSDF are 55-gal drums and are covered by the Level 1 standards.
- Containers with a design capacity of >0.46 m^3 and not "in light material service" need to comply with Level 1 standards, including totes (intermediate bulk containers), tankers (DOT specification tank), and roll-offs.
- Containers having a design capacity of >0.46 m^3 and "in light material service" need to meet Level 2 standards including DOT specification intermediate bulk containers and DOT specification tankers.
- Containers that remain uncovered for waste stabilization need to meet Level 3 standards. The TSDF does not perform stabilization of hazardous wastes, thus this section does not apply.

The term "in light material service" means the container is used to manage a material of which the vapor pressure of one or more of the organic constituents is greater than 0.3 kPa at 20^o C and the total concentration of these constituents is equal or greater than 20% by weight.

In accordance with NR664.1086(3), in order to comply with Level 1 standards, a container must either:

1. Comply with DOT regulations, or

2. Be equipped with a cover or closure device that forms a continuous barrier such that there are no visible holes, gaps, or other open spaces, or

3. Use an organic vapor suppressing barrier such as a foam.

In accordance with NR664.1086(4), in order to comply with Level 2 standards, a container must either:

1. Comply with DOT regulations for specification containers, or

2. Have no detectable organic emissions, or

3. Have been tested per Method 27 and certified vapor-tight within the past 12 months.

The TSDF primarily utilizes containers in compliance with DOT regulations to comply with the Level 1 and Level 2 standards. The containers are stored in the TSDF storage pods.

4.10.2 Certification of Compliance (NR670.027(1)(b))

4.10.2.1 Waste Determination. As outlined in the Waste Analysis Plan in Section 6.0, the waste generator is responsible for properly characterizing their waste, as defined in NR661. The generator is required to certify whether or not their waste stream contains greater than 500 ppmw VO concentration. The generator will be requested to supply a copy of the laboratory report if the determination was based upon laboratory analysis.

If requested by the generator, VESTS will collect and analyze samples in accordance with the Waste Analysis Plan and "Test methods for Evaluating Solid Waste, Physical/Chemical methods," EPA Publication SW-846. If the waste is suspected of containing VO that can be quantified by running method 8260(B) or 8270(C), those analyses will be conducted. Both of these methods are approved as alternative testing methods.

If the waste is a total unknown or suspected of containing compounds that cannot be quantified by methods 8260(B) or 8270(C), alternative methods will be employed such as using generator knowledge, or performing other laboratory analysis such as method 25D.

4.10.2.2 Inspection. As outlined in Section 6.5, containers accepted at the TSDF will be visually inspected to ensure that they are DOT approved containers. If any problems (visible cracks, hole, gaps, or other open spaces) are noted, the container will be repaired within 24 hours of detection. If the container cannot be adequately repaired, the waste will be recontainerized into a DOT approved container. Since the TSDF is only allowed to store waste for up to one year, and most containers remain on-site for less than three months, the annual inspection requirements of NR664.1086(3)(d)2. and NR664.1086(4)(d)2. would not apply.

4.10.2.3 Container Standards. The TSDF will meet all NR664.1086(3) and (4) Subpart CC container requirements by using and requiring only DOT compliant containers as allowed by both Level 1 and Level 2 standards. Further, the TSDF will not place any Subpart CC covered wastes into any containers marked "NRC," non-reusable container, or "STC," single trip container, Applicable wastes will only be placed in non-bulk containers which are new, or have been reconditioned per 29 CFR 173.28.

4.10.2.4 Adding to or Removing Waste from a Container. If waste is being added or removed from an applicable container, the following procedures will be used:

- A container will be filled in one continuous motion, the cover will be installed promptly upon conclusion of the filling operation.
- A container will be emptied in one continuous motion, the cover will remain on the container until the emptying process is initiated.

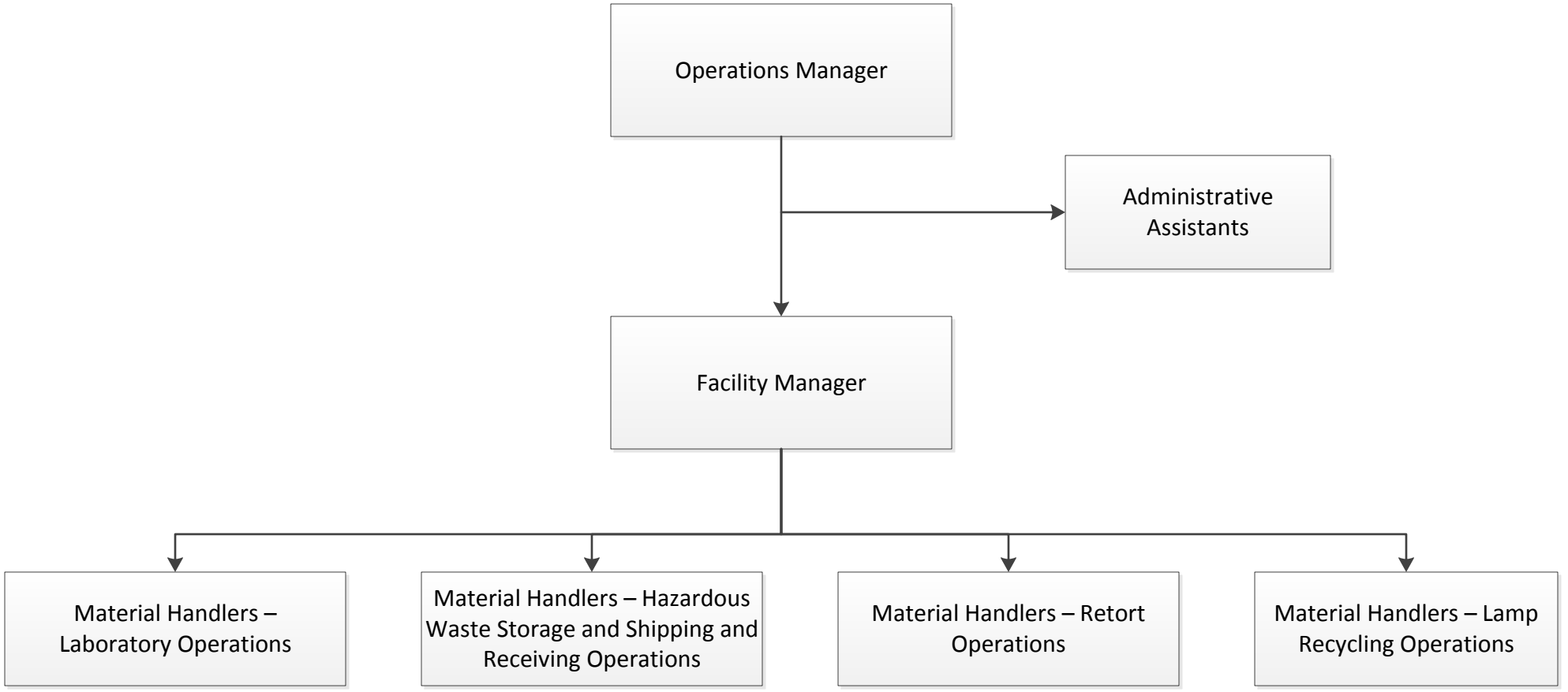
- If waste will be added to or removed from a container intermittently, or in batches, the cover will be promptly installed if:
  - no more material will be added or removed within 15 minutes, or
  - the person performing the operation has to leave the immediate area, whichever occurs first.
- Level 2 containers having "in light material service" will not be transferred.

4.10.2.5 Recordkeeping. VESTS does not utilize tanks, surface impoundments, closed vent systems, control devices or Level 3 containers in its daily operations, therefore, the recordkeeping requirements of Subpart CC do not apply.

The TSDF will also maintain documentation associated with the determination of VO concentration. This may include copies of applicable laboratory analysis, as well as certified generator knowledge. Generator knowledge may be based on material balances, previous test data, or analysis performed at other location using the same process and chemical products.

Any data obtained under the general waste analysis plan (NR664.013) and in support of NR664.1086 Subpart CC will be kept for the life of the facility.

4.10.2.6 Certification. Based on the information presented in Section 4.10 of the FPOR, VESTS certifies the requirements of NR664 Subchapter CC are being met.



Feasibility and Plan of Operation Report Date of Issuance: August 6, 2013 File Name: File Name: S:\Secure\Shared\Facility\FPOR\ Renewal 2014\Final FPOR 093015\FIG 4-1 FPOR_080613.vsd	Figure: 4-1 Management Structure	Veolia ES Technical Solutions, L.L.C. Revision Date: Control Document Number: 999A128

5.0 PREPAREDNESS AND PREVENTION

The TSDF is designed to prevent, minimize, and control releases of hazardous waste. The preparedness and prevention features of the facility include fire protection, communications, security, spill containment and a back-up power generator. These features have been designed and implemented to facilitate the protection of air, groundwater and surface water during facility operations.

5.1 FIRE PREVENTION (NR670.014(2)(i), NR664.0017(1)

The hazardous waste storage rooms are constructed of 4-hour fire prevention concrete walls, ceiling, and floor. The storage rooms have a total surface area of approximately 2,498 sf for hazardous waste storage, as described in Section 3.1 of the FPOR. To prevent accidental ignition or reaction of ignitable or reactive wastes, the following sources of ignition are excluded from the TSDF: open flames, smoking, cutting and welding, hot or sparking equipment, and radiant heat. Also, "No Smoking" and "Danger-Unauthorized Personnel Keep Out" signs are placed at the entrances of the TSDF and conspicuous places in the TSDF to warn personnel of the potential fire hazard. Non-sparking lights for illumination, non-sparking ventilation ducts, and heat detectors (as part of the connection to the fire alarm annunciation panel) are located in the TSDF pods.

5.2 FIRE PROTECTION AND CONTROL SYSTEMS

The design of the TSDF, which includes the segregation of wastes by the use of storage rooms, prevents total involvement of all hazardous waste stored at the facility in the event of a fire, explosion, or spill release. The segregation of wastes within storage rooms allows for a specific fire protection system for classes of waste.

A dry-line sprinkler system is installed, in accordance with the City of Port Washington building code ordinances, throughout the ceilings of the PPE emergency response materials room, office/laboratory area, above the storage room ceilings, the fluorescent lamp recycling area and room, the retort room, and the household hazardous waste accumulation area. The system is maintained by an outside vendor knowledgeable in the type of system. The dry-line sprinkler system contains sprinklers with a temperature rating of 165 °F. The water supply from the City of Port Washington has a hydrostatic pressure of approximately 100 psi. A water flow release will activate the fire alarm system. The accompanying air pressure system maintains pressure at approximately 35 psi. A malfunction in the airline system is detected by a high-low pressure switch and will activate a supervisory alarm. If the main water valve is turned, a tamper switch detector will activate a trouble alarm.

A Halogen 1301 Fire Protection System is installed in Storage Rooms 1, 2, and 3. A thermal and photoelectric detector is present in the rooms to detect an existing fire or explosion. The two fire protection systems, the Halogen 1301 Fire Protection System and the dry-line sprinkler system, are monitored using a control unit panel. The control panels

are divided into different zones based on detector, halogen flow, water flow, and trouble and alarm conditions.

Activation of a compatible two-wire detector or any normally open fire alarm initiating device will sound the audible devices, trip a municipal box, notify a remote station, annunciate a fire zone, and energize supplementary relays. The control unit panel is maintained by an outside vendor knowledgeable with the unit.

5.3 COMMUNICATION EQUIPMENT

The TSDF control unit(s) has a direct connection module to HSM Security (Honeywell) who monitors the system and will notify the Ozaukee County Sheriff's Dispatch Center, who subsequently notifies the City of Port Washington Fire Department during an emergency. Security Knox-Boxes are located at the facility drive gate entrance and office/laboratory area entrance of the TSDF. These boxes provide keys to ensure quick access to the fire alarm control unit(s) for the Fire Department during an emergency alarm. Pagers, with alarm signals, are worn during non-business hours by the Emergency Coordinator (EC) or a designated alternate for immediate emergency contact.

Telephones are available in the office/laboratory area that will be used for emergency contacts of the City of Port Washington Police and Fire Departments. In addition, an intercom system will be used to warn personnel during an emergency. The intercom system allows personnel to communicate throughout the facility. In addition, a mobile phone that will be used for external or off-site communication during a fire or chemical spill in the TSDF will be retained in the office/laboratory area. The mobile phone will allow the EC or Alternate to view the scene of operations while summoning other emergency assistance.

5.4 SECURITY SYSTEM (NR664.0014(2)(b) and (3))

Security at the TSDF is provided throughout a 24-hour day. Entry/exit and use of the storage rooms is controlled by the Operations Manager. "Danger Hazardous Waste Storage Area-Unauthorized Personnel Keep Out" and "No Smoking" signs are placed at all entrances of the storage rooms and loading dock areas to serve as warnings to VESTS personnel or clientele.

- The overhead door to the household hazardous waste (HHW) collection area will remain closed, except during hours of HHW operation or when supplies for the facility are transferred through the door. An attendant will be located inside the facility when the door is open.

- The entrance door leading into the laboratory area of the facility will remain closed. The door does not provide direct access to any hazardous waste operation area within the facility. The door has signage indicating "ALL VISITORS MUST SIGN IN AT OFFICE".

- The doors leading directly to the hazardous waste storage rooms and the retort room from outside the building are locked. The doors do not have access handles or door knobs to allow for entry. Access to the hazardous waste storage rooms is only gained from inside the building. These inside doors to the hazardous waste storage rooms are closed and locked during non-operating hours. One of the functions that facility operations personnel serve while working in the area of the hazardous waste storage rooms is to serve as an attendant. The attendant is located at the loading dock area, adjacent to the access doors during operating hours. The attendant routinely moves waste in and out of the storage rooms as part of the operations.

- The overhead door to the bulb recycling area will remain closed at all times, except when material or wastes (e.g., aluminum end-caps) are transferred through the door. An attendant will be located either inside the bulb recycling area or immediately outside the door (e.g., in the roll-off truck moving the glass roll-off box or on a forklift transferring aluminum end-caps into the roll-off box).

- A VESTS attendant will be present in the facility when non-Veolia ES personnel are present in the facility.

The active portions of the TSDF are enclosed by secured fence and locked gate. The main locked gate provides access from Mineral Springs Drive. An electric slide gate operator is controlled by a programmable electronics. The gate will be normally closed and authorized personnel will be able to enter the gate by entering a security code or programmed remotes. Emergency response team members will be notified of the access code. Unauthorized personnel will be required to press an intercom button and VESTS personnel will remotely open the gate. The gate system will be equipped with an under-pavement loop detector system consisting of an inner free exit/safety loop and an outer safety loop.

Two emergency exit gates are located in the facility fence to provide emergency egress from the fenced yard. The gates can only be opened from inside the fenced area.

5.5 SPILL CONTAINMENT CAPACITY (NR670.014(2)(h)2. and 3., NR664.0175(2)(a) and (b))

The RCRA storage locations for the TSDF are located in doors. The indoor storage prevents run-off from hazardous waste handling areas to other areas of the facility, the environment, or to prevent flooding (NR670.014(2)(h)2.) The storage rooms are isolated from any sanitary drains, which prevent the contamination of water supplies (NR670.014(2)(h)3.).

The spill containment capacity of the facility is discussed with respect the storage rooms. The floor of the TSDF storage areas is continuous base concrete floors (NR664.0175(2)(a)). Each storage room has a concrete floor constructed as a monolithic pour using a 4000 psi concrete with flyash and polypropylene fibers. The concrete was wet-cured to reduce the potential for cracking and to increase the impervious nature of the concrete. These construction methods provided a floor that is sufficiently impervious to

leaks (NR664.0175(2)(a)). A copy of the original facility floor plan is included in Appendix T as documentation of the original construction of the storage rooms (NR670.015(1)(a)).

In August 2014 a visual inspection of the storage room floors was completed to evaluate the storage room floors. As presented in the photographs in Appendix T the storage room floors remained intact and did not have any evidence of cracking. The floor system and associated containment berms provide prevention of material releases from impacting soil or groundwater beneath the TSDF. Because the rooms are indoors, this construction also provides a method of preventing surface water and precipitation contamination. In addition, the indoor rooms and the facility are located outside of the flood plain prevent run-on from entering into the containment system (NR664.0175(2)(d) and NR670.015(1)(d)).

5.5.1 Storage Rooms (NR670.014(2)(i), NR664.0017(1), NR664.0175(2)(c) thru (e)), NR664.0175(4), NR670.015(1)(b), (c), and (e), NR670.015(2) and (2)(b))

The TSDF is divided into three separate storage rooms, Room 1 having a surface area of 660 sf, Room 2 having surface area of 1,130 sf, and Room 3 having a surface area of 640 sf. As described below, the capacity of the containment system in each pod is greater than 10% of the volume of the containers or the volume of the largest container, whichever is greater. For storage pods 1A, 1B, 2A, 2B and 2C, the largest single container potentially stored is a tote with a rated capacity of 350 gallons. For all other storage pods the single largest container potentially stored is a 95 gallon drum. Containers without free liquids need not be considered for the capacity limits (NR664.0175(2)(d)). The storage pods' design and operation for the structure complies with the requirements for containers of F020-F023 and F026-F027 wastes that do not contain free liquids (NR664.0175(4)).

Storage Room 1 of the TSDF has a continuous base concrete floor segregated by floor sealed 3.5 in. high concrete berms into two pods. The front of each pod has a raised walkway to allow removal or placement of hazardous waste containers. Pod 1A of Storage Room A is 360 sf and is capable of storing a maximum volume of 3,575 gal in drums. The spill retention capacity for the pod is approximately 785 gal or 22% of the pod's total storage volume. Pod 1B of Storage Room A is 232 sf (excluding sub room) and capable of storing 2,145 gal in drums. The spill retention capacity of the pod is 507 gal, 24% of the pod's total storage volume.

Room 1 contains a segregated sub room, which is a fully enclosed room with 2-hour fire prevention concrete walls, door, ceiling and floor. The floor is encircled by a 3.5-in. high berm. The sub room is 68 sf and is capable of storing 501 gal in drums. The retention basin of this sub room provides a capacity of approximately 148 gal or 30% of the sub room's total storage volume.

Storage Room 2 has a continuous base concrete floor and is divided into three pods segregated by floor sealed 6-in. wide and 3.5-in. high berms. Pods 2A and 2B are also separated by a 2-ft high concrete wall. Each pod has 3.5-in. deep raised entrances that serve as berms. The following table lists the dimension of each pod, the approximate

storage capacity, and the spill retention capacity in volume and percent. The total capacity of each pod is based on the storage of drums.

Pod Description	Storage Volume (gal)	Area (sf)	Retention Capacity (gal)	Percentage of Volume (%)
Pod 2A	2,530	394	860	34
Pod 2B	2,860	400	873	31
Pod 2C	2,475	336	733	30

Storage Room 3 currently has six pods. Storage Room 3 of the TSDF has a continuous base concrete floor segregated by floor sealed 6-in. wide and 2-ft high impervious concrete walls, into six pods. The front of each pod has a raised walkway to allow removal or placement of hazardous waste containers and each are 3.5-in. deep. The following table lists the size of each pod within Storage Room 3, the approximate storage capacity of the pod, and the spill retention capacity as volume and percent. The total capacity of each pod is based on storage of drums.

Pod Description	Storage Volume (gal)	Area (sf)	Retention Capacity (gal)	Percentage of Volume (%)
Pod 3A	935	98	214	23
Pod 3B	840	95	207	25
Pod 3C	746	98	214	29
Pod 3D	1,100	117	255	23
Pod 3E	980	114	249	25
Pod 3F	1,100	118	257	23

Although the concrete floors of the storage pods are sloped to facilitate drainage, containers are stored on a raised steel grate to prevent contact with any freestanding liquid within each pod that may occur from a spill (NR664.0175(2)(b), NR679.015(1)(b) and (2)). The steel grate is level with the sub room entrances. In addition, a portable peristaltic pump is retained in the facility for emergency removal of spilled hazardous wastes. Sections of the steel grate would be removed to gain access to the spilled material. Spilled material would be contained and moved away from the contaminated area until the spill could be mitigated. The spilled waste will be removed and analyzed from the containment area in a timely manner to prevent overflow (NR664.0175(2)(e) and NR670.0015(1)(d)). In a timely manner for removal of spilled material is considered to be as soon as it can safely be accomplished, not to exceed 24 hours following discovery.

5.5.2 Storm Water Drainage Network

Storm water drains and basins are located throughout the asphalt parking lot areas of the facility. The storm water flows to natural basin which is controlled by a valve located east of the building (Drawing D2). The valve remains normally closed and is only opened manually to allow for storm water drainage. Parked trailers are inspected daily and documented for spills prior to opening the storm water drainage valve. The storm water then enters the retention basin. The discharge pipe is covered with a protective screen to prevent access. This storm water drainage network has been established to maintain the sites natural drainage pattern.

In the event of a spill, lateral movement of material will be contained by constructing temporary berms using absorbent. The storm water drains will be protected by covering with a plastic sheet and plywood and building a dike of absorbent material around each drain. Gross liquid spills will be containerized using a peristaltic pump. Small liquid spills will be immediately absorbed and containerized. If a spill were to enter the storm water drainage network, the valve will be checked to ensure closure. The network will be cleaned using a vacuum system and flushed using a decontamination solution. The spill material and decontamination solution will then be managed as a hazardous waste, pending waste stream classification. The decontamination solution will be tested to determine whether the final rinse is a hazardous waste (Refer to Waste Analysis Plan, Section 6.0). VESTS's transportation equipment will be used to provide the vacuum system (vac-truck) to clean out the network. The Contingency Plan discusses incident response procedures for handling and preventing contamination of soil, surface water, and groundwater.

5.5.3 Back-up Power Generator (NR670.014(2)(h)4.)

A 500 Kw back-up power generator is located east of the TSDF building. The backup power generator minimizes and mitigates the effects of a power outage (NR670.014(2)(h)4.). The start-up of the generator is activated when the electricity transfer switch indicates an interruption to the incoming power supply. The generator will produce three phase power to the transfer switch and feed sufficient power for all single phase and three phase equipment. This includes providing power to all critical systems, including air pollution control equipment and vacuum pumps associated with the retort processing equipment. These systems have been configured to auto restart when the back-up power generator comes on-line. The generator will continue to operate thirty minutes beyond the return of utility supplied electricity.

The back-up power generator has a 793-gallon capacity aboveground storage tank (AST) containing diesel fuel and is located beneath the generator unit. The generator and the AST situated on top of a manufactured built secondary contaminant pad will a spill capacity of 1614 gallons. Oil dry and absorbent pads are available to contain any spills during filling the AST. A"Tier I Qualified Facility SPCC Plan" has been developed for the AST. This plan is available for review at the facility.

5.5.4 Air Emission Controls in Retort Room (NR670.014(2)(h)6.)

The fugitive emissions from the retort room and the process emissions from the retort ovens are covered under a WDNR air emission permit. In accordance with the facility's air permit, the TSDF has developed and implemented a Malfunction Pollution Abatement Plan (MPAP) to inspect air emission control equipment and implement corrective measures as necessary. The MPAP also covers the fluorescent lamp recycling operations and associated control equipment. The control devices and MPAP prevent releases to the atmosphere (NR670.014(2)(h)6.) The MPAP is available for review at the facility.

6.0 WASTE ANALYSIS PLAN (NR670.014(2)(c)

In order to ensure proper hazardous waste handling and storage, a Waste Analysis Plan (Waste Analysis Plan) is used for waste received into the TSDF. The Waste Analysis Plan outlines how the TSDF will comply with the requirements of NR670.014(2)(b) and (c) and NR664.013. In order to support the Waste Analysis Plan, the TSDF maintains a laboratory certification (ID No. 246076050) in accordance with the applicable requirements of NR149. A copy of the current laboratory certification is provided in Appendix O. The goals of the Waste Analysis Plan include being able to identify and separate waste types that are incompatible, ensure proper handling procedures are identified for various waste types, and ensure that waste types handled are included in the facility permit. The plan entails the procedures outlined below and shown on Figure 6-1.

6.1 HAZARDOUS WASTE GENERATOR REQUIREMENTS (NR670.014(2)(b))

Client generated hazardous waste may require storage in the facility until proper disposal can be determined. Generators who meet the definition of a generator in NR660.10(50), must possess an identification number prior to offering hazardous waste for transport or storage at the facility. The generator must also comply with the manifest system requirements in NR662.020.

6.2 WASTE CHARACTERIZATION AND ANALYSIS (NR664.0013(1)(a) thru (c), NR664.0013(2)(a), (b), (d) thru (f), NR670.014(2)(b)

RCRA and Wis. Adm. Code regulations place on the waste generator the burden of determining whether their waste is hazardous. Therefore, the TSDF requires the generator to establish a waste profile based on generator knowledge (e.g., past waste disposal company profiles) or a detailed chemical and physical analysis of a representative sample of their waste (NR664.0013(2)(e)).

6.2.1 Universal Wastes

Universal wastes are a subset of hazardous waste and include specific waste types as defined by regulation in NR673. These wastes, which are typically articles (eg fluorescent lamps) will be generated by a variety of generating facilities but will have similar chemical composition and properties. As such, waste profiles for universal wastes will be established based on information provided by the generator of the waste and will not require a certified profile form for characterization. Characterization will be based on manufacturer information supplied by the generator or using manufacturer information on-file at the TSDF.

6.2.2 Hazardous Wastes

Waste profiles for waste streams that are not universal wastes will be established by obtaining a certified waste profile form from the generator of the waste. In accordance with NR664.0013(2)(f), the profile will be assessed for unique potential incompatibility issues the waste stream may have with respect to specific management methods (NR664.0017(3)). In addition, the profile will be evaluated to determine whether the waste stream is subject to the NR664 Subchapter CC standards for containers, as required under NR664.1083. The profile will also be evaluated to determine whether chemical analysis indicates the waste meets or exceeds the LDR standards as required under NR668.07.

If using laboratory analysis, the generator located in the State of Wisconsin, must use a State of Wisconsin certified and registered laboratory and use analytical methodologies required in NR 219 and NR662.04 (NR664.0013(1)(a)1.). Field analysis of pH, specific conductance and temperature will be acceptable. If a generator requires virgin material to be stored at the TSDF, the generator may submit a Material Safety Data Sheet (MSDS) outlining detailed chemical and physical properties. The profile may include data developed under NR661 and NR662.220 and existing published data on the hazardous waste or on data from hazardous waste generated from a similar process.

The majority of the waste containing mercury will be generated as a result of spills, articles or devices containing mercury being taken out of service, or fluorescent lights destined for recycling. Although the wastes do not meet the definition of unused chemicals, the physical and chemical properties of such wastes will not have changed from those the original material. As such, it is anticipated that an inventory of the components of the waste is sufficient to satisfy the waste analysis requirements.

Profiles for mercury-containing articles and mercury-contaminated debris will be evaluated to determine they contain recoverable amounts (e.g., presence of free mercury). In accordance with NR661.100(4)(b)1., the profiles will be evaluated to determine whether the waste contains less than 500 ppm by weight total NR661 Appendix VIII organic constituents. Wastes that contain less than 500 ppm by weight Appendix VIII organic constituents will then be evaluated for their heating content. Wastes with less than 5000 BTU/lb will be designated as being acceptable for retort under NR666.100(4)(b)2. Wastes that contain greater than 5000 BTU/lb will be evaluated to determine whether the waste is specifically listed in NR666 Appendix XIII. If the waste is included in Appendix XIII, the waste will be approved for retorting in accordance with NR666.100(4)(c). The mercury-contaminated debris may include the mercury-bearing materials outlined in NR666 Appendix XIII including:

1. Activated carbon
2. Decomposer graphite
3. Wood
4. Paper
5. Protective clothing
6. Sweepings

7. Respiratory cartridge filters
8. Cleanup articles
9. Plastic bags and other contaminated containers
10. Laboratory and process control samples
11. K106 and other wastewater treatment plant sludge and filter cake
12. Mercury cell sump and tank sludge
13. Mercury cell process solids
14. Recoverable levels or mercury contained in soil

If the waste is not specifically listed in Appendix XIII the waste will not be approved for retort. If the generator does not provide certification, the waste must be tested for total organic compounds and total semi-volatile compounds outlined in Table 6-2. Wastes exhibiting a toxicity characteristic of NR661.24 for an organic constituent will not be accepted for retort. Hazardous wastes listed in Subchapter D of NR661 because it is listed for an organic constituent, as identified in Appendix VII of NR661, will not be accepted for retort.

The profile and analysis will be evaluated to determine whether it contains all the information necessary to determine how to treat, store or dispose of the waste in accordance with Chapter NR664 and Chapter NR668. If the generator provides a questionable certified waste profile, the Operations Manager through a centralized approval department or alternative department, may request the generator to supply additional information. If further characterization is necessary, the generator will be requested to provide a representative sample of the waste collected in accordance to methodology described in NR661 Appendix I (NR664.0013(2)(c)). The representative sample should be submitted to a laboratory for analysis based on the waste type. The potential waste characterization parameters by waste type are described in Table 6-1. The necessary parameters for the safe handling and proper classification will be tested. Additional specialty qualitative testing may be conducted of the waste (e.g., drum vapor head space monitoring) to determine potential presence of toxic fumes or vapors.

If VESTS conducts analytical testing, then the waste analysis process will follow the schematic shown in Figure 6-2 (NR664.0013(2)(a)). The waste will be analyzed in accordance with the methodology outlined in Table 6-2 and following the elements of the plan in Figure 6-3 (NR664.0013(2)(b)). If free cyanide or free sulfide is present qualitatively, quantitative analysis will be conducted. Analysis selection and frequency is contingent upon the perceived credibility, as well as the last date the waste profile and/or MSDSs were completed.

The generator will be required to recertify the waste profile every five years or immediately if the process for waste generation is altered, which may affect the waste classification or method of processing of the waste steam (NR664.0013(2)(d) and NR664.0013(1)(c). Profile recertification will require the generator to provide an updated and certified waste profile. This profile must document any changes in the process generating the waste and be supported by generator knowledge or detailed chemical and physical analysis of a representative sample of the waste. Where chemical analysis is provided the analysis must

be consistent with the analysis that was originally used for the classification of the waste and where applicable, address any changes that have been made to the process generating the waste.

A profile number is assigned to each waste stream by the electronic computer tracking system. Waste characterization records are maintained for a minimum of three (3) years. Records associated with supporting the exemption(s) under NR666 Appendix XIII are also maintained for a minimum of three (3) years. Any data obtained under the general waste analysis plan NR664.013 and in support of NR664.1086 must be kept for the life of the facility.

In many cases, generators will request storage of off-specification and out-of-date laboratory reagents as part of a lab pack. In these cases, the generator will be required to submit a lab pack inventory form or MSDSs for chemicals requiring storage. The completed inventory will be evaluated for chemical and physical properties, and management requirements. Segregated lab packing lists will be developed so that the compounds are safely packaged, stored, and handled.

6.3 APPROVAL OF WASTE INTO TSDF

The Operations Manager through a centralized approval department or alternative department, reviews the type and volume of waste to be stored in the TSDF. If the waste is acceptable for storage under the TSDF permit, the TSDF inventory will not exceed the 20,000-gallon limit, and the waste will not cause excessive or dangerous container/drum crowding in the TSDF, approval is given by the Operations Manager for storage. The Operations Manager through the customer service representative informs the generator in writing that the TSDF has the appropriate license for, and will accept the waste the generator is shipping. A copy of this written notice is kept as part of the operating record.

6.4 SHIPMENT OF WASTE TO FACILITY

A customer service representative schedules the proper manifesting of the waste to the TSDF. The Operations Manager or designate is informed as to the receiving date in order to have TSDF personnel available for the waste inspection and inventory into the facility.

6.5 RECEIVING OF WASTE INTO FACILITY (NR664.0013(3))

No manifested hazardous waste is accepted unless it meets the following requirements or can be handled as a manifest discrepancy (see Section 6.6 on handling manifest discrepancies). All incoming waste shipments are screened following those steps displayed in Figure 6-4 (NR664.0013(3)).

6.5.1 Compare Shipment Externally to its Manifest

When a waste shipment arrives at the facility, the manifest is checked for completeness and correctness. At a minimum, the following information is checked on each manifest:

- The generator's name, address, and EPA identification number.
- Each transporter's name and EPA identification number.
- The designation of the waste shipment (i.e., hazardous waste management facility, address, and EPA identification number).
- A DOT shipping name and number.
- The quantity or volume of waste in the shipment.
- The number and type of containers in the shipment.
- The EPA waste code number(s).
- A signed, dated certification of the shipment's contents.

6.5.2 Visually Inspect Each Container

Each container is visually inspected to assess:

- If the number and type of containers match the manifest.
- If the shipment markers/labels match the manifest.
- Any irregularities with the shipping container (e.g., leaks).
- If any restricted wastes are visibly present.
- If the waste appearance matches any previously noted description or pre-submitted physical analysis of a representative sample.
- Review each lab pack list for compatibility and restricted wastes.
- Waste subject to the Container Level 1 and Level 2 Standards are received in DOT specification containers.

6.5.3 Sampling of Waste Shipment (NR664.0013(1)(c)1. and (d) and NR664.0013(2)(c)

In accordance with NR664.0013(1)(c)1. and (d), each waste shipment that passes initial inspection is sampled and screened (excluding lab packs). Lab pack lists will be reviewed to identify the possible presence of unknowns. If possible unknowns are identified, the lab pack will be unpacked and the questionable container will be removed and screened in accordance with Section 6.5.4. The frequency of identifying unknowns in a lab pack is less

than 5%, because the majority of the lab packs received at the facility are packaged by VESTS personnel.

A visual inspection of containers bearing mercury containing articles, devices, and debris; universal lamps; universal batteries, and computer equipment will be conducted and documented. When a representative sample is taken, it will be collected from 10% of the number of drums per waste stream, composited, and screened for key parameters. If less than 15 drum per waste stream is received, then a minimum of two (2) drums will be sampled. These drums are selected at random by the individual sampling the drums. A representative sample of the waste is collected in accordance to methodology described in NR661 Appendix I (a Coliwasa tube sampler is generally be used) (NR664.0013(2)(c)).

6.5.4 Screening Waste for Key Parameters

The representative sample (4oz jar) is submitted to the laboratory. The sample chain of custody, analysis, and data routing follows the format illustrated in Figure 6-2. The waste is analyzed in reference to the methodology outlined in Table 6-3. These include pH, water reactivity, flashpoint, free cyanide, free sulfide, oxidizing agent, and visual check of physical characteristics. These analytical parameters identify:

- The ignitability or reactivity of the wastes.
- The incompatibility of the wastes.
- Those parameters that best indicate changes in waste characteristics.

The representative sample will be returned to the original container, as identified by inventory or waste stream number. If the sample was collected from a lab pack, the sample jar will be added to the lab pack and reflected on the inventory list for the lab pack.

6.5.5 Evaluate Screening Data

The Operations Manager or designated alternative evaluates the screening data to determine if the incoming shipment matches the certified waste profile or chemical and physical analysis. If the waste does not agree with the profile, the generator is notified and, if requested, a complete recharacterization is performed. The waste is analyzed in accordance with Section 6.2 and based on the results, the waste shipment is accepted or rejected. The screening data will be evaluated within 24 hours of receiving the waste. The drums will be placed into the storage pods based on the preliminary chemical and physical composition for the profile and the US DOT shipping name and hazard class.

In the cases, where wastes are rejected, the first option will be to immediately notify the generator and have an alternative disposal site designated. If an alternative disposal site is not provided, the waste will be returned on the original manifest or on a new manifest if the original manifest contained accepted waste. The rejected waste will remain in transit and accumulated on a transport vehicle. The waste will be documented as part of the transfer station records and shipped with in 10 days.

The rejection of wastes from the facility is rare. As discussed above, the facility will first attempt to work with the generator to recharacterize the waste. However, in some instances a generator has shipped a waste to the facility by mistake. The generator may request to have the waste returned or rejected by the facility. In another instance the recharacterization of the waste may identify a waste that can not be accepted at the facility due to waste code restrictions or because an ultimate disposal site for the waste can not be identified.

6.5.6 Acceptance of Waste Shipment

If the TSDF accepts the hazardous waste, an employee:

- Signs and dates each copy of the manifest to certify that the hazardous waste covered by the manifest was received.
- Immediately gives the transporter at least one copy of the signed manifest.
- Within 30 days after the delivery, sends a copy of the manifest to the generator.
- An electronic record of the manifest receipt will be submitted to the WDNR monthly. Retains in the office area a copy of each manifest for at least 3 years from the date of delivery.
- Notes any significant discrepancies in the manifest on each copy of the manifest.

Once the waste has been received for storage, an inventory number is assigned to each drum or container (excluding lamps designed for recycling). The inventory is maintained electronically at the TSDF. The electronic database is backed-up every 24-hours. The server for the database is maintained in the Veolia ES North America office located in West Allis, Wisconsin. Inventory labels are then printed from the data base and place on the drum. The inventory labels provide the inventory number, the generator name, the DOT description, the acceptance date, the storage location, and the profile number. Daily acceptance reports are printed from the electronic inventory. The report provides a description of the waste type, weight of the container or count of lamps, the inventory and profile number. This acceptance report backs-up the incoming manual weigh sheets, the lamp count sheets, and manifest information. The waste is then included as part of the inventory until after it is shipped for disposal, or bulked or consolidated into a different container. A hard copy of the acceptance reports, manifest copies, weigh sheets, and lamp count sheets are maintained for a minimum of three (3) years.

6.6 HANDLING MANIFEST DISCREPANCIES (NR664.0072)

Manifest discrepancies are considered as any differences between the quantities or type of hazardous waste designated on the manifest or shipping paper and the quantity or type of hazardous waste the facility actually receives. Significant discrepancies in quantity are any variation in piece count, such as a discrepancy of one drum in a truckload of waste. Significant discrepancies in type include the following:

1. Identified changes in the wastestream that causes a reclassification of the regulatory waste codes (e.g., such as waste solvent substituted for waste acid).
2. Identified change in the waste composition against the initial profiling (e.g., percent solid of incoming wastestream is 90% versus 10-60% solids on the initial profile).
3. Identified change in the waste that causes a change in waste handling and processing (e.g., liquid has adhesive properties that prevents the pouring or pumping of liquid).

Upon discovering a significant discrepancy, the TSDF attempts to reconcile the discrepancy with the waste generator through telephone conversations. If the discrepancy is not resolved within 15 days after receiving the waste, the TSDF submits to the WDNR a letter describing the discrepancy and attempts to reconcile it and a copy of the manifest or shipping paper at issue. Manifest discrepancies are documented on the manifest and a copy sent to the waste generator. If the discrepancy is related to quantity of containers, these discrepancies generally resolved within the 15 day limit and the containers are placed in the storage pods. If the discrepancy is related to the type of waste, the waste is held in transit on the transportation vehicle until the waste is either accepted or rejected.

If the hazardous waste is rejected for storage, the Operations Manager specifies why the waste is rejected on the manifest and immediately notifies the generator of the rejection. The generator is then responsible for deciding either to designate an alternative facility or instruct the transporter to return the waste. Depending upon the generator's decision, the hazardous waste will be rejected or redesignated to alternative facility in accordance with the requirements of NR664.0072(4) thru (7).

6.7 UNMANIFESTED WASTE REPORT (NR664.0076)

If VESTS accepts for storage or treatment in the miscellaneous units any hazardous waste from an off-site sources without an accompanying manifest, VESTS will prepare and submit a report to the WDNR within 15 days after receiving the waste. The unmanifested waste report will contain the information outlined in NR664.0076.

6.8 SCHEDULING FOR REMOVAL OF WASTE FROM TSDF

Based on the generator certified waste profile, MSDSs, or laboratory analytical reports, the waste is properly categorized into a hazard class by the Operations Manager or designated alternative. The Operations Manager or designative alternative will then determine a proper disposal facility for the waste and obtain necessary approval. A scheduling date is set for shipment of the waste from the TSDF.

6.9 REMOVAL OF WASTE FROM TSDF

The wastes are properly labeled and marked in accordance with DOT and EPA regulations prior to loading and transport by a properly licensed vehicle to the selected disposal facility. Finally, the waste are removed from the active TSDF inventory, electronically archived as part of the TSDF operating record, and a copy of the manifest retained as part of the TSDF recordkeeping. The electronic inventory will track the designated facility of the waste, the outbound manifest number, and the shipped date. The information is supported by manual outbound load sheets and associated manifests.

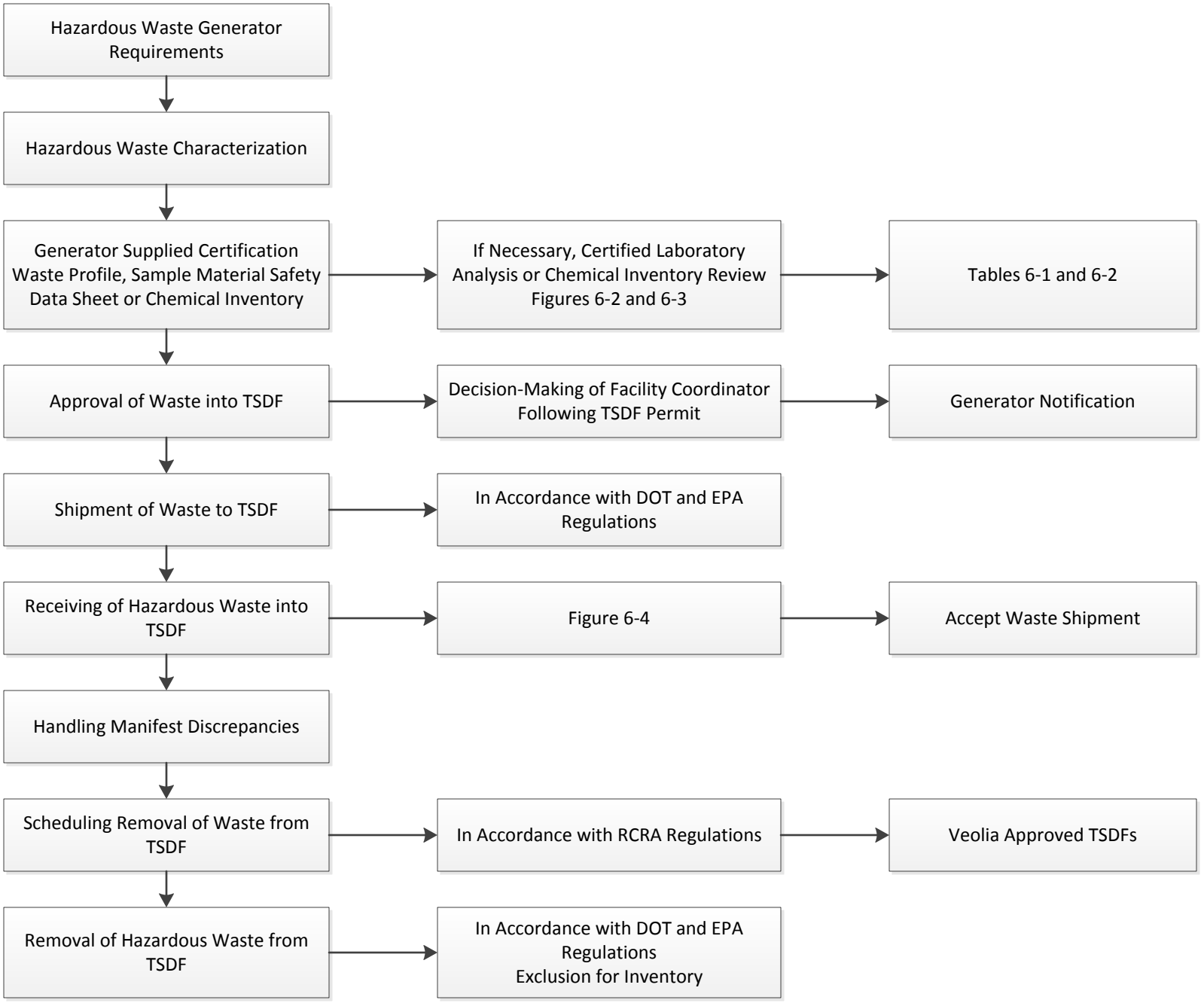
6.10 LAND DISPOSAL RESTRICTION REQUIREMENTS (NR664.0013(2)(f))

Hazardous waste subject to the land disposal restriction requirements of NR668.07 must have a generator notification or certification on file with the TSDF. The notification or certification forms are retained with the corresponding waste stream for at least five years. Outgoing waste streams of restricted hazardous waste will have had a Land Disposal Restriction Notification Form submitted to the off-site facility. Copies of the notification forms are retained with the waste stream or corresponding manifests for at least five years.

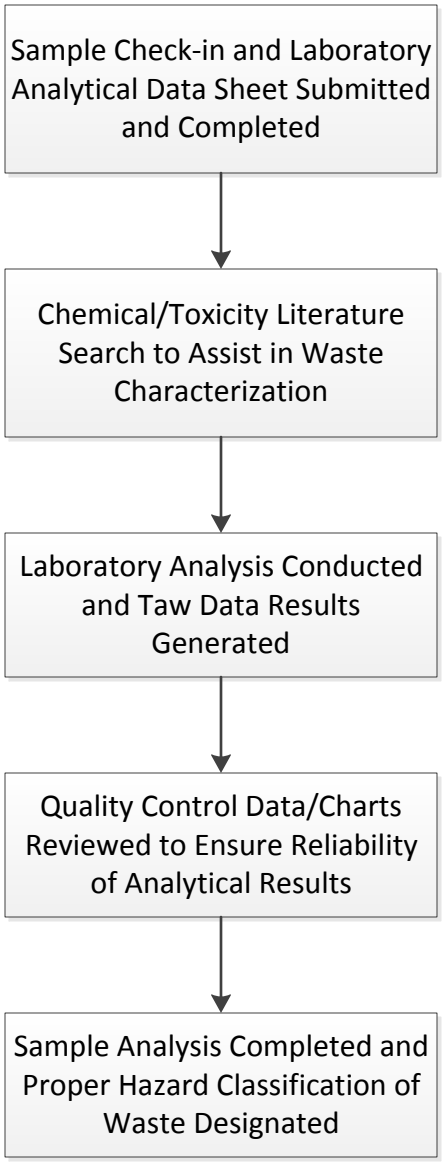
The TSDF complies with the prohibitions on storage of restricted hazardous waste by storing the waste for less than one year. However, on January 4, 2013 VESTS submitted a request for relief on the one (1) year storage limitation for elemental mercury that is subject to the Mercury Export Band Act (MEBA). On January 17, 2013, the WDNR issued a letter indicating the Department would use its enforcement discretion to allow VESTS to store elemental mercury that is subject to MEBA for more than one year provided that VESTS complies with the conditions in the letter. Each container of restricted waste is dated upon receipt of the waste. The electronic operating record discloses the date of receipt and shipment of a restricted waste.

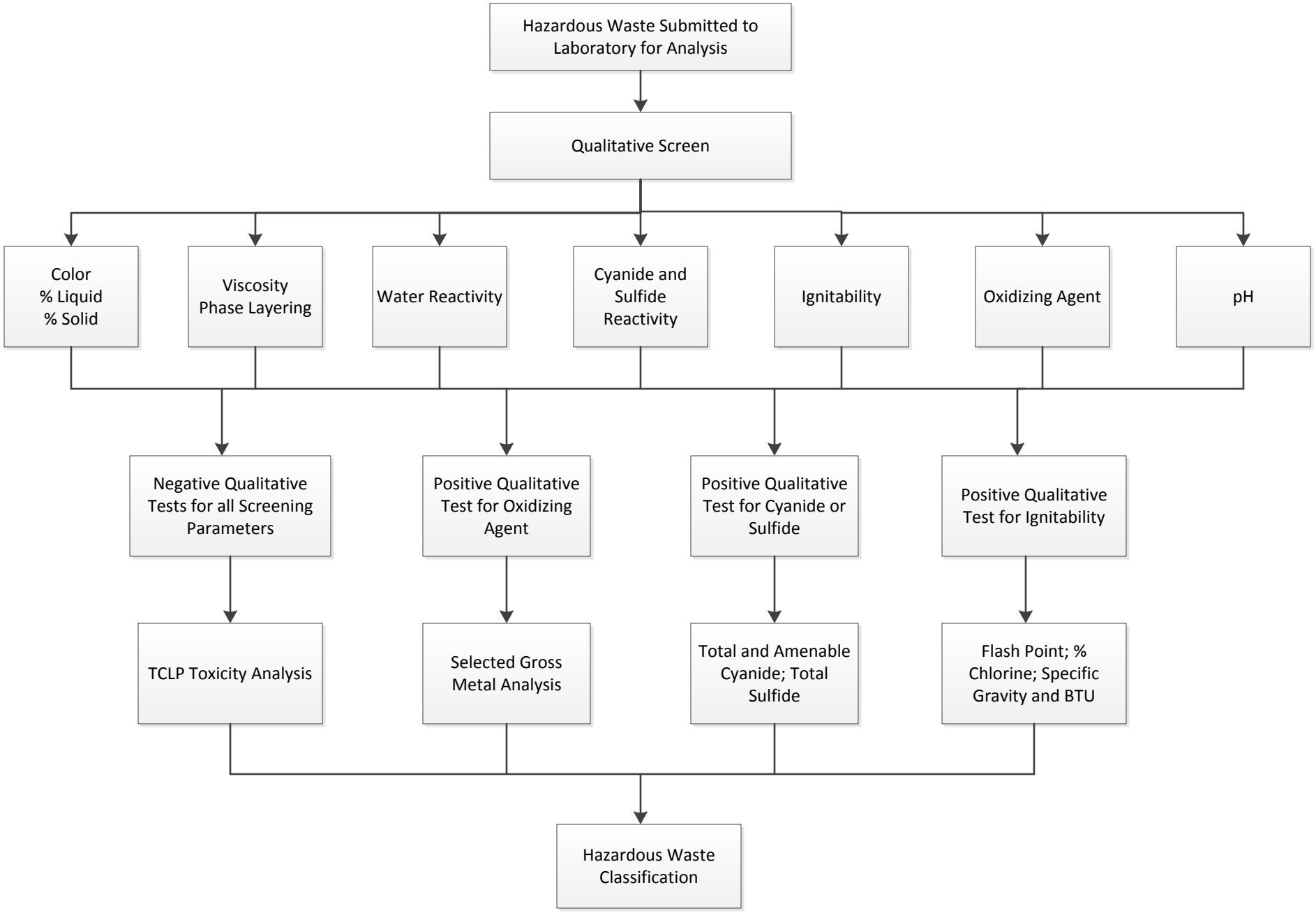
If shipment of restricted waste is received without the proper notification or certification, a form is sent to the generator for completion.

Underlying hazardous constituents, as identified in the waste analysis process, as described in Section 6.2 (NR664.0013(2)f, as required by NR668.07) will be addressed and Universal Treatment Standards (UTS) will be achieved for underlying hazardous constituents before the D009 waste, after retorting, can be considered to meet Land Disposal Restrictions (LDR) treatment standards.

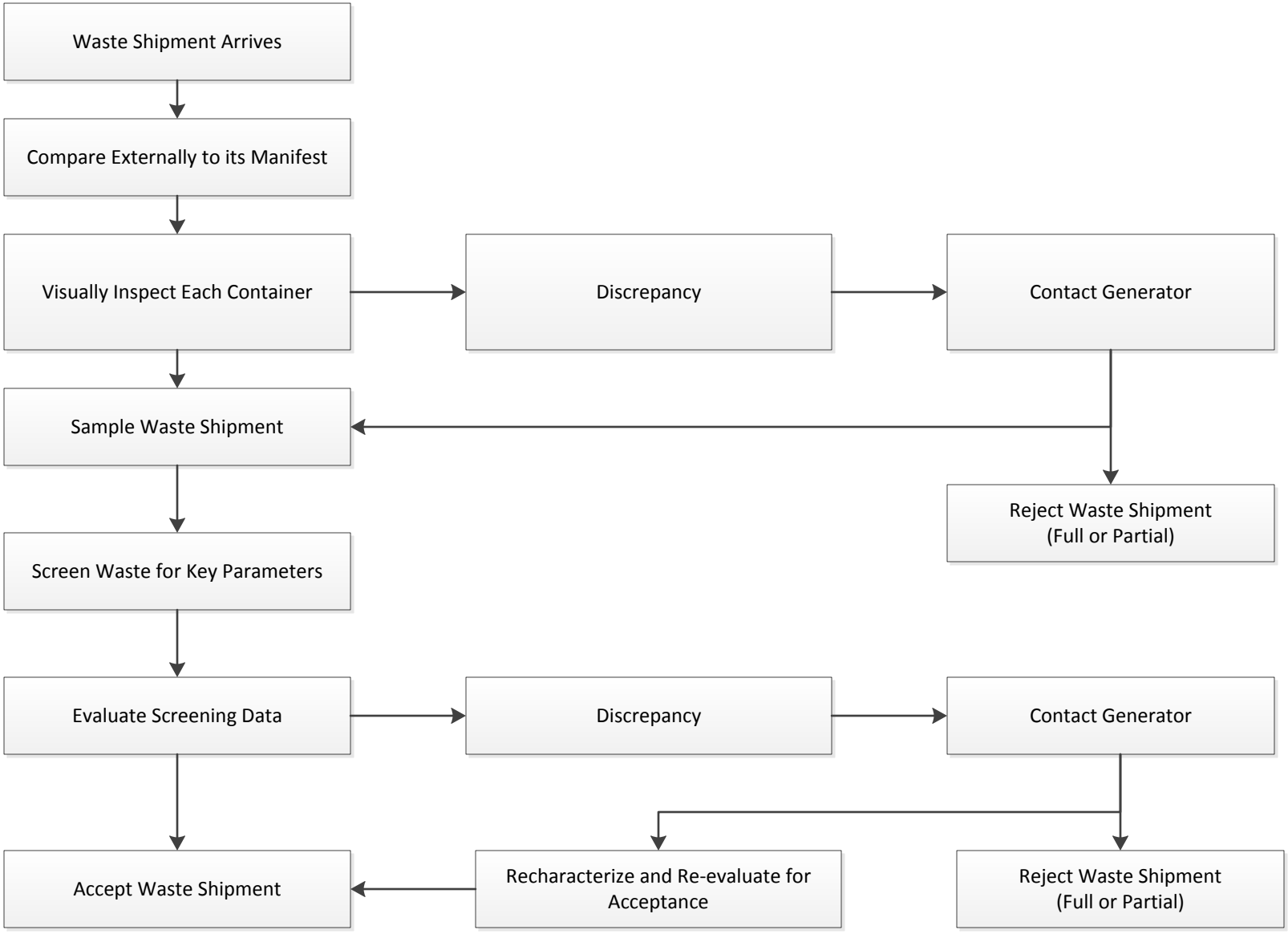


Feasibility and Plan of Operation Report Date of Issuance: August 6, 2013 File Name: S:\Secure\Shared\Facility\FPOR\Renewal 2014\Final FPOR 093015\FIG 6-1 FPOR_080613.vsd	Figure: 6-1 General Schematic of Waste Analysis and Management Plan	Veolia ES Technical Solutions, L.L.C. Revision Date: Control Document Number: 999A128


Sample Check-in and Laboratory Analytical Data Sheet Submitted and Completed
Chemical/Toxicity Literature Search to Assist in Waste Characterization
Laboratory Analysis Conducted and Taw Data Results Generated
Quality Control Data/Charts Reviewed to Ensure Reliability of Analytical Results
Sample Analysis Completed and Proper Hazard Classification of Waste Designated



Feasibility and Plan of Operation Report Date of Issuance: August 6, 2013 File Name: File Name: S:\Secure\Shared\Facility\FPOR\ Renewal 2014\Final FPOR 093015\FIG 6-3 FPOR_080613.vsd	Figure: 6-3 Analytical Decision Making for Proper Hazardous Waste Classification	Veolia ES Technical Solutions, L.L.C. Revision Date: Control Document Number: 999A128



Feasibility and Plan of Operation Report Date of Issuance: August 6, 2013 File Name: File Name: S:\Secure\Shared\Facility\FPOR\ Renewal 2014\Final FPOR 093015\FIG 6-4 FPOR_080613.vsd	Figure: 6-4 Incoming Shipment Screening Procedures	Veolia ES Technical Solutions, L.L.C. Revision Date: Control Document Number: 999A128

TABLE 6-1

Waste Characterization
Feasibility and Plan of Operation Report
Veolia ES Technical Solutions. L.L.C.
1275 Mineral Springs Drive
Port Washington, Wisconsin

Waste Type	Examples of Process Types	Potential Analyses[(1)]
Spent solvents and solvent mixtures	Paint cleanup; spent degreasing solvents, unused laboratory chemicals	Flash point, BTU, % chloride, pH, % solid, % liquid, color, free cyanide, and PCBs
Spent acids and alkalines	Drained battery fluids; metal finishing etching wastes; unused laboratory chemicals	pH, % chloride, % solid, % liquid, TCLP toxicity
Spent oils including fatty and petroleum by-products	Waste drain oils; waste lubricating oils; waste hydraulic oils/fluids	Flash point, pH, % chloride, BTU, % solid, % liquid, color, free cyanide, TCLP toxicity, and PCBs
Cyanide and sulfide bearing wastes	Heat treating wastes; metal treating wastes; electroplating wastes; unused laboratory chemicals	pH, total sulfide, total cyanide, free cyanide, % solid, % liquid, color, flash point
TCLP Toxic wastes	Discard instrumentation chemicals; unused laboratory chemicals; paint wastes	pH, % solid, % liquid, color, TCLP toxicity
Waste pesticides and herbicides	Unused inventory and products	pH, % solid, % liquid, color, % chloride, pesticide TCLP toxicity, select pesticide GC or GC/MS determinations
Halogenated wastes	Unused laboratory waste; unused refrigerant solutions; spent fire extinguishant solutions	Flash point, pH, % chloride, BTU, % solid, % liquid, color, free cyanide, and PCBs
Flammable solids	Power plant waste by-products; metal finishing wastes; unused laboratory chemicals	Color, water reactives, select metal analyses
Mercury Bearing Waste (Excluding Intact Devices)	Mercury contaminated debris, soils, activated carbon	pH, % solid, % liquid, color, TCLP metal toxicity, Total Volatiles, Total Semi-volatiles, PCBs

Footnote:

(1) If applicable, analyses will be selected after a review of the generator's certified waste profile in order to supplement the existing information.

TABLE 6-2

Methodology for Hazardous Waste Characterization
Feasibility and Plan of Operation Report
Veolia ES Technical Solutions, L.L.C.
1275 Mineral Springs Drive
Port Washington, Wisconsin

Parameters	Analytical Methodology
Qualitative Analysis:	
Color	Visual
% Solid	Visual
% Liquid	Visual
Viscosity	Visual
Phase Layering	Visual
Water Reactivity	1 – A.4.2.1
Ignitability	1 – A.4.3
Free Cyanide (Spot Test)	1 – A.4.2.3
Free Sulfide (Paper)	1 – A.4.2.3
Oxidizing Agent (Paper)	1 – A.4.1.2
pH (Paper)	1 – A.4.1.1/2 9041
PCB (Chlor-in Oil)	2 – Method 9079
Quantitative Analysis:	
pH (Probe)	2 – 9040
Total Cyanide	2 – 9010A
Amenable Cyanide	2 – 9010A
Free Cyanide	2 – 9010A
Total Sulfide	3 – 376.1/5
Total Chloride	3 – 325.3/5
BTU	4
Flash Point	2 – 1010/1020
TCLP Metals (8)	2 – 1311/6010C/7470A Appropriate ICP and Cold Vapor
Gross Miscellaneous Metals	2 – Appropriate Furnace and Direct Aspiration Methodology for Various Metals
PCBs	2 – 8082A
TCLP Volatile	2 – 1311/8260B
TCLP Semivolatile	2 – 1311/8270C
Total Volatile	2 – 8260
Total Semivolatile	2 - 8270

General Notes:

1. Design and Development of Hazardous Waste Reactivity Testing Protocol, by C.D. Wolbach et al. Solid and Hazardous Waste Research Division Municipal Environmental Research Laboratory. Cincinnati, Ohio. 143pp., EPA-600/2-84-057.
2. Test Methods for Evaluating Solid Waste – Physical/Chemical Methods by U.S. Environmental Protection Agency. Cincinnati, Ohio. SW-846, 3rd Ed. Update 3 December 1996.
3. Standard Methods for the Examination of Water and Wastewater. APH. 1983, 18th Edition.
4. 1241 Adiabatic Bomb Calorimeter Methodology. 1983. Parr Instrument Company. Moline, Illinois.

TABLE 6-3

Screening Parameters For Incoming Shipments
Feasibility and Plan of Operation Report
Veolia ES Technical Solutions, L.L.C.
1275 Mineral Springs Drive
Port Washington, Wisconsin

Qualitative Parameters	Analytical Methodology
Color	Visual
% Solid	Visual
% Liquid	Visual
Viscosity	Visual
Phase Layering	Visual
Water Reactivity	1 – A.4.2.1
Ignitability	1 – A.4.3
Free Cyanide (Spot Test)	1 – A.4.2.3
Free Sulfide (Paper)	1 – A.4.2.3
Oxidizing Agent (Paper)	1 – A.4.1.2
pH (Paper)	1 – A.4.1.1/2 9041
PCB (Chlor-in Oil)	2 – Method 9097
Flash Point	2-1010/1020

General Notes:

1. Design and Development of Hazardous Waste Reactivity Testing Protocol, by C.D. Wolbach et al. Solid and Hazardous Waste Research Division Municipal Environmental Research Laboratory. Cincinnati, Ohio. 143pp., EPA-600/2-84-057.
2. Test Methods for Evaluating Solid Waste – Physical/Chemical Methods by U.S. Environmental Protection Agency. Cincinnati, Ohio. SW-846, 3rd Ed. Update 3 December 1996.

7.0 RECORDKEEPING PROCEDURES

7.1 FACILITY INSPECTION SCHEDULE (NR664.0015(2)(a), (c), and (d), (3), and (4))

The TSDF may be entered upon approval by the Operations Manager, who is responsible for its maintenance, and fulfilling regulatory requirements set by the EPA and the WDNR. The Operations Manager is informed of all entry/exit and waste movement into and from the TSDF. The entrances to the TSDF sub rooms are kept locked during non-operating or off-hour periods. Inspection records are retained for no less than three years (NR664.0015(4)). All operating records, including inspection records, are maintained by VESTS through the closure of the TSDF.

The frequency of the inspections listed below has been developed to prevent an environmental or human health incident (NR664.0015(2)(d). The schedule of the inspections also have been established to ensure any necessary remedy as a result of the inspection will be completed in a timely fashion to prevent an environmental or health hazard (NR664.0015(3)). The inspection logs will include the date and time of inspection; inspector name; observations made; and the date and type of remedial actions (NR664.0015(4)).

7.1.1 Weekly Container Inspection (NR670.014(2)(d) and (e), NR670.014(2)

A weekly inspection of the TSDF is completed. The goals of the weekly inspections of the container storage areas is ensure conditions are adequate to prevent environmental or human health incidents (NR664.0015(2)(d)). The inspection form or log includes the date and time of the inspection, observations made and the date and type of any necessary remedial actions. The inspection form or log will document the time frame for the remedy corrective action if the problem does not lead to an immediate environmental or health hazard (e.g., bent fence post) (NR664.0015(3)). As required in NR664.0015(2), the weekly inspection format and respective recordkeeping entail the following procedures:

1. Inspection of general TSDF integrity, particularly examining condition of structure walls and entrance doors.

2. Site inventory of waste drums and containers stored in the loading dock storage area and storage rooms will be checked against the current electronic TSDF operating record for waste description, container size, volume, and generator identification.

3. Inspection of TSDF floor integrity and condition of concrete retention berms. Condition of berms, walls, steel grate work and loading dock area checked for deterioration. Also, the floor and berm interfaces and trench checked for standing liquids and debris buildup.

4. Inspection of drums and containers for leakage or deterioration (NR664.0174). Also, proper drum and container segregation checked according to hazard classification and compatibility.

5. Inspection of drums and containers for visible cracks, holes, gaps, or other open spaces into the interior of the container when the cover and closure devices are secured in the closed position (NR664.1088).

6. Spill control equipment and material inspected weekly to ensure proper function and adequate supplies if an emergency occurs. Vermiculite retained for spill cleanup checked for condition and amount available. SCBA checked for functionality and tank air supply. Spill response tools, eyewash station, and fire extinguishers checked for full capacity/condition.

7.1.2 Daily Inspections (NR664.0015(2)(d))

7.1.2.1 – Unloading and Loading. The TSDF floor, entrances, loading dock, and adjacent parking lot are checked daily for chemical spillage after each loading or unloading of wastes (NR664.0015(2)(d)). Containers containing waste materials subject to NR664 Subpart CC requirements will be inspected at the time of acceptance at the TSDF (NR670.014(2)(e)). Any discrepancy to the container closure requirements will be documented on the profile discrepancy form, along with any necessary corrective measures to be completed within 5 days of the notice (NR664.1086).

7.1.2.2 – Air Monitoring. Every day after eight (8) hours of mercury recycling operations, and at least 15 minutes before stopping operation, the ambient air concentration of mercury is measure in the facility using a direct reading instrument. The measurements are entered on a log sheet and will be maintained in the TSDF files.

The current OSHA standard for mercury is a ceiling of 0.1 mg/m^3. NIOSH has recommended that the permissible exposure limit be 0.05 mg/m^3 averaged over an eight (8) hour work shift. The American Certified General Industrial Hygienists (ACGIH) have established a recommend permissible exposure limit of mercury at 0.025 mg/ m^3 averaged over an eight (8) hour work shift. If the measurements for the ambient readings or breathing zone are less than 0.025 mg/m^3, employees will be permitted to work in Level D PPE.

If the concentration range between 0.025 mg/m^3 and 1.0 mg/m^3 is observed inside the retort room, the employees shall work in Level C PPE. If the concentration exceeds 1.0 mg/m^3, but below 2.5 mg/m^3, the employee will work with an airline respirator with hood. If the concentration exceeds 2.5 mg/m^3, the employee will work inLevel B PPE, airline respirator with tight fitting face piece an escape bottle or SCBA. If the concentrations exceed 1.0 mg/m^3 an investigation is conducted to identify and correct the source of the vapors.

In addition, air samples associated with the point discharges for the Model 2000 and Model LSS1 lamp machines and the retorts are also conducted in accordance with the air operation permit requirements. These measurements are documented on the log sheets.

7.2 CONTAINER LABELING

Drums and containers are properly labeled, marked and placarded, as applicable, before being transported from the TSDF in accordance with the applicable DOT regulations for hazardous materials under 49 CFR Part 172. Upon receipt of hazardous waste drums or containers into the TSDF, the drums or containers are immediately inspected for proper marking, labeling, and placarding. According to the waste description and designated DOT hazard class, each drum or container is segregated based on compatibility. Each container will be marked to identify the generator, its inventory number, its contents (e.g., profile number) and the date each period of accumulation began, if generated on-site, or the acceptance date into inventory for incoming wastes.

7.3 MANIFESTING

Hazardous waste manifest copies documenting the shipment are retained as part of the TSDF operating records for a minimum of 3 years.

A copy of each manifest is provided to the transporter upon delivery of material. VESTS sends a copy of the manifest to the generator within 30 days after delivery. VESTS will monthly submit an electronic record of the manifest received by the TSDF during the previous month.

7.4 ANNUAL HAZARDOUS WASTE REPORT

An Annual Hazardous Waste Activity Report is completed and submitted to the WDNR by March 1 of each year. The report includes general facility information, quantities of waste received and stored, updated closure costs, a waste minimization report, and certification.

7.5 STORM WATER DRAINAGE NETWORK INSPECTION

The storm water drainage network will be inspected prior to the opening of the storm water control valve to allow for the discharge of storm water into the runoff water collection basin. The inspection forms will be retained as part of the TSDF operation records.

7.6 INSPECTION OF RECORDS

Records including plans required under NR 660 to 673 shall be furnished upon request, and made available at all reasonable times, for inspection by any officer or employee of the WDNR.

8.0 CONTINGENCY PLAN (NR670.014(2)(g))

8.1 PURPOSE (NR664.0051(1))

This plan describes actions to be taken by VESTS personnel in response to emergencies. The plan is to ensure that site personnel are prepared to respond to any eventuality which may occur during the managing of hazardous wastes at the TSDF in a manner that minimizes hazards to human health and the environment in the event of a release (NR664.005(1)).

Copies of the Contingency Plan are retained at the TSDF (NR664.0053). Copies of the Plan will also be distributed to the appropriate state and local agencies (Table 8-1).

The TSDF has also developed a Spill Prevention, Control and Countermeasures (SPCC) Plan as a Tier I Qualified Facility. The SPCC covers the diesel fuel associated with the back-up power generator at the facility. The SPCC also covers oily wastes potentially contaminated with mercury which may be part of the hazardous waste container storage. The Contingency Plan will reference the SPCC Plan, but the Contingency Plan will have precedence for responding to incidence and releases (NR664.0052(2)).

8.2 GENERAL FACILITY DESCRIPTION AND OPERATION

The TSDF is located at 1275 Mineral Springs Drive, Port Washington, Wisconsin. The locations of the facility's entrance and road inside the facility are presented on Drawing D2. Hazardous wastes are received into the facility only for temporary storage. No treatment or disposal of hazardous waste is conducted at the TSDF or adjoining areas. However, bulking, solidification, and consolidation operations occur at the TSDF.

The hazardous waste licensed section of the TSDF includes the storage rooms and the retort area. Adjacent areas include the loading dock area, material supplies storage area, laboratory/office area, emergency response room, fluorescent light recycling area, and household hazardous waste accumulation area (Refer to Drawing D3).

8.2.1 Storage Rooms (NR70.014(2)(i), NR664.0017(1))

The hazardous waste storage rooms are constructed of 4-hour fire prevention concrete walls, ceiling, and floor. The storage rooms have a total surface area of approximately 2,498 sf for hazardous waste storage, as described in Section 3.1. Only containers (no tanks) of hazardous waste are stored in the rooms. The maximum hazardous waste storage in the rooms is approximately 20,000 gal. The types of wastes to be handled and stored at the TSDF, their associated hazards, and analytical parameters selected to characterize the wastes are indicated in Table 8-2.

The design of the storage rooms allows for maintenance of aisle space for movement of personnel and response equipment during an emergency. A raised walkway in the front of each pod allows for adequate aisle space for unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to each pod. In addition, drums are stored in rows to allow for accessibility and movement in the case of an emergency. Also, the segregation of specific hazard classes of waste by sub rooms and bermed pods eliminates mixing of incompatible wastes if a spill occurs. To prevent accidental ignition or reaction of ignitable or reactive wastes, the following sources of ignition are excluded from the TSDF: open flames, smoking, cutting and welding, hot or sparking equipment, and radiant heat. Also, "No Smoking" and "Danger-Unauthorized Personnel Keep Out" signs are placed at the entrances of the TSDF and conspicuous places in the TSDF to warn personnel of the potential fire hazard (NR664.0017(1)).

Non-sparking lights for illumination, non-sparking ventilation ducts, and heat detectors (as part of the connection to the fire alarm annunciation panel) are the only mechanical sources that will require an electrical power source to the TSDF. There are no heating or air conditioning installations within the TSDF (i.e., operating areas), nor any electrically supplied spill control devices. Consequently, the impact of a power failure on the TSDF during routine operations or during an emergency situation is minimal. If power failure occurred, non-sparking portable lights are available in each room. The heat detectors continue to operate during a power failure through a battery power pack supplied in the fire alarm annunciation panel. Mitigation actions to an explosion, fire, or spill would not be seriously affected, whereby the emergency protocol described in this Contingency Plan could still be followed.

8.2.2 South Loading Dock Area

The design of the south loading dock area allows for collection of spilled material from an accident during loading and unloading due to the floor sloping. Spilled material could be removed through use of a portable pump and transferred to compatible, DOT specification containers. Also, if a spill would happen to occur inside on the loading dock area the spill could readily be cleaned up. Absorption into soils and groundwater are not anticipated due to the impervious surface of these areas.

8.2.3 Diesel Fuel AST

The emergency back-up power generator is located in the northeast corner of the TSDF building. The generator has a 793 gallon capacity diesel fuel aboveground storage tank (AST). Bothe the generator and the AST are situated on a sealed secondary containment pad with a capacity of 1,614 gallons.

8.3 EMERGENCY COORDINATORS AND RESPONSIBILITY/AUTHORITY (NR664.0052(4) and NR664.0055,)

8.3.1 Emergency Coordinators and Alternates

In the event of any accident or emergency involving a hazardous waste, the first person to discover the situation will immediately inform the TSDF Emergency Coordinator (EC) so that the Contingency Plan can be promptly initiated. The primary EC will be:

Dave Braun
Operations Manager
650 Mustang Lane
Fond du Lac, WI 54935
(920) 904-5803 (home)
(262) 243-8900 (work)

In the absence of the primary EC, the following individuals in sequence will assume the EC responsibilities:

First Alternate:
Dean Payette
Material Handler
2841 42nd Street
Two Rivers, WI 54241
(920) 553-9519 (home)
(262) 243-8900 (work)

Second Alternate:
Corey Long
Material Handler
1143 Michigan Avenue
Oostburg, WI 53070
(920) 564-2899 (home)
(920) 207-4434 (Mobile)
(262) 243-8900 (work)

Third Alternate:
Jim Ostwald
Material Handler
W2295 County Road O
Sheboygan Falls, WI 53085
(920) 980-5756 (home)
(262) 243-8900 (work)

Fourth Alternate:
Kevin Shaver
General Manager
338 Portland Ct.
Port Washington, WI 53074
(262) 284-6958 (home)
(262) 243-8900 (work)
(612) 747-5653 (Mobile)

After working hours, VESTS operations personnel are on call at all times by use of a pager system.

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8.3.2 Responsibility and Authority (NR664.0055 and NR664.0056(1) thru (8)(b))

The EC or Alternate has the authority to implement details of the Contingency Plan and will have the authority to commit all resources of the company to containment of an emergency. The EC and Alternates are thoroughly familiar with the Contingency Plan, site operations, waste type handled, facility records and layout. The EC and Alternates have the following responsibilities and authority:

- To commit resources to carry out the Contingency Plan.
- Activate alarms and notify the state and local agencies.
- Identify the character, source, amount and extent of a release, fire, or explosion.
- Assess possible hazards to human health and the environment.
- Notifies local authorities if evacuations are necessary.
- Notifies emergency response officials of releases outside the TSDF.
- Take reasonable measures to ensure a fire, explosion, or release does not spread to other hazardous waste.
- Monitors for leaks, pressure build-up, and gas generation if operations stop.
- Arranges for treatment, storage, or disposal of materials after an emergency.
- Ensures no incompatible waste is stored until cleanup is completed.
- Ensures all emergency equipment is clean and fit for use before operations resume.

Details on how the above responsibilities will be carried out are provided in the following sections.

8.4 IMPLEMENTATION OF THE CONTINGENCY PLAN (NR664.0056 and NR664.0052(2))

The Contingency Plan will be implemented immediately whenever a condition presents an imminent or potentially serious hazard to the public, company employees, the environment, or company property (NR664.0051(2)). The following guidelines are developed to assist the EC or Alternate in proper emergency decision making. The Contingency Plan will be implemented if the following conditions occur on-site or off-site:

1. Fire and/or Explosion
   a. A release of toxic fumes.
   b. A fire spreads to the vicinity of ignitable materials.
   c. A fire threatens to spread off VESTSs property.
   d. The use of water or fire suppressant chemicals that may generate contaminated runoff.
   e. An imminent danger of explosion exists.
   f. A potential exists that could ignite other wastes.
   g. An explosion has occurred.

2. Spills or Hazardous Material Releases
   a. A spill occurs that may release flammable or ignitable vapors.
   b. A release of toxic liquids or vapors.

3. Diesel Fuel Spill
   a. A spill during fueling operations of the emergency back-up power generator.
   b. Catastrophic failure or damage to the generator and AST.

4. Other Conditions

   a. A natural storm condition that presents a serious hazard to the facility and adjacent industrial areas, such as a tornado.
   b. A serious fire on adjacent property that threatens to spread into the TSDF and/or adjoining facility.
   c. Electrical power outage to the facility caused by loss of incoming power service.

5. Medical Emergency

   An employee or visitor to facility requires medical attention due to illness or injury.

8.5 EMERGENCY RESPONSE PROCEDURES (NR664.0052(1))

If an emergency occurs during normal working, hours, the following procedures will be implemented.

1. The employee discovering the emergency will notify his/her immediate supervisor and the EC or Alternate on site. The EC or Alternate will immediately notify all employees on site of the emergency by an intercom system. The EC or Alternate will immediately notify the City of Port Washington Police and Fire Departments as well as the Wisconsin Division of Emergency Government. In addition, off-site personnel will be notified of the emergency as appropriate. Table 8-1 lists the emergency contacts and is posted throughout all work areas of the facility to provide immediate reference during an emergency.

2. Until arrival of the EC or Alternate, the immediate supervisor will direct appropriate localized response to the emergency

3. The EC or Alternate may implement any or all of the Contingency Plan based upon his discretion. The EC or Alternate will proceed directly to the emergency site and assume control of the emergency response.

4. All employees will promptly assemble at the office/laboratory area door and standby to evacuate if ordered by the EC or Alternate.

5. The EC or Alternate will direct employees by intercom to evacuate if necessary. Employees will then evacuate the building in accordance with the Evacuation Plan (Drawing D3) and proceed to a safe distance of 200 ft. from the TSDF at the main drive way entrance. All employees and visitors will be directed to proceed to the assembly area 200 ft. from the TSDF at the main drive way entrance, where roll will be taken by the EC or Alternate.

6. If a chemical spill or fire emergency occurs after normal working, hours, the EC or Alternate will be notified immediately by pager system. The City of Port Washington Fire and Police Departments will also be notified. The EC or Alternate will instruct Emergency Response Team members to report to the facility as necessary, with two Alternates included in the response. The primary local emergency authorities will be the City of Port Washington Fire and Police Departments.

7. The EC will complete the following activities as necessary based on the type of emergency:

    - Inspect the main water supply valve and sprinkler control valve located adjacent to the laboratory entrance door to ensure the normal open valve are still open.
    - Close the natural gas supply valves located on the meter structures located outside in the walkway area between the main facility and the office building. The meter structure for the main facility has four supply valves. The meter structure for the office building has one supply valve.
    - Shut-off the main power switch, as the bottom switch, located in the three (3) phase electric control panel adjacent to the solid waste roll-off box.

8. The EC or other trained individual(s) will administer *"Good Samaritan"* acts of first aid, CPR or utilize AED as trained or certified. Based on the medical emergency, the City of Port Washington Fire Department may be contacted for assistance. If responding, the City of Port Washington Fire Department will determine which local hospital the injured or ill person will be transported. Generally, critical personnel will be transported to Aurora Grafton hospital and non-critical personnel will be transported to Ozaukee St Mary's.

9. If incoming electrical power is lost to the facility, the EC will assess the facility operation while the backup emergency power generator automatically provides electric service to the facility.

8.6 SITE SECURITY

The EC or Alternate will assure that only authorized agency personnel and emergency service vehicles are allowed onto the property during the emergency. Persons must show proper identification to enter the area.

8.7 IDENTIFICATION AND ASSESSMENT OF HAZARD

The EC or Alternate will immediately identify the character, source, amount, and extent of any released materials that occurred during an emergency situation. Method of identification will include all feasible means of evaluation including, but not limited to, the following:

- Review of TSDF chemical inventory, manifests, or any other relevant operating records.
- Visual observation.
- Portable instrument analysis.
- Chemical qualitative screening analysis.
- Chemical reference texts and applicable MSDSs.

The EC or Alternate will concurrently assess possible hazards to human health or the environment that may result from a release, fire, or explosion. The assessment will include, but not necessarily be limited to, the following factors and considerations:

- Toxic, irritating, or asphyxiating gases released.
- Run-off, groundwater infiltration, or soil contamination by hazardous wastes.
- Incompatibility or reactivity of hazardous wastes.
- Probability of explosion.
- Hazard to emergency response employees and protective equipment required.
- Hazard to adjacent industrial areas.

The EC or Alternate will immediately notify the Operations Manager. The EC or Alternate will also notify appropriate state and local emergency authorities by phone immediately if the preliminary assessment reveals a potential danger to human health or the environment.

Also, the National Response Center, the local Emergency Government Director and the State Emergency Response Board must be immediately notified if an accident involves a spill of a hazardous substance equal to or greater than the CERCLA reportable quantity (Table 8-1 list these agencies). Any discharge of a hazardous substance must be reported immediately to the Division of Emergency Government or the WDNR.

8.8 RESPONSE TEAM FORMATION AND ASSISTANCE

The majority of the spill response activities will be completed by the TSDF team members. The EC or Alternate or designee will direct an Emergency Response Team (two-man minimum) respective to the type of incident that has occurred. The TSDF Emergency Coordinators and alternatives (as designated in Table 8-1) will be trained in advance for emergency response actions (i.e., equipment selection, spill mitigation, and fire control using fire extinguishers). Table 8-1 lists the emergency coordinators work (W) and home (H) telephone numbers.

Additional resources may be utilized through arrangements with the Veolia ES Industrial Services, Inc. spill response team based in Germantown, Wisconsin and support operations in Sheboygan, Wisconsin. Transportation and disposal services may also be employed through the VESTS operations in Menomonee Falls, Wisconsin. Non-hazardous solid waste disposal and transportation service will be through Advance Disposal Services in Horicon, Wisconsin.

8.9 ARRANGEMENTS WITH LOCAL EMERGENCY AGENCIES, HOSPITALS AND CONTRACTORS (NR664.0052(3))

In accordance with NR664.0052(3) and NR664.0037, VESTS has worked with the primary local emergency agency, the City of Port Washington Fire Department (PWFD) to provide firefighting activities as necessary. The control of the firefighting activities will be the responsibility of the ranking Fire Officer. The PWFD will seek technical and support assistance from the Ozaukee County Hazardous Material Team for incidences or fires involving hazardous materials.

The PWFD also provides rescue services for injured or ill personnel requiring immediate medical attention. The PWFD ambulance team will transport injured or ill personnel to one of two local medical facilities, St. Mary's Ozaukee in Mequon, Wisconsin or Aurora in Grafton, Wisconsin.

The City of Port Washington Police Department (PWPD) will support the PDFW in any necessary traffic control, public control, or any necessary evacuation activities of the surrounding area.

The TSDF has arrangements with various contractors to provide non-emergency services, including:

- Ahern Fire Protection – Maintenance and servicing the Halon Fire Suppression System and the Water Sprinkler System.
- HSM Security – Monitoring the fire alarm panel and notifying the EC and PWDF dispatch.
- Rinderle Door Company – Inspection and maintenance of roll-up fire doors for RCRA storage rooms.
- Miller Electric – General facility electrical services.
- Wolter Power Systems – Maintenance and servicing the emergency back-up power generator.
- Thiensville Oil – Supplier of diesel fuel for the emergency back-up power generator.
- Extinguisher's at Random Lake – Maintenance and inspection of fire extinguishers.

8.10 CONTROL PROCEDURES AND EQUIPMENT

Large chemical spills or fires are incidents that will require the activation of the Contingency Plan at Veolia ES. Natural disasters such as tornadoes, lightning, etc., may also be a cause for initiations of the Contingency Plan. Conditions requiring response from natural disasters, however, would be limited to fire, or chemical spills therefore the same actions would be taken, regardless of the cause. The following section establishes some controlling procedures and guidelines to govern VESTS's response to a fire, explosion, spill, or unplanned release of hazardous waste on-site or off-site.

If an explosion or fire has occurred, or is imminent, the following actions will be taken in addition to the general emergency response procedures:

1. Appropriate fire extinguishing equipment will be activated: halon system, sprinkler system, or fire extinguishers.

2. Doors will be closed to affected areas.

3. The EC or an Alternate will be contacted.

4. The City of Port Washington Fire Department will be notified immediately.

5. Operational and non-emergency activities will stop.

6. Hazardous waste containers will be removed and isolated from the path of a fire if safety allows.

7. If bulking or transferring operations are occurring during an incident, these operations shall cease. If safety allows, transfer hoses will be disconnected, hatches on tankers closed, roll-off boxes covered, and the vessel will be inspected for leaks.

8. Transport trailers, tanker trucks, and roll-off boxes located in the loading dock areas will be removed from the path of the fire, if safety allows. Following the removal of the vehicles, the containers and vessels will be inspected for leaks.

9. Non-essential personnel will be evacuated to proper setback areas away from the incident.

10. The EC or Alternate will monitor for toxic gas emissions in affected areas, if safety allows.

11. Non-emergency equipment will be removed from access routes.

12. Injured personnel will be removed and immediately treated by certified Red Cross First Aid personnel until medical professionals arrive.

13. If there are injured personnel or there is a possibility of injury in the containment effort, the local hospitals (St. Mary's Ozaukee and Aurora Grafton) will be immediately contacted for emergency medical response.

The Emergency Response Team will follow the directions of the EC or Alternate until arrival of the City of Port Washington Fire Department. At this time, control of the firefighting effort will be referred to the Fire Officer in charge. The EC or Alternate will then make all relevant information available to the Fire Officer and other appropriate emergency agencies to ensure safe and proper mitigation actions. Also, the EC or Alternate will continue to stand by for technical advice and assistance to the emergency response agencies.

In order to support the control procedures, VESTS maintains various response equipment and alarms systems. Table 8-3 designates the types of safety and emergency equipment available at VESTS for emergency response, as well as alarm systems.

8.11 SPILLS OR MATERIAL RELEASE

8.11.1 General Procedures

If a spill occurs in the TSDF, the following general procedures will be used to safely control the spill and to direct the cleanup. Spills will be immediately reported to the EC or Alternate. The EC or Alternate will determine the following preliminary information:

1. The chemical properties of the material spilled or released.

2. Location of the spill.

3. Estimate of the quantity released.

4. Flow direction of spilled liquid materials.

5. Injuries involved.

6. Possibility of fire or explosion.

7. Specific procedures suited to containment and cleanup of the materials and chemicals involved.

Upon determining the severity of the incident, an Emergency Response Team will be assembled to take immediate spill control actions. Spill control equipment will be quickly assembled and all other non-emergency equipment or vehicles moved away from the spill area. If a serious or dangerous fire risk exists, the City of Port Washington Fire Department will be notified. The cleanup operation will commence only after receiving approval from the Fire Officer to proceed. Unnecessary personnel and bystanders will be moved to proper setback areas. Injured personnel will be removed by emergency agencies as quickly as possible.

If a spill of ignitable liquid occurs, all possible sources of ignition such as smoking material, sparking equipment, motor vehicles, etc. will be extinguished or shutoff immediately. If the EC or Alternate determines that vapor release from a spilled material poses a dangerous fire or explosion potential, the EC or Alternate will immediately contact the emergency agencies listed in Table 8-1, then move personnel to a safe setback area. Under the direction of the City of Port Washington Fire Department, VESTS's Emergency Response Team will reenter the affected area when deemed safe and will complete cleanup or mitigation actions.

The EC or Alternate will notify all appropriate state and local emergency authorities by phone immediately if the preliminary assessment reveals a potential danger to human health or the environment. Also, the National Response Center, the local community emergency coordinator and the State Emergency Response Board must be immediately notified if an accident involves a spill of a hazardous substance equal to or greater that the CERCLA reportable quantity (Table 8-1 list these agencies). Any discharge of a hazardous substance must be reported immediately to the Division of Emergency Government or the WDNR.

The person notifying appropriate authorities shall provide the following information:

1. Name and telephone number of person reporting.

2. Name and address of the facility.

3. Name and type of incident.

4. Name and quantity of materials involved, to the extent known.

5. The extent of injuries, if any.

6. The possible hazards to human health or the environment outside the facility.

Additional spill notifications may be required for a diesel fuel spill associated with the emergency back-up power generator and the spill enters a waterway. Refer to the SPCC Plan for details.

8.11.2 Post Emergency Actions

1. Following an emergency, the EC or Alternate will ensure that any waste recovered is properly containerized and prepared for disposal. Recovered hazardous waste will be managed in accordance with applicable government regulations.

2. The EC or Alternate will ensure that no waste potentially incompatible with the released material is stored in affected areas of the facility until cleanup procedures are completed.

3. Immediately following the cleanup, emergency equipment listed in the Contingency Plan will be decontaminated or replaced.

4. Before resumption of operations in the affected areas of the facility, the EC or Alternate will ensure that all of the foregoing post emergency actions have been properly completed. The EC or Alternate will then notify the Regional Administrator of the EPA Region V, and the WDNR.

5. The EC or Alternate will ensure that the time, date, and details of any incident requiring implementation of the Contingency Plan are noted in the operating records. Within 15 days of any such incident, the EC or Alternate will submit to the WDNR a written report, which includes:

    a. Name, address, and telephone number of the affected facility.
    b. Name, address, and telephone number of the owner or operator.
    c. Date, time, and type of incident.
    d. Name and quantity of material(s) involved.
    e. Extent of injuries, if any.
    f. An assessment of actual or potential hazards to human health or the environment where this is applicable.
    g. Estimated quantity and disposal of recovered material that resulted from the incident.

h. A narrative describing the known or suspected causes of the incident and a statement describing the measures taken to investigate the incident to determine the cause. Also, any necessary measures that will be taken to prevent such incidents in the future.
i. Any amendments to the Contingency Plan.

6. The Operations Manager and EC will evaluate the efficiency and effectiveness with which the Contingency Plan was executed and meet with VESTS personnel as well as interested authorities to discuss possible changes. Any subsequent modification of the Contingency Plan will be submitted to the appropriate emergency and regulatory agencies.

7. Refer to the SPCC Plan for additional reporting requirements associated with diesel fuel spills associated with the emergency back-up power generator or other oils located at the facility.

8.12 EVACUATION PLAN (NR664.0052(6))

To ensure the protection of human life and prevention of injury, VESTS has developed an emergency evacuation plan for the TSDF and adjoining areas (Drawing D3). The plan is designed to minimize or eliminate exposure to hazards and provides for orderly removal of personnel or residents from a dangerous area.

If a fire is occurring in the TSDF or adjoining building areas, and it is of such intensity to activate the heat detector systems, the fire alarm bell will sound. However, if the heat detectors do not immediately activate the alarm bell, but it is decided by the EC or Alternate that facility evacuation will be necessary, a fire alarm pull station will be activated to sound the emergency bell.

In the event a potentially dangerous chemical spill occurs in the TSDF the EC or Alternate will use the intercom system to inform personnel of immediate evacuation. Drawing D3 identifies the evacuation routes from the TSDF, loading dock, lamp processing, retort operations, laboratory, and office areas.

Employees are trained and knowledgeable in evacuation procedures. In the event of an emergency, if an evacuation is necessary, the following procedures will be followed:

8.12.1 Employee Evacuation Rules

1. Machinery and laboratory equipment will be shut off or disconnected.

2. Personnel will evacuate the buildings and affected off-site areas using the nearest evacuation route (Drawing D3).

3. Personnel will assemble at the electronic gate entrance.

4. Employees will not wait for friends. The EC or Alternate will ensure that the personnel have been evacuated before departing.

5. Employees will move quickly and calmly without panic.

6. Employees will not smoke or strike any open flames.

7. Once in the assembly area, employees will remain calm and quiet while roll call is taken by each supervisor. Employees will report to their supervisors until everyone is accounted for.

8.12.2 Drills and Training

Evacuation drills are held annually to ensure familiarity with escape procedures. Also, each new employee will receive detailed instruction on this Contingency Plan as part of an initial training program. In addition, periodic staged mock spill drills may be conducted with the City of Port Washington Fire Department and the Ozaukee County Local Emergency Planning Commission (LEPC).

8.13 INCIDENT RESPONSE FOR HANDLING CONTAMINATED SOIL, SURFACE WATER, OR GROUNDWATER

Hazardous waste emergency response procedures are dependent upon the specific chemical(s) spilled or otherwise released and whether there is the potential of a fire, explosion, human health danger, or environmental damage. The Emergency Response Guidebook (DOT P 5800.3) specifies emergency response and notification procedures to be taken with any of the listed materials and substances in the U.S. DOT Hazardous Materials Handling Tables. Annual training in the use of this guidebook and associated emergency procedures will be given to VESTS personnel involved in hazardous waste management activities at the TSDF. Emergency response team members and transportation personnel will have access to the Emergency Response Guidebook for reference in the event of an explosion, fire, or spill.

Effective and safe response to a chemical spill or release is critical if environmental impact to soils, groundwater, and surface water, as well as personal injury, is to be minimized. Containment of the spill and prevention of further escape of the released material from its source are initial emergency measures, with mitigation and cleanup of any environmental impacts being remedial measures. Containment, mitigation, and safety measures must be based on proper assessment of chemical properties and hazards. The physical state of released materials primarily affects the manner and rate of escape to the environment (e.g., groundwater, surface water).

8.13.1 Spill Response and Control Measures for Hazardous Solids

Spilled solids will not infiltrate soils, undergo flow, or pose serious air quality impacts unless consisting of fine particulates capable of becoming airborne. Furthermore, these spills ordinarily present minimal problems from the standpoint of containment and cleanup. Containment may be expedited by covering the spill with a tarpaulin or plastic covering. Wetting may help to minimize generation of dust and airborne particulates. However, consideration will be given as to whether the effect of solubilizing the spilled solid may lead to greater hazards due to soil infiltration and subsequent liquid transport to groundwater or surface water sources.

8.13.2 Spill Response and Control Measures for Hazardous Gases

Released gases or vapors can rarely be contained and recovered. As a result, the most practical means of dealing with released vapors is by evacuating the affected area and allowing, the chemical to undergo dispersion. Toxicity of the vapors, wind direction, proximity of residential areas, and natural resources potentially affected must be considered in establishing safety measures, the necessity of evacuation, setback distances, etc. Since inhalation of airborne toxic or corrosive vapors presents a substantial hazard with many spilled chemicals, respiratory protection is of primary importance.

8.13.3 Spill Response and Control Measures for Hazardous Liquids

Released liquids may generate airborne vapors that often pose hazards exceeding those of the spilled liquid. The absence of hazardous vapors cannot be assumed if none are visible or an odor is not detectable. The density, viscosity, and miscibility of the spilled liquid with water will determine the extent the liquid can infiltrate and contaminate soils, as well as be transported by groundwater or surface water flow. Although evaporation of spilled liquids may aid in diminishing the volume of liquid, it may generate vapors that are flammable or combustible and present danger of ignition and/or explosion. In these cases, averting fire or explosion may be the primary concern in responding to a spill with minimization of other potential impacts being secondary.

Initial response measures for liquid spills may include excavation of contaminated soil and safe containment in 55-gal drums. However, the necessity of these measures and making an environmental impact assessment are more likely remedial actions than initial response measures. Accordingly, containment, recovery and/or mitigation of the spilled material are the usual initial response actions.

The most frequent and practical means of containing a liquid spill is by constructing a dike of absorbent material to prevent further movement of the liquid to surface waters. It may be necessary to construct dug trenches to stop an extensive spill. If the liquid can be recovered by pumping, an impermeable earthen material, such as clay, might be an effective dike construction material. However, when it is advantageous to absorb the spill, vermiculite will be used. Emergency dike construction material must be inert or, at least non-reactive on contact with the spilled material. Upon spill cleanup, the diking will be

removed and properly contained in DOT shippable 55-gal drums. All spill residues will be assumed hazardous for the particular liquid released and accordingly disposed of as a hazardous waste.

Storm water drains will be protected with a plastic sheet and building a dike of absorbent material around them. Liquids heavier than water can be contained by providing a barrier or other collection point.

Subsurface containment and collection systems may be constructed in soil or sediment that has been contaminated by infiltration liquid. Trenches, in-ground dikes, wells, and drainage fields serve these purposes. The recovered liquid can then be removed and properly disposed or treated. Such containment and collection systems are not typically considered control measures, but rather recovery or remediation measures.

Various methods may be employed to mitigate or eliminate the hazard presented by the spilled material. For example, adding lime to the liquid may effectively neutralize an acid spill. Calcium carbonate lime (powdered limestone) may be used for this purpose rather than slaked lime (calcium hydroxide) because the latter is highly caustic and if over-applied will result in alkaline contamination (even if the acid is neutralized).

Spills of cyanide solution can be mitigated by the addition of nonhazardous, soluble iron salts (e.g. ferrous sulfate) to the spilled liquid or contaminated soil. This converts the free cyanide to a ferricyanide complex (or ferricyanide if ferric iron salt is added) which presents a considerably lower order of hypochlorite than free cyanide. Solutions of oxidizing agents, such as hydrogen peroxide or sodium hypochlorite, may also be effective in destroying free cyanide, although these are hazardous materials themselves.

The addition of water to a spill is usually not advisable because the chemical may be discharged into sewers and surface waters. A mixed aqueous solution may increase the surface mobility of the spill and its rate of soil infiltration. In addition, the substance may be incompatible with water. Vapor suppression can be accomplished in varying degrees by use of firefighting foams; the foam should be insoluble in the spill material. This results in reduction of both fire and explosion hazards.

The back-up power generator has a 793-gallon capacity aboveground storage tank (AST) containing diesel fuel and is located beneath the generator unit. The generator and the AST situated on top of a manufactured built secondary contaminant pad will a spill capacity of 1614 gallons. Oil dry and absorbent pads are available to contain any spills during filling the AST. A“Tier I Qualified Facility SPCC Plan” has been developed for the AST.

8.13.4 Spill Response and Control Measures for Elemental Mercury

The following procedure should be employed for spills of metallic mercury.

1. Vacuum up, use only an approved mercury vacuum, or aspirate up gross amounts of free visible metallic mercury.
2. Place free product mercury from aspirator, and vacuum collection canister into mercury flask (proper DOT shipping container).
3. Use merc-sorb amalgam powder if appropriate; recover amalgam and place into a sealed container.
4. Recover any visibly contaminated articles that cannot be cleaned and will require removal, such as cloths, carpet, cushions; and place into a sealed container.
5. Re-vacuum all hard surfaces after removal of items listed in number 4 above.
6. Using Hg X wash solution or a high phosphate base (pH above 7), wash the areas and clean water rinse. Recover this final wash with a clean dry mop, rag.
7. Let the area dry, and inspect the area for any residual contamination missed. If any is found, repeat steps 1-6 above.

PPE FOR ALL MERCURY SPILL CLEANUP MUST BE AT LEAST LEVEL C

8.14 RESPONSE PROCEDURES FOR CONTAINER SPILLS OR LEAKAGE

Containers and drums that are leaking, as well as those which have the potential to leak (e.g., holes, missing bungs, and stripped threads at bung closures), will be transferred, properly sealed, or overpacked before being transported or stored in the TSDF. The hazards of the chemical involved will be initially determined to ensure that appropriate PPE is used for corrective actions. The contents of a leaking or damaged container that cannot be made shippable, may be transferred to a secure container by use of a mechanical pump. However, if it is not feasible to safely transfer the contents to another secure container or small leakage cannot be quickly alleviated, the small leaking container must be overpacked.

Emergency overpacks usually are 85-gal open-head drums into which an entire 55-gal drum can be fit and enclosed. However, smaller leaking containers, such as 5-gal cans, may be overpacked in 55-gal open-head drums. Caution will be used in overpacking so that a leaking drum is not excessively stressed, possibly inducing a spill. Lifting a leaking drum into an overpack necessitates the use of a forklift or other hydraulic equipment. Handling in this manner, though, may cause further rupture of the drum or splash the contents. The potential for ignition or explosion of flammables is additionally increased. Safe methods will be devised depending on the location and type of leak.

Drums having leaks will be placed on their side with the leak upward so that the flow is immediately stopped. The covered drums will then be placed in an overpack. Overpack drums will be labeled in conformance to DOT and EPA regulations, following all

applicable requirements for shipping. Otherwise the contents will be transferred into new containers.

8.15 AMENDMENTS TO THE CONTINGENCY PLAN (NR664.0054)

In addition to a mandatory review following the implementation of the Contingency Plan, the plan will be reviewed and amended whenever the facility changes its design, construction, operation, maintenance, or other circumstances in a way that may change the potential for an explosion, or release of hazardous waste and associated toxic constituents, or changes in the response necessary in any emergency.

The Contingency Plan will also be amended if the plan fails in an emergency, the list of EC or Alternates changes, or the list of emergency equipment changes.

8.16 DESCRIPTION OF CONTINGENCY PLAN LOCATIONS (NR664.0053)

A copy of the Contingency Plan will be kept at the TSDF on the bookshelf adjacent to the Operations Manager's office, laboratory room, and in the loading dock area. A copy of the Contingency Plan will be located on the facility fence located adjacent to the call box/key pad for the entrance gate. Also, the Contingency Plan will be on file with the City of Port Washington Fire Department, City of Port Washington Police Department, Ozaukee County Emergency Government, Ozaukee County LEPC, Ozaukee County Sheriff's Office, WDNR, and Wisconsin Division of Emergency Government.

8.17 RESPONSE PROCEDURES FOR SPILLS INVOLVING THE STORM WATER DRAINAGE NETWORK

In the event of a spill, lateral movement will be contained by constructing a temporary berm using absorbent. The collection basin and storm water drains will be protected by covering them with a plastic sheet and building a dike of absorbent material around them. If a spill were to enter the storm water drainage network, the valve will be checked to ensure that it is closed (Refer to Drawing D2). The network will be cleaned using a vacuum system and flushed using a decontamination solution. The spilled material and decontamination solution will then be managed as a hazardous waste. Veolia ES will provide the vacuum system (vac-truck). The decontamination solution will be tested to determine that the rinse is not a regulated waste.

8.18 SPILL REPORTING (NR664.0056(9) and (10))

VESTS will immediately report to the WDNR spills and discharges of hazardous waste outside of the designated hazardous waste storage secondary containment structures and all spills of 10 gal or greater of hazardous waste inside of the designated hazardous waste secondary containment structures at the TSDF. The notification to the WDNR and other necessary state or local authorities will occur before operations resume (NR664.0056(9).

Within 15 day after the incident, VESTS will submit a written report on the incident to the WDNR (NR664.0056(10). The report will include the following:

- Name, address and telephone number of the operator.
- Name, address and telephone number of the facility.
- Date, time and type of incident.
- Name and quantity of materials involved.
- The extent of injuries, if any.
- An assessment of actual or potential hazards to human health or the environment.
- Estimated quantity and disposition of recovered material that resulted from the incident.

Release of hazardous waste or other hazardous substances in volumes less than 10 gal within the secondary containment structure of a designated hazardous waste storage area will be recorded as part of the operating record and reported to the WDNR on a quarterly basis. The report will include the type and quantity of waste spilled, the locations of the release, the source of the release, what actions were taken to cleanup the release, and what actions will be required to prevent the release from reoccurring. If no spills or discharges occur in a quarter, then VESTS will send a letter stating there were none.

Refer to VESTS's "Tier I Qualified Facility SPCC Plan" for additional spill reporting requirements for oil spills from the back-up power generator and associated AST containing diesel fuel.

TABLE 8-1

Emergency Contacts
Feasibility and Plan of Operation Report
Veolia ES Technical Solutions, L.L.C.
1275 Mineral Springs Drive
Port Washington, Wisconsin

Emergency	Organization/Agency	Emergency No.
Personal Injury	Port Washington Fire Dept.	911
	Aurora Medical Center 975 Port Washington Road Grafton, WI 53024	(262) 329-1000
	St. Mary's Hospital Ozaukee 13111 N. Port Washington Rd. Mequon, WI 53097	(262) 243-7300
	On-Call Emergency Coordinators	

EMERGENCY PAGER 920-576-1673

TSDF Emergency Coordinator and Alternates	Dave Braun	(920) 904-5803 H (262) 243-8900 W
	Kevin Shaver	(262) 284-6958 H (262) 243-8900 W (612) 747-5653 (Mobile)
	Dean Payette	(920) 553-9519 H (262) 243-8900 W
	Corey Long	(920) 207-4434 H (262) 243-8900 W
	Jim Ostwald	(920) 980-5756 H (262) 243-8900 W

TABLE 8-1 (cont)

Emergency	Organization/Agency	Emergency No.
Emergency Response Team	Veolia ES Industrial Services. L.L.C.	(800) 688-4005
Fire/Explosion	Port Washington Fire Dept.	911
	Port Washington Police Dept. (Primary Emergency Response Authorities)	911
	Ozaukee County Sheriff's Dispatch Center	911
Hazardous Spill Release Contractors	Veolia ES Industrial Services. L.L.C. N104 W13275 Donges Bay Road P.O. Box 367 Germantown, WI 53022	(800) 688-4005
Emergency Government and Response Agencies	CHEMTREK	(800) 424-9300
	National Response Center (NRC)	(800) 424-8802
	Ozaukee County Emergency Government	(262) 284-8397
	Wisconsin Dept of Natural Resources/Wisconsin Dept. of Administration – Division of Emergency Government	(800) 943-0003 (608) 267-7454
Non-Emergency	Ahern Fire Protection (Halon Fire Suppression System and (Sprinkler System)	(262) 252-5921
	Honeywell (HSM Security (Fire Alarm Panel)	877-476-4968
	Rinderle Door Company (Roll-up Fire Doors)	(262) 662-5200
	Miller Electric	(262) 284-2646
	J & H Heating	(262) 284-5589
	Wisconsin Electric Power Company (Account 3614-316-678)	800-662-4797
	Wisconsin Gas Company (Account 5618-446-080)	800-261-5325
	AXA Matrix Risk Consultant	937-886-0000

TABLE 8-2

Wastes and Associated Hazards
Feasibility and Plan of Operation Report
Veolia ES Technical Solutions, L.L.C.
1275 Mineral Springs Drive
Port Washington, Wisconsin

Waste	Hazard	Basis for Hazard Designation
Spent Solvents and Solvent Mixtures. Including: Acetone Benzene (D018) 1 – Butanol Chlorobenzene Cumene Cyclohexane Ethane Ethyl Alcohol Ethyl Acetate Ethyl Cellosolve Acetate Ethyl Ether Heptane Hexane Isobutyl Alcohol Isopropyl Acetate Isopropyl Alcohol Methyl Alcohol Methyl Ethyl Ketone (D035) Octane Pentane Toluene Xylene (D001, F003, F005) 2,4-Dinitrotoluene (D030) Nitrobenzene (D036) Pyridine (D038)	Ignitable Toxic	These wastes may have a flash point less than 140°F making item ignitable (D001). These wastes may be or contain acetone, ethyl acetate, N-butyl alcohol, cyclohexanone, and/or xylene which are listed ignitable wastes (F003). These wastes also may be or contain methyl ethyl ketone, methyl isobutyl ketone, and/or toluene which are listed ignitable and toxic wastes (F005).
Spent Oils, Including Fatty and Petroleum Byproducts (D001)	Ignitable, TCLP Toxic	These wastes may have a flash point less than 140°F making item ignitable (D001). These wastes may also contain toxic levels of chromium (D007) and/or lead (D008). A prequalification sample of each generator's waste oil will be tested for lead and chromium TCLP Toxicity as well as retested prior to each off-site shipment of a nonhazardous oil reclaimer.

TABLE 8-2

Waste	Hazard	Basis for Hazard Designation
Spent Acids and Acid Mixtures. Including: Formic Acid Selenic Acid Hydrochloric Acid Nitric Acid Sulfuric Acid Phosphoric Acid Hydrofluoric Acid Acetic Acid (D002)	Corrosive (Acid)	These wastes have a pH value less than 2 making them corrosive (D002). Selenic acid may also be TCLP toxic for selenium.
Spent Alkaline Solution and Solids Mixtures. Including: Calcium Oxide Calcium Hydroxide Potassium Hydroxide Sodium Hydroxide Lithium Hydroxide (D002 and D002/D003)	Corrosive (Base), Reactive	These wastes may have a pH value greater than 12.5 making them corrosive (D002). Also, such wastes may contain sulfides or cyanides; or they may react strongly with water (D003).
Cyanide and Sulfide bearing wastes. Including: Toluene Diisocyanate Chlorophenyl Isocyanate Sodium Cyanide Silver Cyanide Methyl Cyanide Ammonium Sulfide Dimethyl Sulfide Potassium Sulfide Sodium Sulfide (D001 and D003)	Reactive, Toxic, Flammable	These wastes may generate toxic gases on contact with water (D003), and/or may have a flash point less than 140°F (D001), and/or may be capable of causing a fire through friction, absorption of moisture of spontaneous chemical change.
TCLP Toxic Waste Mixtures. Including: Arsenic Barium Cadmium Chromium Lead Mercury Selenium Silver (D004 through D011)	TCLP Toxic (Metals)	These wastes exhibit the characteristics of TCLP toxicity as defined in 40 CFR 261.24(a).

TABLE 8-2

Waste	Hazard	Basis for Hazard Designation
Waste Pesticides or Mixtures. Including: Dieldrin Endrin Lindane Heptachlor (D031) Methyl Parathion Parathion Toxaphene 2,4-D 2,4,5-TP Silvex Diazinon (D012 through D0017) Chlordane (D020) Pentachlorophenol (D037) Trichlorophenols (D041 and D042)	Toxic and TCLP Toxic Pesticides	The TCLP toxic pesticides are specifically identified in 40 CFR 261.24. The many toxic pesticides are identified in 40 CFR 261.33. They may be mixtures around in spill residue or cleanup debris.
Halogenated and Miscellaneous Mixtures. Including: Chloroform (D022) Hexachloroethane (D034) o-Dichlorobenzene 1,1-Dichloroethylene (D029) m-Dichlorobenzene p-Dichlorobenzene (D027) Dichloromethane (D028) Hexachlorobenzene (D032) Hexachlorobutadiene (D033) Perchloroethylene (D039) Trichloroethane (D040) Trichloroethylene Trichloro-fluoromethane (F001 through F002) Carbon tetrachloride (D019) Cresoles (D023, D024, D025, D026) Vinyl chloride (D043)	Toxic (poisonous fumes when heated to decomposition)	These wastes may be or contain tetrachloroethylene, o-dichlorobenzene, dichloromethane, trichloroethylene, 1,1, trichloroethane, 1,1,2-trifluorethane and/or trichlorofluoromethane which are listed as toxic wastes (F002).
Flammable Solids. Including: Sodium Metal Lithium Metal Magnesium Metal (D001 and D003)	Flammable, Reactive	These wastes are capable of causing a fire through friction, or by absorption of moisture, or by spontaneous chemical change.

TABLE 8-2

Waste	Hazard	Basis for Hazard Designation
Receive Materials. Including: Acetyl Chloride Anisoyl Chloride Aluminum Chloride Methyl Dichlorosilane Stannic Chloride Trichlorosilane (D001, D002, and D003)	Reactive, Flammable, Corrosive, Toxic	These materials may react violently with water or from explosive materials with water. These materials may also generate toxic, corrosive or flammable vapors and generate heat when in contact with water.
Toxic materials. Including: Vanadium Oxide Thallium Sulfate Methyl Hydrazine Chloroacetaldehyde Beryllium Dust	Toxic	These wastes pose immediate and extreme danger to human health.
Oxidizers. Including: Sodium Nitrate Potassium Nitrate Sodium Perchlorate Potassium Permanganate (D001)	Oxidizer, Flammable	These wastes can release oxygen and product heat to stimulate fire upon contact with combustible and flammable materials.
Poison Gases. Including: Bromacetone Phosphine Phosgene	Acute Poisons	Poisonous gas, or vapor of liquid that is an immediate and extreme danger to human health.
Poison Liquids/Solids. Including: Pesticides Cyanides Organic Poisons Inorganic Poisons Metal Poisons	Acute/Chronic Poisons	Poisonous solids, liquids, or vapor of liquids that are an immediate danger and/or long term hazard to human health.
Toxic Solids/Liquids Including: Organic Toxics Pesticides Hydrogen Sulfide Hydrogen Flouride Mercury Mercury Compounds Lead Compounds Selenium Compounds	Chronic Toxics Corrosive (Acid) Corrosive (Base) Oxidizer	Toxic solids, liquids, or vapor of liquids that are long term health hazards. Metal compounds in solutions may have additional hazards associated with corrosivity.

TABLE 8-2

Waste	Hazard	Basis for Hazard Designation
Mercury Contaminated Solids/Liquids Including: Spill Cleanup Debris Contaminated Soils Activated Carbon Contaminated Waters PPE Phosphor Powder	Chronic Toxics	Toxic solids, liquids, or vapor of liquids that are long term health hazards.
Mercury Containing Devices Including: Thermostats Thermometers Thermo Couplers Switches Relays Fluorescent Lamps Neon Lamps HID Lamps	Chronic Toxics	Toxic effects from mercury vapor contained in devices can result in long term health hazards.

TABLE 8-3

Equipment and Systems for Emergency Response
Feasibility and plan of Operation Report
Veolia ES Technical Solutions, L.L.C.
1275 Mineral Springs Drive
Port Washington, Wisconsin

Protective Gear and Decontamination Equipment

Item	Capabilities
Knee-High Vinyl Boots with Steel Toe and Shank	Protect foot and leg from physical injury and skin absorption of corrosive or toxic materials.
Vinyl gloves and Latex Gloves	Hand protection against corrosive and toxic materials.
Goggles	Eye protection against chemical splash, fumes, and burns.
Safety Glasses	Eye protection against chemical splash, fumes, and burns.
Face Shields	Face protection against chemical splash, fumes, and burns.
Hard Hats	Head protection against falling objects and use of heavy equipment.
Full Face Cartridge Respirators	Protect against corrosive fumes, mercury vapors, organic vapors, hazardous dusts and mists, chemical splash and burns (use only as specified by Operations Manager and reference to Field Safety Manual tables.)
Chemical Resistant Tyvek Suits	Body protection against chemical splash, vapor, and burns.
Self Contained Breath Apparatus (SCBA)	The MSA self-contained breathing apparatus is designed to provide maximum mobility and approximately 30 minutes of breathable air to personnel. The apparatus provides personnel with reparatory protection while performing work in objectionable and unbreathable toxic atmospheres regardless of concentration or oxygen deficiency. The breathing regulator is equipped with sufficient time for egress from the hazardous area. The apparatus is approved by the National Institute of Occupational Safety and Health (NIOSH) and Mining Enforcement and Safety Administration (MESA).

TABLE 8-3

Protective Gear and Decontamination Equipment (Continued)

Item	Capabilities
Hood Style Supplied Air Respirators	The TSDF operates a supplied air respirator system designed to provide a continuous supply of breathable air to personnel. The device permits the wearer to work and move about freely, within the limits of the approved hose length. The maximum hose length is 300 feet. The maximum inlet pressure is 125 psig. Normal operating pressures should be between 60-90 psi. The use of hood style supplied air respirators is not authorized of use in IDLH environments.
Scoop Shovels	Used in digging trenches for preventive measures against chemical spills or clean-up of debris in TSDF and loading dock area.
Bags Vermiculite Absorbent	Dry absorbent used for constructing temporary spill control dikes or absorbing spilled hazardous liquids.
Rolls Plastic Tape	Sealing of joints on protective gear, e.g. boots, gloves.
5-Gallon Plastic Buckets	Drop containers for gloves, boots, clothing, and tools requiring disposal of decontamination; waste decontamination solution container.
Plastic Drop Cloths (4 ft x 6 ft)	Drop sheet for field operations tools or protective equipment requiring decontamination.

* Location of all protective gear and decontamination equipment is in emergency response material room, as shown in Drawing D3. Vermiculite, 55-gallon and 85-gallon open-head steel drums are stored in designated storage trailers.

** All SCBA, respirators, gloves, boots, suits, etc. will be thoroughly decontaminated after a response incident is completed. Soap and water solution will be used to decontaminate the equipment. If any equipment or protective clothing is excessively contaminated, damaged, or permeated from toxic or corrosive wastes, the items will be discarded and properly disposed. Vinyl boots and gloves, and Tyvek protective suits were selected as chemical-resistant gear since these materials offer the best protection when handling a diversity of corrosive or toxic wastes. Use of respirators and SCBA, or other protective equipment for response to any emergency incident, will be determined by the Emergency Coordinator as well as proper selection understood by Emergency Response Team members (as part of Field Safety Training program).

TABLE 8-3

Protective Gear and Decontamination Equipment (Continued)

Item	Capabilities
Decontamination Soap Solutions (1 Gallon)	For cleaning and decontaminating protective equipment and tools.
Long-Handle, Soft-Bristle Scrub Brushes	For scrubbing and decontaminating protective equipment and tools.
55-Gallon Open-Head Steel Drums	Retain waste decontaminating protective equipment and tools.
85-Gallong Open-Head Steel Drums	Overpacking of leaking 55-gallon drums for spill mitigation.

TABLE 8-3

Fire Extinguishing/Systems

Item	Capabilities	Location
20-Pound ABC Fire Extinguishers	Multipurpose dry chemical extinguishers ammonium phosphate base for class A-B-C fires. Range: 20 feet for Class A fires 120 feet for Class B-C fires	Conspicuous locations throughout the facility.
10-Pound ABC Fire Extinguishers	Multipurpose dry chemical extinguishers ammonium phosphate base for A-B-C fires. Range: 4 feet for Class A fires. 60 feet for Class B-C fires	Conspicuous locations throughout the facility.
Halon 1301 Fire Extinguishing System	Multipurpose, low-pressure liquefied gas extinguishant (Bromochlorodifluoromethane) than can spread over subrooms in 10 to 25 seconds.	Network system located throughout Storage Rooms 1, 2, and 3.
30-Pound D Fire Extinguishers	Specific dry powder extinguisher for metal fires, e.g. sodium or magnesium. Covers about 5 to 25 feet in 10 to 25 seconds. Class D Fires.	Near entrance walkway to Storage Room 1 subroom, Retort Room, and adjacent to the Northeastern door exit..
Water Sprinkler System	System will be comprised of network lines and discharge outlets each with a temperature rating of 165°F. Water supply hydrostatic pressure of 100 psi. A water flow release will activate the fire alarm system.	Sprinkler system distributed throughout facility and offices. Controls of system in office/laboratory area.

TABLE 8-3

Description of Internal and External Alarm Systems

Item	Capabilities	Location
Automatic Fire Protection Units	Activation of compatible two wire detector or any normally open fire alarm initiating device will sound the audible devices, trip a municipal box, notify a remote station, annunciate a fire zone, and energize supplementary relays.	Units located in the loading dock area (east wall) for the Halon 1310 Fire system and Water Sprinkler system. Signal from these units feed an outgoing signal panel located on the east wall of the facility, just north of the eastern overhead door, The outgoing signal panel is monitored by Stanley Security.
Heat Detector for TSDF subrooms, part of Automatic Fire Protection Units.	Combination of rise and fixed temperature heat detector activated by temperatures about 145°F.	Central location of Storage Rooms 1, 2, and 3 (20-foot radius).
Halon 1301 Fire Extinguishing System	The fire suppression system would be part of the Automatic Fire Protection for alarm activation during a fire potential warning or actual fire occurrence in Storage Rooms 1, 2, and 3.	Halon suppression system located throughout Storage Rooms 1, 2, and 3.

9.0 CLOSURE PLAN (NR670.014(2)(m)

The Closure Plan for the TSDF identifies steps that will be necessary to partially close the hazardous waste container storage area (NR664.0178) and the three retort operations miscellaneous units (NR664.0601) at any point during their intended operating life, and to completely close the units at the end of its intended operating life. Also, the plan addresses the conditions and reasons under which partial closure would occur.

The facility has no land disposal operations; therefore, the facility can operate indefinitely. For purposes of satisfying NR664.0112(2)(b) the estimated facility operation life is 30 years, however, this timeframe may be extended as long as the operations provided by the facility are warranted.

A long-term care Closure Plan, as specified under NR664.0178 is not required for the hazardous waste container storage area since it is not a disposal facility, and all containerized wastes will be removed after final closure is completed. In addition, a long-term care Closure Plan, as specified under NR664.0603, is not required for the retort operations miscellaneous units since it is not a disposal facility and all the processing equipment will be removed at closure. A drawing showing the facility after closure has not been prepared because the site features and topography will remain the same.

The primary objective of the Closure Plan is to minimize the need for further maintenance of the TSDF after closure of the units and to eliminate any post-closure threat to human health and the environment (NR664.0111(1)). A copy of the Closure Plan will be retained as part of the TSDF recordkeeping and furnished to the WDNR until closure of the units are completed and certified.

If VESTS submits a written notification of or request for an operating license modification to authorize a change in this FPOR, facility design or the approved closure plan, VESTS will also provide a copy of an amended Closure Plan for review or approval in accordance with the provisions of NR664.0112(3).

9.1 DESCRIPTION OF CLOSURE PLAN (NR664.0112(2)(a) thru (e))

9.1.1 General Closure Approach

VESTS will implement the Closure Plan when operations cease at the hazardous waste container storage unit and the hazardous wastes have been removed. The Closure Plan also covers closure activities associated with the ceasing mercury recovery units (retorts) operations. The estimated time for ceasing operations at the TSDF units is approximately 2024 (ten years beyond the renewal period of the units' license). Any modifications to the existing facility equipment structures, construction, or procurements related to the management of the TSDF units will result in VESTS updating the Closure Plan. Removal of hazardous wastes and decontaminating or dismantling equipment in accordance with the approved partial or final closure plan may take place any time prior or after notification of partial or final closure.

Generally, a partial closure is not expected for the overall TSDF during the life of the facility. Partial closure of the TSDF units may occur under the following scenarios:

- Closure of one of the hazardous waste storage rooms
- Discontinuation of the entire retort operations
- Discontinuation and no "replacement of a source" for an individual retort unit

After partial closure of the TSDF, retort operation, or individual retort unit, the other storage rooms or individual retort units will continue to operate. The partial closure could reduce the storage area and the maximum storage capacity. The estimated time required for partial closure will be dependent on the specifications but is estimated to be 120 days. If partial closure becomes necessary, the steps to be completed in accordance with the following procedures for final closure.

9.1.2 Closure Plan Activities (NR664.0112(2)(a) thru (e))

The Closure Plan Activities of the TSDF is divided into the two operating units and the other areas of the facility. After closure of the hazardous waste container storage rooms and/or the retort operations, the facility may still operate as a large quantity universal waste handler. The facility may also operate as a destination facility for processing universal waste lamps under NR673 Subchapter E and the WDNR issued air emissions permit.

9.1.2.1 Hazardous Waste Container Storage Unit (NR664.0178): The Closure Plan assumes the maximum licensed storage capacity of 20,000 gallons will exist at the time of initiating closure activities (NR664.0112(2)(c)). The breakdown of the maximum inventory of wastes in storage in the container storage unit at closure is outlined in Table 10-1. At the initiation of closure, a physical inventory of the wastes will be conducted and compared against the TSDF's operating record. During the inventory inspection, the containers will be evaluated for proper labeling and marking. Additional container marking will be added as necessary for shipment to permitted TSDFs. After removal and disposal of all wastes, the storage rooms will be thoroughly decontaminated. The closure methodologies will include the removal and disposal of various building structures (e.g., ventilation duct work, grate network system). Other abatement methodologies will involve the cleaning of the remaining building surfaces including floors, walls, berms, ceilings, and doors. The cleaning activities will use a "*top-to-bottom*" type approach; starting at the ceiling of each area in order ensure that lower surfaces are not re-contaminated by subsequent cleaning efforts on higher surfaces. This cleaning methodology assures that all settled dust will be contained and removed while not being disturbed and entrained into the air. This approach is designed to limit migration of contamination (and dust) to areas outside of the storage facility. Additionally, throughout the decontamination process the storage facility will be fully enclosed with poly-sheet containment barriers and the area will be placed negative (static pressure) with respect to all adjacent areas preventing migration of contamination into other areas of the facility (NR664.0112(2)(d))..

Waste wash and rinse liquids will be collected and placed in individual 55-gal drums. Analysis of the waste liquids will be conducted by an outside laboratory to identify

potentially hazardous constituents. If the waste cleaning liquids are found to be hazardous, disposal will be completed in accordance with the requirements of NR662 at a TSDF that is licensed or permitted to accept the waste and employs processes that are in compliance with the land disposal restriction standards contained in NR 668. The effectiveness of the decontamination will be checked by air monitoring and/or wipe tests (with subsequent laboratory analysis) of the representative areas in the storage rooms. If such tests reveal that certain contaminants are still present above the closure standards, the decontamination procedures will again be implemented and repeated until the storage room area is deemed safe and nonhazardous.

Weekly inspections of the storage room areas' floor, berms, and wall perimeter areas are made as part of the operating requirements. Consequently, cracks or potential areas of leakage from the rooms would be readily detected and rectified. Since these inspections would ensure no hazardous liquid leakage to soils or surrounding surface areas, only the inside structure of the rooms will have to be decontaminated. In addition, after decontamination is completed, the rooms' floor and outside areas will be checked by a professional engineer to certify that no contamination has occurred due to structural defects or damage. The inspection will include checking for any cracks or compromised areas that may allow hazardous waste constituents to escape to the soils or groundwater. Pending the facility evaluation, a subsurface soil investigation and potential remedial actions may be required. Specific action will be conducted in accordance with the requirements of NR664.0112(2)(d) and (e), as necessary.

Field personnel involved in the clean-up and decontamination will require proper training in hazardous waste handling and safety in accordance with developed Site Health and Safety Plan (HASP). The HASP will outline specific PPE to be used by personnel and may include:

1. SCBA, SAR, or appropriate full-face cartridge respirator.

2. Chemical resistant protective clothing, including but not limited to, suits, over-boots, and gloves.

PPE will be decontaminated in accordance with the procedures outlined in Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities, 1985, U.S. Department of Health and Human Services, NIOSH Publication No. 85-115 or disposed of. Decontamination rinse solutions will be collected in 5-gal plastic buckets or 55-gal steel drums. These waste solutions will be checked for contaminants and hazardous characteristics by an outside analytical laboratory. If necessary, the wastes will be disposed of at appropriate TSDFs.

The estimated time required for closure of the container storage unit is 180 days. Following the Closure Plan, it is expected that requirements of NR664.0111 and NR664.178 will be met for a hazardous waste container storage unit.

9.1.2.2 Three Retort Operations Miscellaneous Units: The closure activities associated with individual retort units is based on the physical condition and effectiveness of the units. An individual retort may be closed at the end of the mechanical life of the unit and removed from the operating license. The complete removal of a retort oven from service and the license would result in a partial closure. Otherwise replacement of a retort will be managed as a "replacement of a source" and not subjected to closure. As defined in NR400.02 (134), a "replacement of a source means the physical dismantling of a stationary source and the substitution of that source with a stationary source which similar in operating capacity and function". The replacement of an individual retort will be through a Class 1 modification to the TSDF license. VESTS is classifying the general maintenance and replacement of retort component parts (e.g., oven heating elements, vacuum pumps) as maintenance activities and not Class 1 modifications.

All process residuals from the retort units undergoing closure will be containerized, labeled and marked for shipment to a permitted TSDF. If an individual retort oven undergoing closure is still in operating condition, the unit may be sold or transferred to another VESTS location. If the retort is not reutilized, it will be shipped off-site for disposal.

Following the removal of the process equipment and process residuals, the removal and disposal of various building structures (e.g., ventilation duct work) and porous wall surfaces will be completed. Other abatement methodologies will involve the cleaning of the remaining building surfaces including floors, walls, berms, ceilings, and doors. The cleaning activities will use a "*top-to-bottom*" type approach; starting at the ceiling of each area in order ensure that lower surfaces are not re-contaminated by subsequent cleaning efforts on higher surfaces. This cleaning methodology assures that all settled dust will be contained and removed while not being disturbed and entrained into the air. This approach isdesigned to limit migration of contamination (and dust) to areas outside of the storage facility. Additionally, throughout the decontamination process the storage facility will be fully enclosed with poly-sheet containment barriers and the area will be placed negative (static pressure) with respect to all adjacent areas preventing migration of contamination into other areas of the facility (NR664.0112(2)(d)).

Waste wash and rinse liquids will be collected and placed in individual 55-gal. Analysis of the waste liquids will be conducted by an outside laboratory to identify potentially hazardous constituents. If the waste cleaning liquids are found to be hazardous, disposal will be completed at a TSDF that is licensed or permitted to accept the waste and employs processes that are in compliance with the land disposal restriction standards contained in NR 668. The effectiveness of the decontamination will be checked by air monitoring and/or wipe tests (with subsequent laboratory analysis) of the representative areas in the former retort room area. If such tests reveal that certain contaminants are still present above the closure standards, the decontamination procedures will again be implemented and repeated until the area is deemed safe and nonhazardous.

After decontamination is completed, the former retort area floor and outside areas will be checked by a professional engineer to certify that no contamination has occurred due to structural defects or damage. The inspection will include checking for any cracks or

compromised areas that may allow hazardous waste constituents to escape to the soils or groundwater. Pending the facility evaluation, a subsurface soil investigation and potential remedial actions may be required. Specific action will be conducted in accordance with the requirements of NR664.0112(2)(d) and (e), as necessary.

Field personnel involved in the clean-up and decontamination will require proper training in hazardous waste handling and safety in accordance with developed Site Health and Safety Plan (HASP), The HASP will outline specific PPE to be used by personnel and may include:

1. SCBA, SAR, or appropriate full-face cartridge respirator.

2. Chemical resistant protective clothing, including but not limited to, suits, over-boots, and gloves.

PPE will be decontaminated in accordance with the procedures outlined in Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities, 1985, U.S. Department of Health and Human Services, NIOSH Publication No. 85-115 or disposed of. Decontamination rinse solutions will be collected in 5-gal plastic buckets or 55-gal steel drums. These waste solutions will be checked for contaminants and hazardous characteristics by an outside analytical laboratory. If necessary, the wastes will be disposed of at appropriate TSDFs.

The estimated time required for closure of the three retort operation units is 180 days. Following the Closure Plan, it is expected that requirements of NR664.0111 and NR664.0601 to NR664.0603, will be met for the miscellaneous units as applicable to the retort units.

9.1.2.3 Lamp Processing Operations: The lamp processing equipment is not covered under the TSDF licensing requirements. VESTS recognizes a closure plan under NR664 Subchapter G is not required for ceasing and discontinuing these operations. However, because NR664.0110(3)(a) may be applicable, the following procedures have been developed for the lamp processing units.

All process residuals from the lamp processing units will be containerized, labeled and marked for shipment to a permitted TSDF. Lamp processing equipment may be sold or transferred to another VESTS location. If the equipment is not reutilized, it will be shipped off-site for disposal.

Following the removal of the process equipment and process residuals, the removal and disposal of various building structures (e.g., ventilation duct work) and porous wall surfaces may be completed. Other abatement methodologies will involve the cleaning of the remaining building surfaces including floors, walls, berms, ceilings, and doors. The cleaning activities will use a "*top-to-bottom*" type approach; starting at the ceiling of each area in order ensure that lower surfaces are not re-contaminated by subsequent cleaning efforts on higher surfaces. This cleaning methodology assures that all settled dust will be

contained and removed while not being disturbed and entrained into the air. This approach isdesigned to limit migration of contamination (and dust) to areas outside of the storage facility. Additionally, throughout the decontamination process the storage facility will be fully enclosed with poly-sheet containment barriers and the area will be placed negative (static pressure) with respect to all adjacent areas preventing migration of contamination into other areas of the facility.

Waste wash and rinse liquids will be collected and placed in individual 55-gal drums. Analysis of the waste liquids will be conducted by an outside laboratory to identify potentially hazardous constituents. If the waste cleaning liquids are found to be hazardous, disposal will be completed at a TSDF that is licensed or permitted to accept the waste and employs processes that are in compliance with the land disposal restriction standards contained in NR 668. The effectiveness of the decontamination will be checked by air monitoring and/or wipe tests (with subsequent laboratory analysis) of the representative areas. If such tests reveal that certain contaminants are still present above the closure standards, the decontamination procedures will again be implemented and repeated until the area is deemed safe and nonhazardous.

Field personnel involved in the clean-up and decontamination will require proper training in hazardous waste handling and safety in accordance with developed Site Health and Safety Plan (HASP). The HASP will outline specific PPE to be used by personnel and may include:

1. SCBA, SAR, or appropriate full-face cartridge respirator.

2. Chemical resistant protective clothing, including but not limited to, suits, over-boots, and gloves.

PPE will be decontaminated in accordance with the procedures outlined in Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities, 1985, U.S. Department of Health and Human Services, NIOSH Publication No. 85-115 or disposed of. Decontamination rinse solutions will be collected in 5-gal plastic buckets or 55-gal steel drums. These waste solutions will be checked for contaminants and hazardous characteristics by an outside analytical laboratory. If necessary, the wastes will be disposed of at appropriate TSDFs.

9.1.2.4 Household Hazardous Waste Collection (NR666.909): The permanent household hazardous waste (HHW) collection operations are not cover under the TSDF licensing requirements. However the HHW operations are coved under NR666 Subpart HH. The following closure plan covers the applicable requirements of NR666.909. Because NR664.0110(3)(a) may be applicable, the following procedures have been included in the FPOR for the HHW operations.

Initially, containers of HHW will be properly identified, then labeled and marked for shipment to permitted TSDFs. Within 90 days after receiving the final volume of HHW, the volume of waste will be shipped to an off-site TSDF, recycling facility, or another permanent collection facility (NR666.909(2)(a)). After removal and disposal of wastes, the accumulation areas will be thoroughly decontaminated. The cleaning of the remaining building surfaces including floors, walls, berms, ceilings, and doors will be completed. The cleaning activities will use a "*top-to-bottom*" type approach; starting at the ceiling of each area in order ensure that lower surfaces are not re-contaminated by subsequent cleaning efforts on higher surfaces. This cleaning methodology assures that all settled dust will be contained and removed while not being disturbed and entrained into the air. This approach isdesigned to limit migration of contamination (and dust) to areas outside of the storage facility. Additionally, throughout the decontamination process the storage facility will be fully enclosed with poly-sheet containment barriers and the area will be placed negative (static pressure) with respect to all adjacent areas preventing migration of contamination into other areas of the facility (NR666.909(2)(b)).

Waste wash and rinse liquids will be collected and placed in individual 55-gal. Analysis of the waste liquids will be conducted by an outside laboratory to identify potentially hazardous constituents. If the waste cleaning liquids are found to be hazardous, disposal will be completed at a TSDF that is licensed or permitted to accept the waste and employs processes that are in compliance with the land disposal restriction standards contained in NR 668 (NR666.909(3)(b)). The effectiveness of the decontamination will be checked by air monitoring and/or wipe tests (with subsequent laboratory analysis) of the representative areas. If such tests reveal that certain contaminants are still present above the closure standard, the decontamination procedures will again be implemented and repeated until the area is deemed safe and nonhazardous.

Field personnel involved in the clean-up and decontamination will require proper training in hazardous waste handling and safety in accordance with developed Site Health and Safety Plan (HASP). The HASP will outline specific PPE to be used by personnel and may include:

1. SCBA, SAR, or appropriate full-face cartridge respirator.

2. Chemical resistant protective clothing, including but not limited to, suits, over-boots, and gloves.

PPE will be decontaminated in accordance to the procedures outlined in Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities, 1985, U.S.

Department of Health and Human Services, NIOSH Publication No. 85-115 or disposed of. Decontamination rinse solutions will be collected in 5-gal plastic buckets or 55-gal steel drums. These waste solutions will be checked for contaminants and hazardous characteristics by an outside analytical laboratory. If necessary, the wastes will be disposed of at appropriate TSDFs.

In accordance with the provisions of NR666.909(3)(c), within 60 days of the completion of closure, the Operation Manager will submit to the WDNR a report summarizing the activities performed to meet the requirements in NR666.909(3)(a) and (b).

The HHW operations to not store more than 80,000 pounds of hazardous waste and therefore the financial responsibility requirements of NR666.910 are not required.

9.1.2.5 Other Facility Operations: The other general operational areas are not cover under the TSDF licensing requirements. VESTS recognizes a closure plan under NR664 Subchapter G is not required for ceasing and discontinuing these operations. However, because NR664.0110(3)(a) may be applicable, the following procedures have been developed for these operations.

The cleaning of the remaining building surfaces including floors, walls, berms, ceilings, and doors will be completed. The cleaning activities will use a "*top-to-bottom*" type approach; starting at the ceiling of each area in order ensure that lower surfaces are not re-contaminated by subsequent cleaning efforts on higher surfaces. This cleaning methodology assures that all settled dust will be contained and removed while not being disturbed and entrained into the air. This approach isdesigned to limit migration of contamination (and dust) to areas outside of the storage facility. Additionally, throughout the decontamination process the storage facility will be fully enclosed with poly-sheet containment barriers and the area will be placed negative (static pressure) with respect to all adjacent areas preventing migration of contamination into other areas of the facility.

Waste wash and rinse liquids will be collected and placed in individual 55-gal drums. Analysis of the waste liquids will be conducted by an outside laboratory to identify potentially hazardous constituents. If the waste cleaning liquids are found to be hazardous, disposal will be completed at a TSDF that is licensed or permitted to accept the waste and employs processes that are in compliance with the land disposal restriction standards contained in NR 668. The effectiveness of the decontamination will be checked by air monitoring and/or wipe tests (with subsequent laboratory analysis) of the representative areas. If such tests reveal that certain contaminants are still present above the closure standard, the decontamination procedures will again be implemented and repeated until the area is deemed safe and nonhazardous.

Field personnel involved in the clean-up and decontamination will require proper training in hazardous waste handling and safety in accordance with developed Site Health and Safety Plan (HASP). The HASP will outline specific PPE to be used by personnel and may include:

1. SCBA, SAR, or appropriate full-face cartridge respirator.

2. Chemical resistant protective clothing, including but not limited to, suits, over-boots, and gloves.

PPE will be decontaminated in accordance to the procedures outlined in Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities, 1985, U.S. Department of Health and Human Services, NIOSH Publication No. 85-115 or disposed of. Decontamination rinse solutions will be collected in 5-gal plastic buckets or 55-gal steel drums. These waste solutions will be checked for contaminants and hazardous characteristics by an outside analytical laboratory. If necessary, the wastes will be disposed of at appropriate TSDFs.

9.1.3 CLOSURE STANDARD

The desired end result of the cleaning / decontamination and clearance sampling effort will be to ensure that, upon final closure, the facility will be issued a certification of clean closure with no restriction or reservation with regard to future tenant use. The objective of clean closure is to reduce all contamination to levels at or below the analytical limit of detection ("LOD"). However, cleaning to a "non-detect" standard is extremely difficult to obtain and not necessary for a non-hazardous declaration. The surface wipe closure standards were established in consultation with a third party consulting engineering firm and reviewed by a Certified Industrial Hygienist. The indoor air quality closure standard is based on information published jointly by the US Environmental Protection Agency ("US EPA") and Agency for Toxic Substances and Disease Registry (ATSDR) in the report titled *Chemical-Specific Health Consultation, for Joint EPA/ATSDR National Mercury Cleanup Policy Work Group, Action Levels for Elemental Mercury Spills, March 22, 2012*. These closure standards compare favorably (i.e., much more conservative) to the US Occupational Safety and Health Administration's ("OSHA's") permissible exposure limits ("PELs") and US EPA reference dose limits ("RfDs"). The closure standards are sufficiently conservative to protect any occupant from an exposure resulting from involuntary surface contact or inhalation (NR664.0111).

While mercury (Hg) is the primary pollutant of concern for the TSDF, closure standards for four (4) additional hazardous / toxic compounds have been included, based on current or past usage of these compounds in fluorescent lamps. These compounds and their corresponding closure standards are shown in Table 9-1.

Table 9-1 – Closure Standards

Sample Type	Pollutant	Acceptance Criteria
Indoor Air Quality [five (5) day passive-badge sample]	**Mercury (Hg)**	**3.0 µg/m^3**
Surface Wipe [(10) 100 cm^2 composite sample]	**Mercury (Hg)**	**30.0 µg/ft^2**
	Cadmium (Cd)	28.0 µg/ft^2
	Chromium (Cr)	200 µg/ft^2
	Lead (Pb)	100 µg/ft^2
	Yttrium (Y)	1,000 µg/ft^2

9.2 CLOSURE NOTIFICATION (NR664.0112(2)(f), NR664.0112(4)(a), NR664.0113(2)

In accordance with the provisions of NR664.0112(4), at least 180 days prior to beginning the closure of the TSDF licensed units, the Operations Manager will notify the WDNR and current users of the facility in writing of the intent to close the facility. In the notification, VESTS will present a schedule for completing the closure of each hazardous waste unit(s) and the final closure of the facility. As outlined in NR664.0113, within 90 days after receiving the final volume of hazardous wastes, or 90 days after approval of the Final Closure Plan, if that is later, the Operations Manager will have hazardous wastes removed from the facility and disposed at the proper TSDF facilities. Subsequently, the Operations Manager (if a non-emergency closure) will complete all procedures described in the Final Closure Plan within 180 days after receiving the final volume of wastes (NR664.0113(2). As stated in the Partial and Final Closure Plans, equipment and structures used in the operation of the TSDF will be decontaminated and residues/rinse solutions properly disposed of (where appropriate) at selected TSDFs (NR664.0114).

9.3 CLOSURE CERTIFICATION (NR664.0115)

In accordance with the provisions of NR664.115, within 60 days of the completion of closure, the Operation Manager will submit to the WDNR a certification, along with an independent registered professional engineer, that the portion of the facility or the entire facility has been closed in accordance with the specifications in the approved Closure Plan and applicable license conditions. The complete certification requirements are not applicable to the HHW operations.

Documentation supporting the independent registered professional engineer's certification will be furnished to the WDNR upon request until the WDNR releases VESTS from the financial assurance requirements for closure under NR664.0143(11). Section 10 of the FPOR presents the closure cost estimate and the financial assurance mechanism VESTS will utilize.

10.0 CLOSURE COST ESTIMATE AND FINANCIAL REQUIREMENTS (NR670.014(2)(o))

10.1 COST ESTIMATE FOR CLOSURE (NR664.0142(1) thru (d))

In accordance with the Final Closure Plan, VESTS has developed a cost estimate for final closure with a maximum possible storage volume of 20,000 gallons and the mercury recovery/retort operations. The disposal costs are reported on a per unit basis with subtotals indicated in each cost category. Also, administrative and contingency costs and inflation factor cost is included in the total cost estimated. The estimated final closure cost estimate is provided in Table 10-1. The HHW operations are not included in the final cost estimate because not more than 80,000 pounds of hazardous waste is being stored and therefore the financial responsibility requirements of NR666.910 are not required.

The closure cost estimate is based on a third party closing the units and facility (NR664.0142(1)(b)). The unit costs for disposal have been obtained from TSDFs licensed to accept and have the capabilities to process the hazardous waste in storage or the process residual from the mercury recovery/retort units, a local remediation contractor with experience in performing mercury cleanup projects and a third party consulting firm with experience in closing mercury recovery facilities. Supporting information regarding the closure cost estimate is provided in Appendix Q. The closure costs do not incorporate any salvage value or zero cost for the hazardous waste, non-hazardous waste, structures, equipment or other assets associated with the facility (NR664.0142(1)(c) and (d)).

During the life of the facility, VESTS will adjust the closure cost estimate for inflation within 60 days prior to the anniversary date of the establishment of the financial instrument to comply with NR644.0143. The first adjustment will be made by multiplying the closure cost estimate by the inflation factor. This value will become the adjusted closure cost estimate. Subsequent adjustments will be made by multiplying the latest adjusted closure cost estimate by the latest inflation factor.

During the active life of the facility, VESTS will revise the closure cost estimate no later than 30 days after the WDNR has approved the request to modify the closure plan. The latest closure cost estimate will be maintained during the active life of the facility.

The cost estimate of partial closure of the TSDF, retort operations, or individual retorts is covered under the overall Final Closure Plan cost estimate. Therefore separate partial cost estimates are not developed. If any partial closure activities are implemented, VESTS will updated the Closure Plan and closure cost estimate as necessary. No long-term costs are necessary since a long-term care plan is not required for the TSDF.

10.2 FINANCIAL ASSURANCE FOR CLOSURE (NR664.0143)

VESTS will use one of the methods of proving financial responsibility outlined in NR664.0143, for covering the total closure cost estimate. VESTS understands that within 60 days of the WDNR receiving certification by the owner and an independent registered professional engineer that final closure has been completed, the WDNR will release VESTS of the need to maintain the financial assurance.

TABLE 10-1

CLOSURE COST ESTIMATE
FEASIBILITY AND PLAN OF OPERATION REPORT

VEOLIA ES TECHNICAL SOLUTIONS, L.L.C.
1275 MINERAL SPRINGS ROAD
PORT WASHINGTON, WISCONSIN

The Closure Cost Estimate is divided into two separate areas, the hazardous waste storage unit and the mercury recovery/retort operation – miscellaneous unit.

A. Hazardous Waste Storage Unit

1.0 Closure cost estimate based on unit prices includes the complete work consisting of labor, equipment, materials, supervision, overhead, and taxes.

2.0 Disposal costs assume the entire storage capacity of the facility (i.e., 20,000-gallons) is utilized at the time of closure. Disposal pricing for each hazardous waste stream stored in the TSDF was obtained from the following disposal facilities:

- Mercury Waste Solutions, Inc. (Mercury Contaminated Debris, Mercury Containing Devices, Mercury Compounds, COD Vials, Crushed Lamps for Retort)
- The Environmental Quality Company (Closure Debris for Microencapsulation)
- Advanced Disposal (Non-hazardous Closure Debris for Disposal)

Item Description	Estimated Quantity	Unit Price	Extended Cost
2.1 Hazardous Waste Inventory (55 gallons)			
• Waste Calcium Phosphate Powder	50 each	$221.05/drum.	$11,052.50
• Waste Mercury Debris - Retort	50 each	$1,313.05/drum	$65,652.50
• Waste Mercury Debris - Micro	100 each	$149.96/drum	$14,996.25
• Waste Mercury Containing Devices	118 each	$1,313.05/drum	$154,939.90
• Waste Mercury Contaminated Soil	20 each	$149.96/drum	$2,999.25
• COD Vials	5 each	$1,313.05/drum	$6,565.25
• Mercury Compound Lab Packs	14 each	$1,313.05/drum	$18,382.70
		Subtotal of 2.1:	**$274,588.35**
2.2 Closure Debris			
• Waste Mercury Debris - Retort	3-55gal drums	$1,313.05/drum	$3,939.15
• Waste Closure Debris – Micro	30-cubic yards	$208.59/cuyd	$6,257.55
• Non-hazardous Closure Debris	30 tons	$70.00/ton	$2,100.00
• Non-hazardous Decon Solutions	12-55 gal drums	$75.00/drum.	$900.00
		Subtotal of 2.2	**$13,196.70**

3.0 The storage facility will be cleaned / decontaminated using a "*top-to-bottom*" type approach; starting at the ceiling of each area in order ensure that lower surfaces are not re-contaminated by subsequent cleaning efforts on higher surfaces. This cleaning methodology assures that all settled dust will be contained and removed while not being disturbed and entrained into the air.

This approach was designed to limit migration of contamination (and dust) to areas outside of the storage facility. Additionally, throughout the decontamination process the storage facility will be fully enclosed with poly-sheet containment barriers and the area will be placed negative (static pressure) with respect to all adjacent areas preventing migration of contamination into other areas of the facility.

Item Description	Cost
General Facility Decontamination	$151,160.00

4.0 A third party will conduct the air and wipe testing and laboratory analysis to support the closure activities. The estimated cost to complete the air and wipe testing was obtained from a third party consulting engineering company with experience in the closure of mercury handling facilities.

Item Description	Quantity	Unit Price	Cost
Sample Collection:			$8,360.00
Laboratory Analysis:			$17,382.00
		Subtotal:	$25,742.00

5.0 A third party engineer will review the Closure Plan, review the closure activities, and prepare a closure documentation report.

Item Description	Cost
Report Preparation and Certification:	$13,710.00
Subtotal:	

B. Mercury Recovery/Retort Operation – Miscellaneous Unit

1.0 Closure cost estimate based on unit prices includes the complete work consisting of labor, equipment, materials, supervision, overhead, and taxes.

2.0 Disposal costs assume the three retort units and associated equipment, excluding the chilling units, and residual waste is utilized at the time of closure. Disposal pricing for each hazardous waste stream associated with closure was obtained from the following disposal facilities:

- Mercury Waste Solutions, Inc. (Mercury Contaminated Debris, Mercury Containing Devices, Mercury Compounds, COD Vials, Crushed Lamps for Retort)
- The Environmental Quality Company (Closure Debris for Microencapsulation)
- Advanced Disposal (Non-hazardous Closure Debris for Disposal)

	Estimated	Extended

Item Description	Quantity	Unit Price	Cost
Closure Debris			
• Waste Mercury Activated Carbon	20-55gal drums	$1313.05/drum	$26,261.00
• Waste Closure Debris – Micro	60-cubic yards	$208.59/cuyd	$12,515.10
• Non-hazardous Closure Debris	20 tons	$70.00/ton	$1,400.00
• Hazardous Decon Solutions	12-55 gal drums	$149.96/drum.	$ 1,799.55
	Subtotal:		$41,975.65

3.0 The Retort Room will be cleaned / decontaminated using a "*top-to-bottom*" type approach; starting at the ceiling of each area in order ensure that lower surfaces are not re-contaminated by subsequent cleaning efforts on higher surfaces. This cleaning methodology assures that all settled dust will be contained and removed while not being disturbed and entrained into the air. This approach was designed to limit migration of contamination (and dust) to areas outside of the storage facility. Additionally, throughout the decontamination process the storage facility will be fully enclosed with poly-sheet containment barriers and the area will be placed negative (static pressure) with respect to all adjacent areas preventing migration of contamination into other areas of the facility. An estimated cost for the cleaning and decontamination of the retort room was obtained from North Shore Environmental Construction.

Item Description	Cost
Retort Room Decontamination	$79,080.00

4.0 A third party will conduct the swipe testing and laboratory analysis to support the closure activities. The estimated cost to complete the swipe testing was based on published unit costs for swipe sampling during asbestos demolition projects. Laboratory analysis of the samples for total mercury.

Item Description		Cost
Sample Collection:		$2,090.00
Laboratory Analysis:		$3,890.00
	Subtotal:	$5,980.00

5.0 A third party engineer will review the Closure Plan, review the closure activities, and prepare a closure documentation report.

Item Description	Cost
Report Preparation and Certification:	$10,305.00

TOTAL CLOSURE COST ESTIMATE **$615,737.70**

2015 Update adjusted for Inflation

Inflation Factor 1.0144

ADJUSTED CLOSURE COST ESTIMATE **$624,605.00**

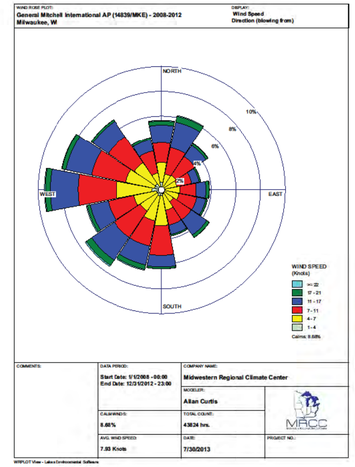
11.0 POLLUTION LIABILITY INSURANCE (NR670.014(2)(q) and NR664..0147(1))

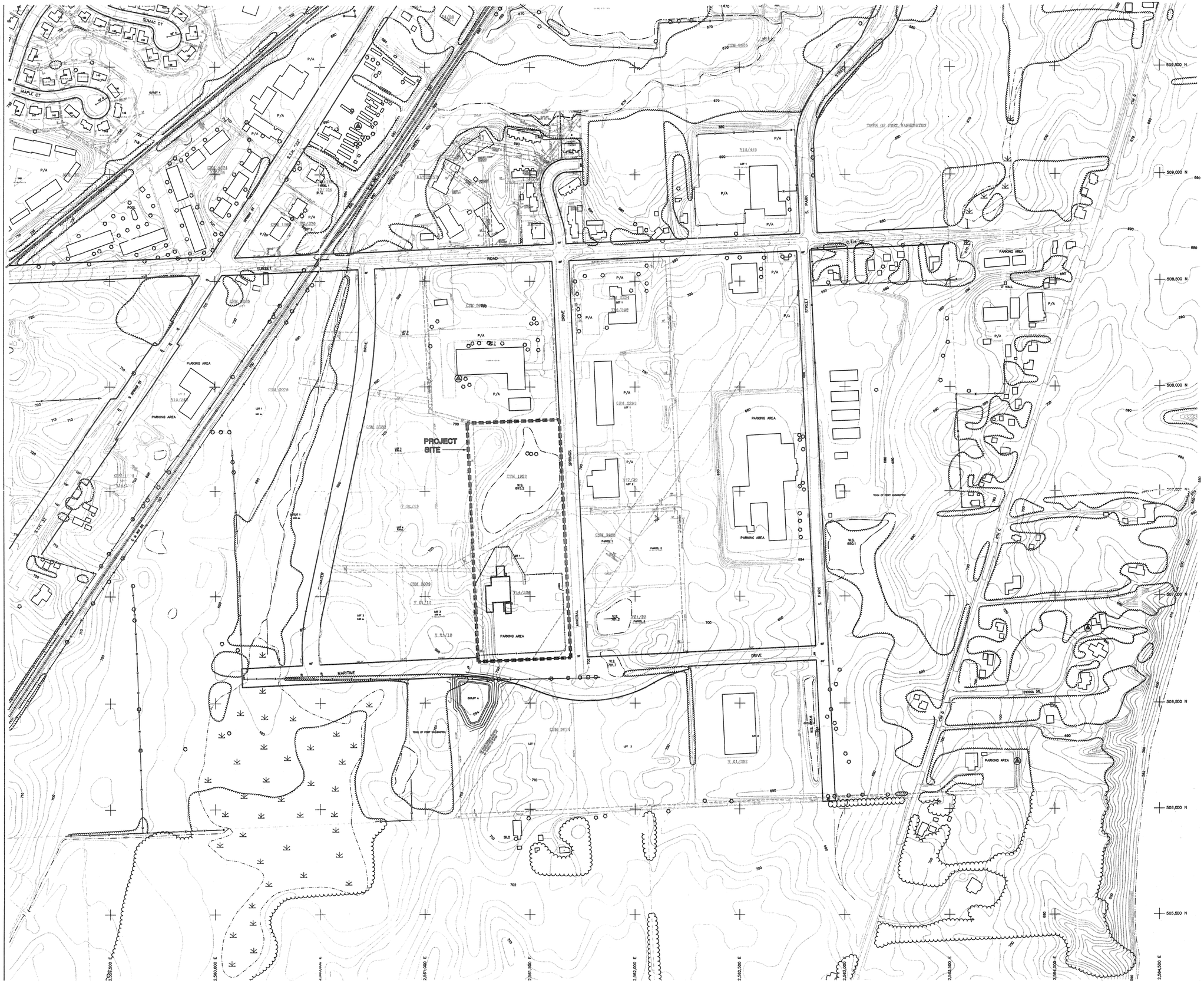
In accordance with the requirements for coverage for sudden and non-sudden accidental occurrences, VESTS will combine and maintain liability coverage in the amount of $4 million per occurrence and $8 million annual aggregate. Appendix Y presents the certificate of insurance for the TSDF (NR670.014(2)(q)).

VESTS understands that within 60 days of the WDNR receiving certification by the owner and an independent registered professional engineer that final closure has been completed, the WDNR will release VESTS of the need to maintain the liability coverage.

Drawing D-1
Existing Conditions

Feasibility and Plan of Operation Report
Veolia ES Technical Solutions, L.L.C.
Date of Issuance: August 6, 2013
File Name: S:\Secure\Shared\Facility\FPOR\Renewal 2014\080613\Drawing D-1 FPOR_080613.pdf
Revision Date:
Control Document Number: 999A128





LEGEND

- APPROXIMATE PROPERTY BOUNDARY
- 700 GROUND CONTOUR AND ELEVATION
- FENCE
- RIGHT-OF-WAY BOUNDARY
- PRIVATE WELL LOCATION
- RAILROAD
- WETLAND
- SURFACE WATER BOUNDARY
- TREES/SHRUBS
- EASEMENT BOUNDARY
- BUILDING/STRUCTURE

NOTES

1. BASE MAP DEVELOPED FROM TOPOGRAPHIC MAP PROVIDED BY CITY OF PORT WASHINGTON.
2. TOPOGRAPHIC CONTOUR INTERVAL IS TWO FEET.
3. GRID IS WISCONSIN STATE PLANE COORDINATE SYSTEM.

north

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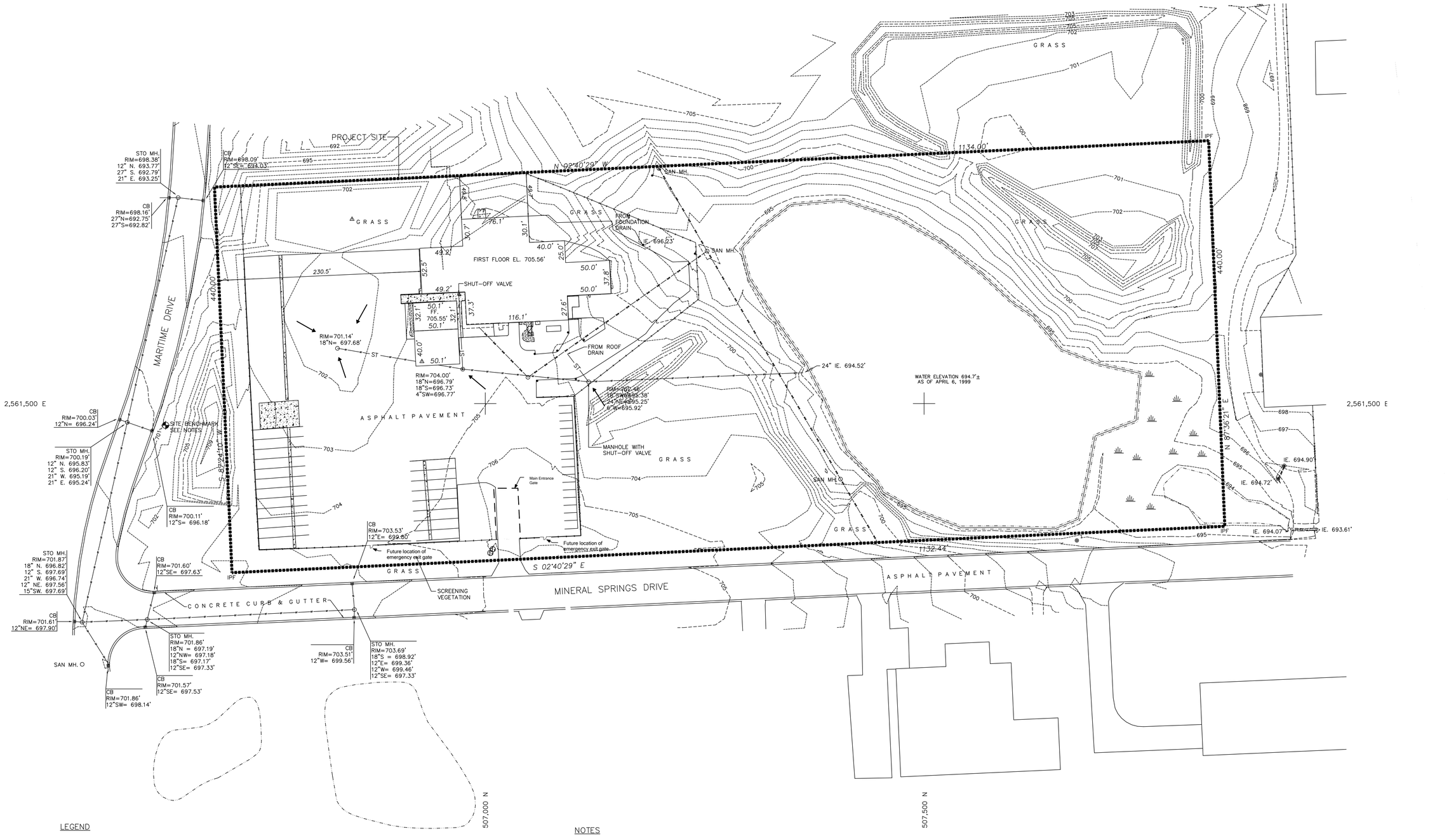
SCALE IN FEET



LEGEND

- STORM SEWER VALVE
- MANHOLE
- CATCH BASIN
- SURFACE WATER FLOW
- APPROXIMATE PROPERTY BOUNDARY
- 702 — 1' CONTOUR
- 700 — 5' CONTOUR
- SANITARY SEWER
- STORM SEWER
- CHAIN LINK FENCE
- EDGE OF WATER
- CONCRETE SURFACE
- GRAVEL SURFACE

NOTES

1. BASE MAP DEVELOPED FROM A DRAWING "TOPOGRAPHIC MAP", PREPARED BY STS CONSULTANTS LTD., VERNON HILLS, ILLINOIS, PROJECT NO. 86008, DATED APRIL 14, 1999.
2. BEARINGS AND GRID REFERENCED TO THE WISCONSIN STATE PLANE COORDINATE SYSTEM – SOUTH ZONE.
3. ALL ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1929. SITE BENCHMARK: NE FLANGE BOLT ON HYDRANT NORTH SIDE OF MARITIME DRIVE. ELEVATION = 703.22.
4. TOPOGRAPHIC MAPPING PREPARED FROM FIELD SURVEYS COMPLETED ON APRIL 7, 1999.

north

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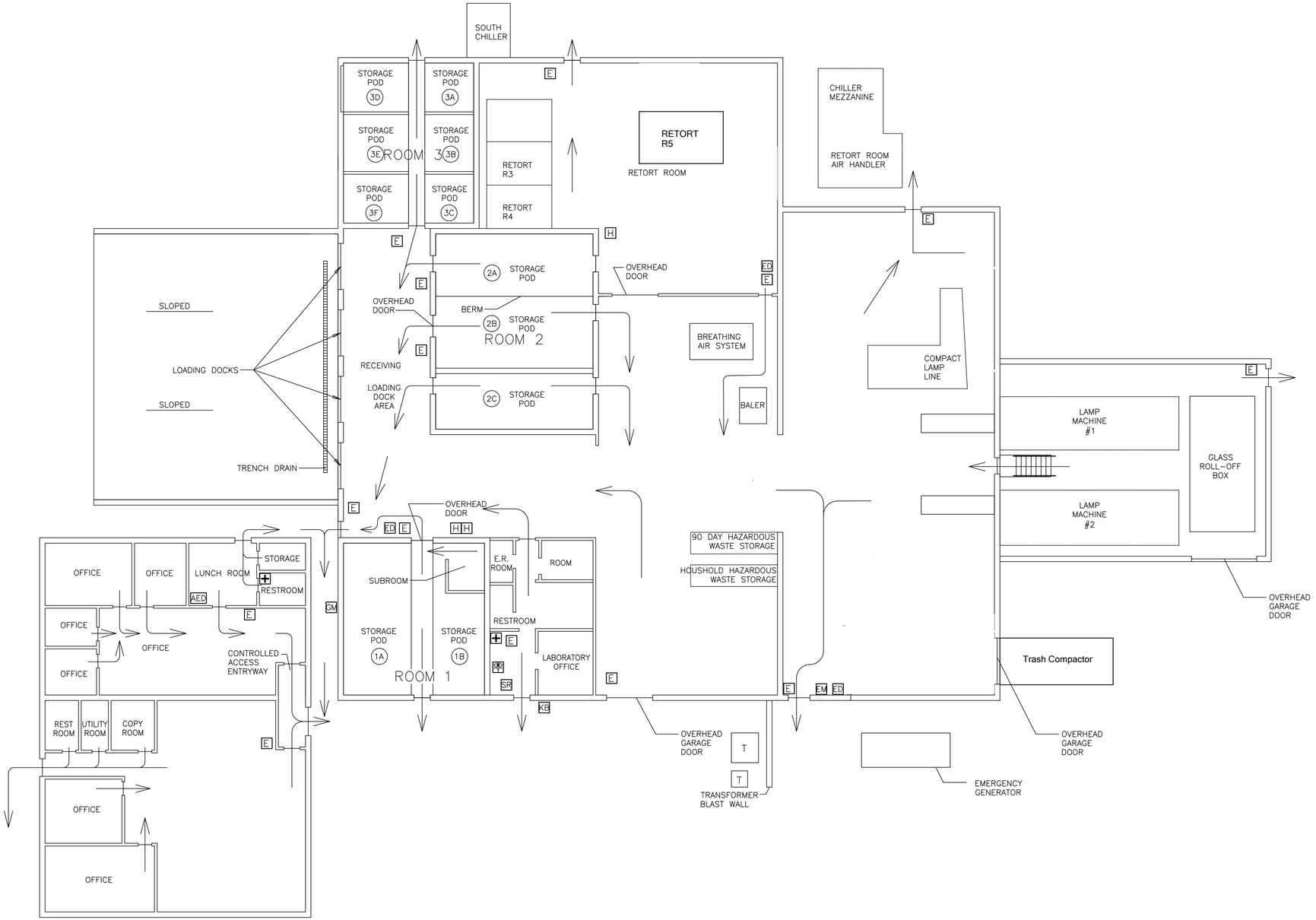
SCALE IN FEET

Feasibility and Plan of Operation Report Date of Issuance: August 6, 2013 File Name: S:\Secure\Shared\Facility\FPOR\Renewal 2014\080613\Drawing D-2 FPOR_080613.pdf	**Drawing D-2** **Site Features**	Veolia ES Technical Solutions, L.L.C. Revision Date: Control Document Number: 999A128



LEGEND

- GM — GAS MAIN
- EM — ELECTRICAL MAIN
- E — FIRE EXTINGUISHER
- ED — TYPE D FIRE EXTINGUISHER
- SR — SPRINKLER RISER SYSTEM
- T — TRANSFORMER
- H — HALON SYSTEM
- AED — AUTOMATED EXTERNAL DEFIBRILLATOR
- FIRST AID EQUIPMENT
- EYEWASH/SAFETY SHOWER
- KB — KNOX BOX LOCATION (FACILITY KEY)
- EVACUATION ROUTE
- PROPOSED UNIVERSAL WASTE STORAGE FACILITY AREAS
- EXISTING HAZARDOUS WASTE STORAGE FACILITY AREAS
- DOUBLE STACKED DRUMS (SET OF 8 TOTAL)

NOTES

1. BASE MAP DEVELOPED FROM A FACILITY LAYOUT/E-VAC ROUTES PLAN PREPARED BY SUPERIOR SPECIAL SERVICES, DATED 11-19-98.
2. LAYOUT OF LAMP MACHINE ROOM DEVELOPED FROM A FLOOR PLAN MAP A-2 PREPARED BY BIEHN CONSTRUCTION, INC., DATED MAY 22, 2001.

north

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SCALE IN FEET

Feasibility and Plan of Operation Report Date of Issuance: August 6, 2013 File Name: S:\Secure\Shared\Facility\FPOR\Renewal 2014\Final FPOR 093015\Drawing D-3 FPOR_0930115.pdf	**Drawing D-3** **Facility Layout**	Veolia ES Technical Solutions, L.L.C. Revision Date: September 30, 2015 Control Document Number: 999A128

A

CORRESPONDENCE

APPENDIX A
CORRESPONDENCE

TABLE OF CONTENTS

State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
101 S. Webster Street
Box 7921
Madison WI 53707-7921

Scott Walker, Governor
Cathy Stepp, Secretary
Telephone 608-266-2621
Toll Free 1-888-936-7463
TTY Access via relay - 711

WISCONSIN
DEPT. OF NATURAL RESOURCES

August 7, 2012

Kevin Shaver - General Manager
Veolia ES Technical Solutions LLC
1275 Mineral Springs Drive
Port Washington, Wisconsin 53074

RE: Feasibility and Plan of Operation Report Call-in Letter
Veolia ES Technical Solutions LLC
EPA ID# WID988566543
FID# 246076050
Hazardous Waste Container Storage (# 6008)

Dear Mr. Shaver:

On February 6, 2004, the Department re-issued an operating license for storing hazardous wastes in containers to Veolia ES Technical Solutions LLC (Veolia) located at 1275 Mineral Springs Drive in Port Washington, Wisconsin 53074. If Veolia plans to continue operating its licensed hazardous waste facility beyond the end of the 10-year effective period of the license or February 6, 2014, Veolia must submit a revised feasibility and plan of operation report (FPOR) to the Department 180 days prior to the license expiration date, August 6, 2013.

In accordance with s. 289.31, Stats., and s. NR 670.050(1), Wis. Adm. Code, the Department may issue annual renewals of a hazardous waste operating license for an effective period of up to 10 years. If the licensee chooses to operate or maintain a hazardous waste facility after the 10-year effective period ends, the licensee must re-submit a license application at least 180 days before the end of the effective period, as specified in s. NR 670.010(8), Wis. Adm. Code. The license application is to include all additions, revisions or modifications to the EPA Part A form and feasibility and plan of operation report. The requirements for the feasibility and plan of operation report are in ss. NR 670.014 to NR 670.029, Wis. Adm. Code. If the licensee submits a timely and complete license application, s. NR 670.051, Wis. Adm. Code, allows the conditions of an expired operating license to continue in force until the Department takes final action on the complete application. The continued operating license remains fully effective and enforceable.

Please be aware that without an operating license, Veolia will not be able to continue operating as a hazardous waste container storage facility. Operation of hazardous waste container storage facility must cease by the day the license expires or by February 6, 2014. Closure must be performed in accordance with the approved closure plan and the applicable requirements of ch. NR 664, subch. G, Wis. Adm. Code. The Department must be notified of Veolia's intent to close their facility at least 180 days prior to the expiration date of the license, in accordance with s. NR 664.0112(4), Wis. Adm. Code.

The remainder of this letter identifies what items must be addressed and included in the license application. The Department recommends that the license application be prepared by an environmental consultant with experience and expertise in the area of hazardous waste licensing.

General. The feasibility and plan of operation report must contain general information as required in s. NR 670.014, Wis. Adm. Code, and the specific information required for containers, tank systems and miscellaneous units in ss. NR 670.015, 670.016, and 670.023 Wis. Adm. Code. In addition, the report must contain the technical information required in applicable sections of ch. NR 664, Wis. Adm. Code. It is important that the feasibility and plan of operation report be complete and technically adequate. All technical data must be certified by a registered professional engineer. Failure to provide an adequate submittal may result in an unfavorable determination.

The Department has developed a licensing checklist to help you prepare a complete and technically adequate license application. The licensing checklist is available on the Department's website at http://dnr.wi.gov/org/aw/wm/publications/anewpub/WA1557.pdf. To facilitate the review of your license application, indicate the section or page(s) in the licensing checklist where the required information is to be found in the report. Submit the completed checklist with the license application. In addition, US EPA has drafted a guidance document entitled *"Hazardous Waste Treatment, Storage and Disposal Facilities (TSDF) Regulations: A User-Friendly Reference Document for RCRA Subtitle C Permit Writers and Permittees (January 2012)"* available at: http://www.epa.gov/epawaste/hazard/tsd/permit/tsd-regs/tsdf-ref-doc.pdf. You and your consultant may find this guidance useful.

Two copies of the license application must be signed in accordance with the plan submittal requirements of ss. NR 670.010(1) and NR 670.011, Wis. Adm. Code, before they are submitted to the Department. Submit one copy to Wisconsin Department of Natural Resources, Attention: Frank Schultz, 2300 N. Dr. Martin Luther King Jr. Dr., Milwaukee, Wisconsin, 53212. Submit the second copy and the appropriate plan review fee to Wisconsin Department of Natural Resources, Attention: Michael Ellenbecker, 9531 Rayne Road, Suite IV, Sturtevant, WI 54177. In addition, submit one copy to the U.S. Environmental Protection Agency, Attention: Mr. Jae Lee, LR-8J, 77 West Jackson Blvd., Chicago, IL 60604. While not a code requirement, the Department encourages Veolia to also submit your feasibility and plan of operation report an electronic document in a PDF format as this will accelerate the Department's review of feasibility and plan of operation report. Please submit this document with the copy provided to Michael Ellenbecker.

Environmental Assessment/Wetlands. An environmental assessment is required under ch. NR 150, Wis. Adm. Code, for a feasibility and plan of operation report of this type. Specific requirements that must be included in the feasibility and plan of operation report that are necessary for completing this environmental assessment can be found in s. NR 670.014(2)(x)2., Wis. Adm. Code. To aid in determining the need for an environmental impact report or impact statement, the feasibility and plan of operation report must include a discussion that adequately addresses the items specified in that section. The Department cannot issue a feasibility and plan of operation determination without having completed an environmental assessment. In addition, the facility must demonstrate compliance with ch. NR 103, Wis. Adm. Code, water quality standards for wetlands.

Local Approval and Negotiation/Arbitration. Veolia must notify local municipalities to determine if any new or additional requirements apply to the facility; receive confirmation from the municipality that Veolia is complying with any local requirements; and, determine if a waiver from local approval requirements will be issued. If you determine that your facility is required to obtain local approvals under s. 289.22, Stats., you may not submit your feasibility and plan of operation report until the 120 day waiting period has expired or you have obtained a waiver from the waiting period from the local governing body. Therefore, it is important to make this determination immediately. If you are required to obtain local approvals and enter into the negotiation and arbitration process for siting a hazardous waste facility under s. 289.33, Stats., a copy of the Waste Facility Siting Board standard notice must accompany any written request for local approvals to each affected municipality (s. 289.22(2), Stats.). A copy of the standard notice can be obtained at: http://dha.state.wi.us/home/WFSB/Forms/standard%20notice.pdf. In addition, your request for local approvals must be sent by certified mail. A copy of the local approval request to each affected municipality and its returned certified mail receipt must be sent to the Waste Facility Siting Board and must be included in the feasibility and plan of operation report. The Siting Board address is located on the letterhead of the notice. You may wish to consult with your company's legal counsel on these sections of the statutes.

In addition to seeking local approvals, ss. NR 670.007(1) and NR 670.431, Wis. Adm. Code, require Veolia to hold at least one public meeting prior to submitting the feasibility and plan of operation report to the Department. The

purpose of the public meeting is to inform the community of the proposed hazardous waste activities and to solicit questions from the community regarding the proposed activities. The meeting is to be public noticed at least 30 days prior to the meeting taking place. Details of the public notice and other procedural matters relating to the pre-application public meeting and notice requirements can be found in s. NR 670.431, Wis. Adm. Code.

Confidentiality. If any information is submitted under a claim of confidentiality, the confidentiality requirements of s. 291.15, Stats., and ss. NR 2.19 and NR 2.195, Wis. Adm. Code, must be followed.

Needs. The Department is also required by s. 289.28, Stats., to determine the need for a hazardous waste facility. The Department must consider the approximate service area of the proposed facility, taking into account the economics of waste collection, transportation, and disposal; the quantity of waste suitable for handling at the proposed facility generated within that service area; and, the design capacity for certain facilities located within that anticipated service area. This information must also be included in the feasibility and plan of operation report, as specified in s. NR 670.014(2)(x)3., Wis. Adm. Code.

Noncompliance with Plans or Orders. Under s. 289.34, Stats., the Department may not approve a feasibility and plan of operation report or issue an operating license for a hazardous waste facility if the applicant or any person owning 10% or greater legal or equitable interest in the applicant or the assets of the applicant either: 1) is named in or is subject to a plan approved, or an order issued, by the Department regarding any solid waste facility or hazardous waste facility in this state and is not in compliance with the terms of the plan or order; or, 2) owns or previously owned a 10% or greater legal or equitable interest in a person or the assets of a person who is named in and subject to a plan approved, or an order issued, by the Department regarding any solid waste facility or hazardous waste facility in this state and the person is not in compliance with the terms of the plan or the order. Veolia must provide information to the Department, as specified in s. NR 670.014(2)(x)1., Wis. Adm. Code, to show that it complies with the above statute.

Corrective Action. In accordance with ch. NR 664, subch. F, Wis. Adm. Code, facilities seeking a hazardous waste operating license are required to initiate corrective action as necessary to protect human health and the environment. Chapter NR 706, Wis. Adm. Code, also requires notification of hazardous substance discharges. If any releases are known to have occurred since the Department issued its feasibility and plan of operation approval the facility must document that information as part of the feasibility and plan of operation report and include a plan for addressing the releases, as specified in s. NR 670.014(3), Wis. Adm. Code. If no known releases have occurred, that should be documented as well.

In accordance with s. 291.37(2), Wis. Stats, the Department may require by an order or license condition, the nature of the corrective action required, a period for achieving compliance with the corrective action requirements and a period for the owner or operator to establish proof of financial responsibility for the cost of corrective action.

In order for the license application to be complete, the feasibility and plan of operation report must include the current status of corrective action activities at Veolia, including a description, schedule and detailed cost estimate for corrective action activities still needed at Veolia, and a financial responsibility mechanism that covers the estimated cost for corrective action activities.

The license application must include the following information on investigation or remediation activities for each corrective action management unit at the facility:

a. The current status of investigation and/or remediation activities, including a description of on-going site investigations, remedies that have been implemented or long-term operation and maintenance activities.
b. A description of the investigation and remediation activities that are expected to occur during the 10 year licensing period. Include a proposed schedule projected through the 10 year licensing period, detailed cost estimates for the proposed work, and if appropriate, an evaluation of likely remedial alternatives .
c. In addition, include cost estimates for any on-going activities, such as long-term monitoring or for operating in-place remedial systems.

Suggested Format. The Department has the following suggestions in regard to the format of the feasibility and plan of operation report.

- Use the Wisconsin Administrative Code NR 660 to 670 and the license checklist as a guide for developing the table of contents for the feasibility and plan of operation report. The Department strongly encourages that the feasibility and plan of operation report follows the enclosed license checklist, so that each item in the checklist corresponds to an item in the feasibility and plan of operation report. In the feasibility and plan of operation report include the code citation from the checklist as this will accelerate the Department's review of feasibility and plan of operation report (see example below). In addition, prepare a Table of Contents that clearly identifies the sections of feasibility and plan of operation report where information is located with page numbers.

  NR 670.014(2)(k)3 – Flood Plains
  Veolia is not located within a 100 year flood plain; therefore, the requirements of NR 670.014(2)(k)4 and 5 do not apply. See the FEMA Floodplain map in Appendix T.
- Use a page numbering system where every page is marked with the page number, including the chapter and the date so revised pages are clearly identified. For example, a page numbering system of *5-13 (rev. 12-23-11),* indicates Chapter 5, page 13 includes revisions made on December 23, 2011. Please refrain from the use of using roman numerals for numbering pages.
- Provide a portable document format (PDF) file for all information submitted. The PDF file needs to mirror the hard or paper copy of the feasibility and plan of operation report. Include a Table of Contents which is "hot" so clicking on any entry takes you directly to the spot in a feasibility and plan of operation report and ensure that all text is searchable.
- Include in a section or appendix a history of the licensing activities for Veolia since the issuance of the feasibility and plan of operation approval on August 14, 2003. Documentation should include the Department's August 14, 2003 feasibility and plan of operation report conditional approval, any subsequent modification approvals, and other pertinent correspondence related to licensing activities at Veolia.
- Submit full size plan sheets (24 inches by 36 inches) for all drawings submitted. Place the full size plan sheets in a separate binder and reference the plan sheets in the text of the feasibility and plan of operation report.
- Provide a narrative describing the various non hazardous waste license operations at the facility.
- Ensure that all information submitted is legible and free from visual artifacts.
- Where applicable ensure that all maps and drawings contain the following elements: Title, Border around all 4 sides of the drawing and drawn using straight lines, Legend or key for every symbol on the map, Scale, Directions (compass rose), Location and labeling of areas, Symbols to signify certain areas of interest, Date of publication and Source of information.

If you have any questions regarding these requirements or wish to arrange a meeting to discuss the licensing process, please contact Michael Ellenbecker at (262) 884-2342 or by email at michael.ellenbecker@wisconsin.gov.

Edward K Lynch

Edward K Lynch, PE, Chief
Hazardous Waste Prevention & Management Section
Bureau of Waste and Materials Management

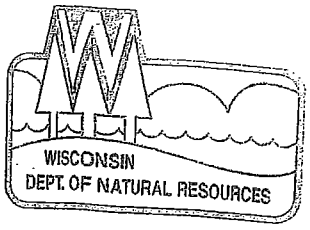
Mike Ellenbecker

Michael Ellenbecker,
Waste Management Specialist
Sturtevant Service Center

cc: Waste Facility Siting Board
Mike Ellenbecker – SER Sturtevant
Frank Schultz – SER Milwaukee
Ed Lynch & Pat Chabot – WA/5
Jae Lee - U.S. EPA Region 5
SER File

State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
Sturtevant Service Center
9531 Rayne Road
Sturtevant WI 53177

Scott Walker, Governor
Cathy Stepp, Secretary
Telephone 608-266-2621
Toll Free 1-888-936-7463
TTY Access via relay - 711



October 11, 2013

File Ref: FID 246076050
Ozaukee
HW / LIC

Kevin Shaver
Veolia Environmental Services
1275 Mineral Springs Drive
Port Washington, WI 53074

RE: Notice of Receipt of a Feasibility and Plan of Operation Report for Veolia ES Technical Solutions LLC.

Enclosed is a copy of the class 1 public notice that was published on September 26, 2013, for Veolia ES Technical Solutions LLC (Veolia) located at 1275 Mineral Springs Drive in Port Washington, Wisconsin. Veolia submitted a feasibility and plan of operation report (FPOR) on August 14, 2013, as part of the process of re-licensing their facility as a hazardous waste container storage and treatment facility. You were sent this notice because you are listed on Veolia's mailing list. If you have any questions regarding the public notice of the FPOR please feel free to call me at 262-884-2342 or by e-mail at michael.ellenbecker@wisconsion.gov.

Sincerely,

Mike Ellenbecker

Michael Ellenbecker
Waste and Materials Management Specialist
Licensing and Policy Review Coordinator

BEFORE THE
STATE OF WISCONSIN
NOTICE OF RECEIPT OF A FEASIBILITY AND PLAN OF OPERATION REPORT
VEOLIA ES TECHNICAL SOLUTIONS, LLC
PORT WASHINGTON, WI
EPA ID#: WID988566543

NOTICE IS HEREBY GIVEN, pursuant to section NR 670.432(2), Wisconsin Administrative Code, that the Department of Natural Resources (department), on August 14, 2013, received a Feasibility and Plan of Operation Report (FPOR) submitted by Veolia ES Technical Solutions, LLC (Veolia) as part of the process of re-licensing their facility as a hazardous waste container storage and treatment facility. Veolia is located at 1275 Mineral Springs Drive in Port Washington, Ozaukee County, Wisconsin.

The purpose of the FPOR and the review of the FPOR is to determine whether the facility is still feasible for use as a hazardous waste container storage and treatment facility and to establish any site specific conditions which must be included for operation of this hazardous waste facility. Veolia's hazardous waste operations are as follow:

1. Maximum container storage capacity of 255,128 gallons.
2. Maximum container treatment capacity of 25,000 pounds per day.

This notice is for the purpose of providing the public with information regarding the contact persons for information regarding Veolia and the locations for reviewing documents. Interested parties can direct information, opinions, request to be on the facility mailing list and make inquiries throughout the application process to:

Veolia contact:
Kevin Shaver
Veolia ES Technical Solutions. LLC
1275 Mineral Springs Drive
Port Washington, WI 53074
(262) 243-8900

Department contact:
Michael Ellenbecker
Department of Natural Resources
9531 Rayne Road, Suite IV
Sturtevant, WI 53177
(262) 884-2342

Copies of the FPOR are available for public review at the following location: Department of Natural Resources, Southeast Region, 9531 Rayne Road, Suite IV, Sturtevant, WI 53177.

Dated at Milwaukee, Wisconsin, September 26, 2013

STATE OF WISCONSIN DEPARTMENT OF NATURAL RESOURCES
For the Secretary

Edward K Lynch

Edward K Lynch, PE, Chief
Hazardous Waste Prevention & Management Section
Bureau of Waste and Materials Management

BEFORE THE
STATE OF WISCONSIN
NOTICE OF A CORRECTION TO A NOTICE OF RECEIPT OF A FEASIBILITY AND PLAN OF OPERATION REPORT FOR THE CLASS 1 PUBLIC NOTICE PUBLISHED BY THE DEPARTMENT OF NATURAL RESOURCES ON SEPTEMBER 26, 2013
VEOLIA ES TECHNICAL SOLUTIONS, LLC
PORT WASHINGTON, WI
EPA ID#: WID988566543

Maximum container storage capacity is 20,000 gallons and not 255,128 gallons as stated in the September 26, 2013, class 1 public notice.

State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
Sturtevant Service Center
9531 Rayne Road
Sturtevant WI 53177

Scott Walker, Governor
Cathy Stepp, Secretary
Telephone 608-266-2621
Toll Free 1-888-936-7463
TTY Access via relay - 711

October 14, 2013

File Ref: FID 246076050
OZAUKEE
HW / CORR

Mr. Kevin Shaver
Veolia ES Technical Solutions, LLC
1275 Mineral Springs Drive
Port Washington, WI 53074

SUBJECT: Acknowledgment of a proposed Feasibility and Plan of Operation Report.

Dear Mr. Kevin Shaver:

This letter is to acknowledge the receipt of a proposed Feasibility and Plan of Operation Report dated August 05, 2013 for the Veolia ES Technical Solutions, LLC located at 1275 Mineral Springs Drive, Port Washington, WI, 53074, DNR license/identification number 6008. The submittal was received by the Department on August 14, 2013 and is in regards to the following:

Enclosed is invoice # 5098-10219 for $4,000 for container storage and invoice # 5098-10220 for $4,000 for miscellaneous treatment. This invoice is for review fees established in chapter NR 670, Wis. Adm. Code. The payment and the enclosed invoices entitled *"Customer Copy - Return with Payment"* is to be received by the Department by November 13, 2013.

Wisconsin statutes and codes set out a timeframe of 60 days for our review of this submittal, after our receipt of a complete application and appropriate review fee. Based on our current workload, we estimate we will be able to either provide you with a decision or determine that this submittal is incomplete within 60 days. If workload or staffing changes prevent us from meeting this timeframe, we will inform you as soon as possible.

I am the lead review staff person assign to this project. Please feel free to contact me with any questions you have at (262) 884-2342.

Sincerely,

Mike Ellenbecker

Michael Ellenbecker, Licensing and Policy Review Coordinator
Hazardous Waste Prevention & Management Section
Bureau of Waste and Materials Management

cc: File

State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
101 S. Webster Street
Box 7921
Madison WI 53707-7921

Scott Walker, Governor
Cathy Stepp, Secretary
Telephone 608-266-2621
Toll Free 1-888-936-7463
TTY Access via relay - 711

May 6, 2014

File Ref: FID 246076050
OZAUKEE
HW / CORR

Mr. Kevin Shaver
Veolia ES Technical Solutions, LLC
1275 Mineral Springs Drive
Port Washington, WI 53074

Subject: Notice of Incompleteness for the Feasibility and Plan of Operation Report
Veolia ES Technical Solutions Port Washington
EPA ID #: WID988566543
FID #: 246076050

Dear Mr. Shaver:

The Department has completed the review of the feasibility and plan of operation report (FPOR) submitted by Veolia ES Technical Solutions, for storing hazardous waste and recovering/retorting mercury wastes at the Veolia ES Technical Solutions facility located at 1275 Mineral Springs Drive, Port Washington, WI. The FPOR was received by the Department on August 8, 2013, with addenda provided on December 6, 2013 and January 27, 2014. Based upon the Department's review, the Department has determined that the FPOR does not contain the minimum information required by chs. NR 660 through 679, Wisconsin Administrative Code. Points of incompleteness and areas of technical inadequacy are identified in this letter.

For your information, this letter is not a denial of the FPOR, but merely indicates that the Department has not received the minimum information as required by chs. NR 660 to 679, Wis. Adm. Code. Once you have satisfied the minimum informational requirements, the Department will review your submittal and render a determination on the FPOR. All references in this letter refer to the Veolia ES Technical Solutions 's August 8, 2013 FPOR and/or most recent associated addenda.

Item 5. below requests additional environmental monitoring to supplement and update work done in the October 19, 2004 RCRA Facility Investigation (RFI) Report (Appendix J of the FPOR). This environmental monitoring represents a snapshot update on facility environmental conditions for quality assurance purposes as required by s. NR 660.40(1)(d), Wis. Adm. Code. This is partially in response to past releases at the Veolia – Port Washington facility as identified on the DNR's Bureau for Remediation and Redevelopment Tracking System database and Table 2-1 of the FPOR. It is likely that routine soil sampling for mercury will be required as a condition of approval for this FPOR.

GENERAL ISSUES

1. The Department had difficulties in determining the completeness of this FPOR due to the fact that the checklist provided did not correspond to the correct page numbers of the most recent submittal. This was due to a number of updates to the FPOR. In the future, if whole sections are updated resulting in page numbering changes relevant

to references in the checklist, please also update cross references in the checklist. Also, the formatting of the table cut off text in a number of table cells where sections were listed.

2. s. NR 216.21 (b)6, Wis. Adm. Code requires an up-to-date non-point storm water permit. All storm water application materials including a storm water pollution prevention plan (SW3P) should be in the facility record and provided to Hazardous Waste program plan review staff.
3. Provide a copy of all nonhazardous waste plans of operation and licenses, as well as narrative describing the various nonhazardous/universal waste operations at the facility.
4. Technical data, such as design drawings and specifications, and engineering studies must be certified by a registered professional engineer. This includes plan sheets D-1 through D-3 (s. NR 670.014, Wis. Adm. Code) which do not have a certification from a professional engineer.
5. As part of an overall reevaluation assessment of the TSDF operations, the following additional pieces of environmental data-related information are requested:
    a. Air monitoring results (Jerome meter results) from calendar years 2012 and 2013 in all areas monitored at the facility.
    b. Representative samples of sediment, soil, and surface water analyzed for mercury and other parameters with similar methods of detection as identified in Appendix J. Four representative samples of soil in a 10 cm profile (within 100 cm of each side of the parking area); sediment sampling consistent with Appendix J; and one representative sample of surface water collected from the pond located on the property north of the parking area and facility. Please contact us if you have questions on the scope of the sampling effort.

ITEMS OF INCOMPLETENESS
PART I - GENERAL REQUIREMENTS

Section A. General Requirements NR 670.010 to NR 670.014

6. A.9. Technical data, such as design drawings and specifications and engineering studies are certified by WI registered PE. NR 670.014(1).
7. A.25. Documentation demonstrating compliance with A.22. to A.24., including references to published scientific or engineering literature, data from trial tests, waste analysis or the results of treatment of similar waste by similar treatment under similar operating conditions. NR 664.0017(3).

Section B. Noncompliance with Plans or Orders NR 670.014(2)(x)1.

8. B.4. Statement regarding whether or not all plan approvals and orders relating to all identified facilities are being complied with. NR 670.014(2)(x)1.d.

Section D. Groundwater Protection NR 670.014(3)

9. D.7. If hazardous constituents have not been detected in the groundwater at the time of the license application, sufficient information, supporting data and analyses to establish a detection monitoring program which meets NR 664.0098. NR 670.014(3)(f).

Section G. Waste Analysis Plan Requirement NR 670.014(2)(e)

10. G.8. Frequency of repeating initial analysis to ensure it is accurate and up to date. NR 664.0013(2)(d).

Section M: Closure Cost Estimate and Financial Responsibility NR 670.014(2)(o)

11. M.3. Cost estimate is based on hiring a third party to close the facility. NR 664.0142(1)(b). It is not appropriate for the purpose of this cost to assume in-house labor rates or that in-house cost to manage waste material applies.

PART II – UNIT REQUIREMENTS

Section C. Container Standards Ignitable, Reactive and Incompatible Waste NR 670.015(3) and NR 670.015(4)

12. C.10. Description of procedures to ensure hazardous waste is not placed in an unwashed container that previously held an incompatible waste or material NR 664.0177(2).

ITEMS NOT TECHNICALLY ADEQUATE
PART I - GENERAL REQUIREMENTS

Section A. General Requirements NR 670.010 to NR 670.014

13. A.7. Documentation showing compliance with local approval requirements. NR 670.014(2)(w). Please provide documents supporting the conclusions that local approvals are not needed.
14. A.8. Complete Part A application. NR 670.013. Appendix D does not include description of the new unit covered under the air permit modification for the updated retort unit. Please include.
15. A.12. Description of procedures, structures, or equipment used to prevent runoff from hazardous waste handling areas or to prevent flooding. No description or analysis for storm water run on and potential flooding is provided.
16. A.14. Description of procedures, structures or equipment used to mitigate effects of equipment failure or power outages. NR 670.014(2)(h)4. Provide details on how and why the procedures, structures and equipment at the facility are used to mitigate effects of equipment failure or power outages. Is there enough electrical capacity to maintain the air handling system?
17. A.16. Description of procedures, structures or equipment used to prevent releases to the atmosphere. NR 670.014(2)(h)6. Provide details of how and why the procedures, structures and equipment at the facility are use to prevent release to the atmosphere. There are no mercury results. Pressure drop daily? Will additional lamp lines processing phosphor powder impact TSDF operations?

Section B. Noncompliance with Plans or Orders NR 670.014(2)(x)1.

18. B.2. Identification of all WI solid or hazardous waste facilities for which applicant or other identified person is named in or subject to a Department order or plan approval. NR 670.014(2)(x)1.b. What are the results of this investigation?
19. B.3. Identification of all WI solid or hazardous waste facilities owned by the applicant or other identified person who owns or previously owned ≥10% interest in the assets. NR 670.014(2)(x)1.c.What are those identified facilities?

Section C. Environmental Impact Review NR 670.014(2)(x)2.

20. C.5. Description of proposed physical changes related to air emissions and water discharges during facility construction, operation and closure. NR 670.014(2)(x)2.b.4. Please discuss mercury deposition.
21. C.19. Identify, describe and discuss feasible alternatives such as taking no action, enlargement, reduction or modification of the project. NR 670.014(2)(x)2.e. This discussion does not state where these wastes can be sent, in addition to Veolia-owned disposal facilities.

Section G. Waste Analysis Plan Requirements NR 670.014(2)(c)

22. G.9. At a minimum, analysis is repeated if the process generating the waste has changed or when the inspection upon receiving the waste does not match the description on the manifest. NR 664.0013(1)(c). Provide more explicit procedures than simply stating "as appropriate…the waste will be analyzed."

Section J. Contingency Plan Requirements NR 670.014(2)(g)

23. J.8. Current list of emergency equipment, describing location, physical description and capability of each item. NR 664.0052(5). List where these are in the contingency plan.

Section L. Closure Plan Requirements NR 670.014(2)(m)

24. L.4. Description of the maximum extent of operations during the active life of the facility. NR 664.0112(2)(a). No discussion of what constitutes "maximum extent."
25. L.7. Identification of the types of off-site hazardous waste management units to be used. NR 664.0112(2)(c). What defines an "appropriate" TSDF?

26. L.8. Detailed description of steps needed to remove or decontaminate all hazardous waste residues and contaminated equipment, structures and soils during partial and final closure. NR 664.0112(2)(d). Describe what the standards are and what level is considered "clean."

PART II – UNIT REQUIREMENTS

Section B. Container Standards – Containment NR 670.015(1)

27. B.1. Base of containment system is designed and operated to be free of cracks or gaps and sufficiently impervious to leaks and precipitation until material is removed. NR 664.0175(2)(a). Please provide an assessment of the current state of the containment system, including whether a chemically compatible coating has been applied and that there are no cracks, gaps, or other defects in the containment system.
28. B.3. Capacity of containment system is 10% of the volume of containers or the volume of the largest container, whichever is greater. Containers without free liquids need not be considered. NR 664.0175(2)(c). How big is the biggest allowable volume for a single container allowed into storage?
29. B.5. Spilled waste and precipitation are removed from sump or collection area in a timely manner to prevent overflow. NR 664.0175(2)(e). Please define what "in a timely manner" means in terms of hours or days or some defined procedure.
30. B.7. Description of basic design parameters, dimensions and materials of construction of the containment system. NR 670.015(1)(a). See 27 above.
31. B.11. How accumulated liquids will be analyzed and removed to prevent overflow. NR 670.015(1)(e). Please define what "in a timely manner" means.

A response addressing these points of incompleteness and technical inadequacy should be submitted within sixty (60) days of the date of this letter. Your timely response to this letter will assist Veolia ES Technical Solutions in moving more quickly towards Veolia ES Technical Solutions's goal of obtaining an operating license for the continued and proposed hazardous waste management activities at your facility. **A complete response is equally important, as the Department may require an applicant to pay review fees specified in ch. NR 670 when a plan which has been twice declared incomplete is resubmitted.** Please contact me if you would like to set up a meeting to discuss any of the above issues. I can be reached at (608) 267-3540, or by e-mail at david.panofsky@wisconsin.gov.

Sincerely,

David S. Panofsky, P.E.
Hazardous Waste Management Engineer

Cc: Ed Lynch - WA/5
Mike Ellenbecker – Hazardous Waste Program Coordinator
Phillip Ditter - Veolia ES Technical Solutions
John Schwabe - SE Region
Jae Lee - US EPA Region 5

VEOLIA

Ditter, Phillip <phillip.ditter@veolia.com>

TCLP and Total Hg for lamp glass and end caps

1 message

Panofsky, David S - DNR <David.Panofsky@wisconsin.gov> 12 January 2015 at 14:43
To: "Phillip Ditter (phillip.ditter@veolia.com)" <phillip.ditter@veolia.com>

Hi Phil –

Happy New Year.

I'm almost done with a draft of the Environmental Review of the FPOR and realize that I can't find results of the monthly TCLP and total mercury for both the lamp glass and lamp aluminum end-caps. Could you please send me the last three years of data or tell me where that data is in the FPOR? Thanks in advance.

David

We are committed to service excellence.
Visit our survey at http://dnr.wi.gov/customersurvey to evaluate how I did.

David S. Panofsky, P.E.
Hazardous Waste Management Engineer – Bureau of Waste & Materials Management
Wisconsin Department of Natural Resources
Phone: 608-267-3540
Fax: 608-267-2768
David.Panofsky@Wisconsin.gov

dnr.wi.gov

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Scott Walker, Governor
Cathy Stepp, Secretary
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Toll Free 1-888-936-7463
TTY Access via relay - 711

April 30, 2015

File Ref: FID 246076050
OZAUKEE
HW / LIC

Mr. Kevin Shaver
Veolia ES Technical Solutions, LLC
1275 Mineral Springs Drive
Port Washington, WI 53074

Subject: Notice of Completeness and Preliminary Determination to Conditionally Approve the Feasibility and Plan of Operation Report for Veolia ES Technical Solutions, LLC Port Washington
EPA ID #: WID988566543
FID #: 246076050

Dear Mr. Ditter:

The Department of Natural Resources (Department) has reviewed Veolia ES Technical Solutions, LLC (VESTS) Feasibility and Plan of Operation Report (FPOR) originally submitted on August 14, 2013, and all subsequent submittals for completeness and technical adequacy. The FPOR was prepared by VESTS.

Based on the review of the submitted material, the Department has determined that the FPOR is complete and contains the minimum information required by chs. NR 660-673, Wis. Adm. Code. The Department has also made a preliminary determination that an environmental impact statement for the re-issuance of the hazardous waste license for VESTS will not be required and that the needs criteria of s. 289.28, Wis. Stats., have been met. In addition, the Department has made a preliminary determination to conditionally approve the FPOR. A proposed conditional approval is attached.

Please note that you are required to provide a complete copy of the FPOR submitted for the re-licensing process to the clerk of the affected local municipalities and to the local library, per s. 289.24(4), Wis. Stats.

The Department will now accept public comments on the proposed determinations as required by s. 289.25(3), Wis. Stats., and s. NR 670.410(1)(a), Wis. Adm. Code. Comments will be received for 45 days following the publication of a Class 1 legal notice. The public notice will be published in the Wisconsin State Journal and the Ozaukee Press on April 30, 2015 and also placed on the Department's website at: http://dnr.wi.gov/ topic/Waste/Comment.html. In addition, a radio ad for the opportunity for public comment was placed with radio station 92.5 WBWI/1470 WBKV on the same date during morning and evening drive times. The public notice and radio announcement will inform the public that the FPOR, the preliminary determination, the initial environmental assessment, the preliminary notice of the reaffirmation of the initial environmental assessment, and the fact sheet are available for review at the Department's Plymouth office and the W. J. Niederkorn Library, 316 W. Grand Avenue, Port Washington, WI 53074. The Department is sending a copy of the preliminary determination, the initial environmental assessment and the press release reaffirming the decision of the initial environmental assessment and the fact sheet to the W. J. Niederkorn Library. VESTS should send a complete, updated copy of the FPOR to the W. J. Niederkorn Library before the public notice period begins on April 30, 2015. The public notice, website and radio announcement will

state that the Department must receive comments within 45 days of the issuance of the public notice or by June 15, 2015. After the public comment period ends, the Department will consider all comments received during the public comment period before issuing a final determination.

Any comments received during the public comment period will be reviewed to determine if there is significant public interest in this project to warrant an informational hearing under s. 289.26, Wis. Stats., or to determine if the criteria of s. 289.27, Wis. Stats, have been met to require a contested case hearing.

Please note that this is a preliminary determination and is subject to change based on comments and additional information received by the Department. Please contact David Panofsky if you have any questions at (608) 267-3540, or by e-mail at david.panofsky@wisconsin.gov.

Sincerely,

Edward K Lynch, PE, Chief
Hazardous Waste Prevention & Management Section
Bureau of Waste and Materials Management

Cc: David Panofsky - WA/5
Mike Ellenbecker – Hazardous Waste Program Coordinator
Phil Ditter- Veolia ES Technical Solutions
David Braun - Veolia ES Technical Solutions
John Schwabe - SE Region
Jae Lee - US EPA Region 5

State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
101 S. Webster Street
Box 7921
Madison WI 53707-7921

Scott Walker, Governor
Cathy Stepp, Secretary
Telephone 608-266-2621
Toll Free 1-888-936-7463
TTY Access via relay - 711

April 30, 2015

File Ref: FID 246076050
OZAUKEE
HW / LIC

Mr. Kevin Shaver
Veolia ES Technical Solutions, LLC
1275 Mineral Springs Drive
Port Washington, WI 53074

Subject: Notice of Completeness and Preliminary Determination to Conditionally Approve the Feasibility and Plan of Operation Report for Veolia ES Technical Solutions, LLC Port Washington
EPA ID #: WID988566543
FID #: 246076050

Dear Mr. Ditter:

The Department of Natural Resources (Department) has reviewed Veolia ES Technical Solutions, LLC (VESTS) Feasibility and Plan of Operation Report (FPOR) originally submitted on August 14, 2013, and all subsequent submittals for completeness and technical adequacy. The FPOR was prepared by VESTS.

Based on the review of the submitted material, the Department has determined that the FPOR is complete and contains the minimum information required by chs. NR 660-673, Wis. Adm. Code. The Department has also made a preliminary determination that an environmental impact statement for the re-issuance of the hazardous waste license for VESTS will not be required and that the needs criteria of s. 289.28, Wis. Stats., have been met. In addition, the Department has made a preliminary determination to conditionally approve the FPOR. A proposed conditional approval is attached.

Please note that you are required to provide a complete copy of the FPOR submitted for the re-licensing process to the clerk of the affected local municipalities and to the local library, per s. 289.24(4), Wis. Stats.

The Department will now accept public comments on the proposed determinations as required by s. 289.25(3), Wis. Stats., and s. NR 670.410(1)(a), Wis. Adm. Code. Comments will be received for 45 days following the publication of a Class 1 legal notice. The public notice will be published in the Wisconsin State Journal and the Ozaukee Press on April 30, 2015 and also placed on the Department's website at: http://dnr.wi.gov/ topic/Waste/Comment.html. In addition, a radio ad for the opportunity for public comment was placed with radio station 92.5 WBWI/1470 WBKV on the same date during morning and evening drive times. The public notice and radio announcement will inform the public that the FPOR, the preliminary determination, the initial environmental assessment, the preliminary notice of the reaffirmation of the initial environmental assessment, and the fact sheet are available for review at the Department's Plymouth office and the W. J. Niederkorn Library, 316 W. Grand Avenue, Port Washington, WI 53074. The Department is sending a copy of the preliminary determination, the initial environmental assessment and the press release reaffirming the decision of the initial environmental assessment and the fact sheet to the W. J. Niederkorn Library. VESTS should send a complete, updated copy of the FPOR to the W. J. Niederkorn Library before the public notice period begins on April 30, 2015. The public notice, website and radio announcement will

state that the Department must receive comments within 45 days of the issuance of the public notice or by June 15, 2015. After the public comment period ends, the Department will consider all comments received during the public comment period before issuing a final determination.

Any comments received during the public comment period will be reviewed to determine if there is significant public interest in this project to warrant an informational hearing under s. 289.26, Wis. Stats., or to determine if the criteria of s. 289.27, Wis. Stats, have been met to require a contested case hearing.

Please note that this is a preliminary determination and is subject to change based on comments and additional information received by the Department. Please contact David Panofsky if you have any questions at (608) 267-3540, or by e-mail at david.panofsky@wisconsin.gov.

Sincerely,

Edward K Lynch, PE, Chief
Hazardous Waste Prevention & Management Section
Bureau of Waste and Materials Management

Cc: David Panofsky - WA/5
Mike Ellenbecker – Hazardous Waste Program Coordinator
Phil Ditter- Veolia ES Technical Solutions
David Braun - Veolia ES Technical Solutions
John Schwabe - SE Region
Jae Lee - US EPA Region 5

State of Wisconsin
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Box 7921
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Cathy Stepp, Secretary
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TTY Access via relay - 711

September 4, 2015

File Ref: FID 246076050
OZAUKEE
HW / LIC

Mr. Kevin Shaver
Veolia ES Technical Solutions, LLC
1275 Mineral Springs Drive
Port Washington, WI 53074

Subject: Final Determination to Conditionally Approve a Feasibility and Plan of Operation Report for a Hazardous Waste Storage and Treatment Facility at Veolia ES Technical Solutions, LLC Port Washington
EPA ID #: WID988566543
FID #: 246076050

Dear Mr. Shaver:

The Department of Natural Resources (Department) has reviewed Veolia ES Technical Solutions, LLC (VESTS) Feasibility and Plan of Operation Report (FPOR) originally submitted on August 14, 2013, and all subsequent submittals. The FPOR was prepared by VESTS. A preliminary determination to conditionally approve the FPOR was issued by the Department on April 30, 2015. The final approval of the FPOR is enclosed. Please review the conditions in the enclosed final determination carefully as the following change was made to the final determination.

1. Condition 45 has been added and reads: "The effective date for the initial licensing of miscellaneous treatment units (R3, R4, and R5 or any subsequent treatment units) at VESTS, shall be October 1, 2015. "

In addition, this letter confirms that the Department received one public comment (from VESTS) and the Department has determined that no environmental impact statement is required, the wetlands water quality standards of ch. NR 103, Wis. Adm. Code have been met and the needs requirements of s. 289.28 have also been met.

Based on information provided in the FPOR and subsequent submittals, it is the Department's determination that VESTS will allow satisfactory storage and treatment of hazardous wastes, provided the facility complies with the FPOR, the conditions of the approval and chapters NR 660 to NR 679, Wis. Adm. Code. Note that the Department retains jurisdiction to either require the submittal of additional information or to modify this approval at any time if, in the Department's opinion, conditions warrant further modifications.

As required by NR 670.415(2), Wis. Adm. Code, the Department will publish the attached notice of intent to issue an operating license in the Wisconsin State Journal and the Ozaukee Press on September 10, 2015. Section NR 670.415(3), Wis. Adm. Code, requires the Department to re-issue the operating license within 30 days of publishing the notice or refund the operating license review fee. If you have any questions or concerns, please contact David Panofsky if you have any questions at (608) 267-3540, or by e-mail at david.panofsky@wisconsin.gov.

Sincerely,

Edward K Lynch, PE, Chief
Hazardous Waste Prevention & Management Section
Bureau of Waste and Materials Management

Cc: David Panofsky - WA/5
Mike Ellenbecker – Hazardous Waste Program Coordinator
Phil Ditter- Veolia ES Technical Solutions
David Braun - Veolia ES Technical Solutions
Jae Lee - US EPA Region 5

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TECHNICAL SOLUTIONS
NORTH AMERICA

August 5, 2013

Mr. Michael J Ellenbecker
Wisconsin Department of Natural Resources
9531 Rayne Road, Suite IV
Sturtevant, WI 53177

RE: Relicense Application and Feasibility and Plan of Operation Report
Veolia ES Technical Solutions, L.L.C.
1275 Mineral Springs Drive
Port Washington, WI 53074
EPA I.D. # WID988566543

Dear Mr. Ellenbecker:

Veolia ES Technical Solutions, L.L.C. (Veolia ES) is submitting the enclosed Relicense Application and Feasibility and Plan of Operation Report (FPOR) for the hazardous waste container storage unit and miscellaneous units – mercury recovery/retort operations located at the above referenced site. The submittal is contained in two separate binders. One contains the body of the FPOR and the second contains the referenced appendices. The table and figures referenced in each section of the FPOR are located at the end of each section.

The submittal checklist is located directly after the Table of Contents in the main binder.

We trust this application complies with 180 day submittal deadline for the application. If you have any questions regarding this letter, please contact me at 262-243-8909.

Sincerely,

VEOLIA ES TECHNICAL SOLUTIONS, L.L.C.

Kevin D. Shaver
Operations Manager

Enc.

Cc: Frank Schultz, WDNR
Jae Lee, US EPA

Veolia ES Technical Solutions, L.L.C.
1275 Mineral Springs Drive, Port Washington, Wisconsin 53074
tel: 262 243 8900 - fax: 262 284 3775
www.VeoliaES.com

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August 6, 2013

Mr. Michael J Ellenbecker
Wisconsin Department of Natural Resources
9531 Rayne Road, Suite IV
Sturtevant, WI 53177

RE: **Additional Pages**
Relicense Application and Feasibility and Plan of Operation Report
Veolia ES Technical Solutions, L.L.C.
1275 Mineral Springs Drive
Port Washington, WI 53074
EPA I.D. # WID988566543

Dear Mr. Ellenbecker:

Veolia ES Technical Solutions, L.L.C. (Veolia ES) is submitting the **additional pages for the** Relicense Application and Feasibility and Plan of Operation Report (FPOR) for the hazardous waste container storage unit and miscellaneous units – mercury recovery/retort operations located at the above referenced site. Tables 6-1, 6-2, and 6-3 were not included in the FPOR submitted on August 5, 2013. Please add these pages to the FPOR after the Section 6 text and before the Figures associated with Section 6.

We apologize for any inconvenience associated with adding the pages.

If you have any questions regarding this letter, please contact me at 262-243-8909.

Sincerely,

VEOLIA ES TECHNICAL SOLUTIONS, L.L.C.

Kevin D. Shaver
Operations Manager

Enc.

Cc: Frank Schultz, WDNR
Jae Lee, US EPA

Veolia ES Technical Solutions, L.L.C.
1275 Mineral Springs Drive, Port Washington, Wisconsin 53074
tel: 262 243 8900 - fax: 262 284 3775
www.VeoliaES.com

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August 8, 2013

Mr. Michael J Ellenbecker
Wisconsin Department of Natural Resources
9531 Rayne Road, Suite IV
Sturtevant, WI 53177

RE: **Electronic Copy**
Relicense Application and Feasibility and Plan of Operation Report
Veolia ES Technical Solutions, L.L.C.
1275 Mineral Springs Drive
Port Washington, WI 53074
EPA I.D. # WID988566543

Dear Mr. Ellenbecker:

As requested in the August 7, 2012 call-in letter, Veolia ES Technical Solutions is providing the Department with an electronic version of the Feasibility and Plan of Operation Report in a PDF format on the enclosed flash drive.

If you have any questions regarding this letter, please contact me at 262-243-8908.

Sincerely,

VEOLIA ES TECHNICAL SOLUTIONS, L.L.C.

Phillip Ditter, CHMM
Environmental Health and Safety Manager

Enc.

Veolia ES Technical Solutions, L.L.C.
1275 Mineral Springs Drive, Port Washington, Wisconsin 53074
tel: 262 243 8900 - fax: 262 284 3775
www.VeoliaES.com

ENVIRONMENTAL SERVICES

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NORTH AMERICA

November 8, 2013

Mr. Michael J Ellenbecker
Wisconsin Department of Natural Resources
9531 Rayne Road, Suite IV
Sturtevant, WI 53177

RE: **Modification: Miscellaneous Unit – Mercury Recovery/Retort Operations**
Feasibility and Plan of Operation Report
Veolia ES Technical Solutions, L.L.C.
1275 Mineral Springs Drive
Port Washington, WI 53074
EPA I.D. # WID988566543

Dear Mr. Ellenbecker:

Veolia ES Technical Solutions, L.L.C. (VESTS) is notifying the Department of our intent to update the August 6, 2013 Feasibility and Plan of Operation Report (FPOR) to reflect a modification to the miscellaneous unit mercury recovery/retort operations. Specifically, VESTS intends on replacing the two ASE MR25 electric retort ovens (R1 and R2) with one natural gas direct fired Model Batch 8/8/6-12G (R5). The oven will not increase the overall mercury recovery/retort operations capacity of 25,000 pounds per day. The replacement of R1 and R2 is solely associated with the age and physical conditions of R1 and R2. The replacement oven R5 will be connected to the existing vacuum system, condensers, and air emission control devices.

VESTS has meet with the Department's Air Permitting Section and it was determined a construction permit application is required for the new source. VESTS intends on submitting the application by November 30, 2013. VESTS will also submit updates to the FPOR to reflect the proposed change.

We anticipate the Department construction permit could be issued by the end of February 2014. At this time VESTS would like to begin the construction activities. VESTS would like to manage the removal of R1 and R2 and the installation of R5 under the current regulatory classification of units as exempt metal recovery units under NR 666.100(4). We anticipate the new RCRA permit will not be finalized prior to completing the removal of R1 and R2 and the installation of R5. Once the new RCRA permit is in-place, R5 will be subject to the permit conditions.

We would like to confirm this approach for the mercury recovery/retort operation changes with the Department.

Veolia ES Technical Solutions, L.L.C.
1275 Mineral Springs Drive, Port Washington, Wisconsin 53074
tel: 262 243 8900 - fax: 262 284 3775
www.VeoliaES.com

If you have any questions regarding this letter, please contact me at 262-243-8909.

Sincerely,

VEOLIA ES TECHNICAL SOLUTIONS, L.L.C.

Kevin D. Shaver
Operations Manager

VEOLIA
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NORTH AMERICA

December 6, 2013

Mr. Michael J Ellenbecker
Wisconsin Department of Natural Resources
9531 Rayne Road, Suite IV
Sturtevant, WI 53177

RE: **Modification: Miscellaneous Unit – Mercury Recovery/Retort Operations**
Feasibility and Plan of Operation Report
Veolia ES Technical Solutions, L.L.C.
1275 Mineral Springs Drive
Port Washington, WI 53074
EPA I.D. # WID988566543

Dear Mr. Ellenbecker:

On November 8, 2013 Veolia ES Technical Solutions, L.L.C. (VESTS) submitted a letter to the Department indicating our intention to update the August 6, 2013 Feasibility and Plan of Operation Report (FPOR) to reflect a modification to the miscellaneous unit mercury recovery/retort operations. With this letter, VESTS is submitting the changes to the FPOR to reflect the planned modification. Enclosed please find the following replacement pages (changes) to the FPOR:

- Table of Contents – pages i-viii: Updates to page numbers
- Section 1.0 – pages 1-1 to 1-5: Update to Section 1.1.3
- Table 2-3 – pages 3 and 4: Update to SWMU#5 information
- Figure 2-8: Update of Retort
- Figure 2-9: Update of Retort
- Section 4.0 – pages 4-1 to 4-28: Updates to Sections 4.5, 4.5.1, 4.5.1.2, 4.5.1.3, 4.5.1.4, 4.5.2, 4.5.5, 4.5.6, 4.5.7.1, and 4.5.8.
- New Appendices A2, A3, A4, L1, and M1

The FPOR changes reflects VESTS intent to replace the two ASE MR25 electric retort ovens (R1 and R2) with one natural gas direct fired Model Batch 8/8/6-12G (R5). The oven will not increase the overall mercury recovery/retort operations capacity of 25,000 pounds per day. The replacement of R1 and R2 is solely associated with the age and physical conditions of R1 and R2. The replacement oven R5 will be connected to the existing vacuum system, condensers, and air emission control devices.

On December 6, 2013, VESTS submitted to the Department the Application for Air Pollution Control Construction Permit for the R5 unit. A copy of the application is provided in Appendix L1.

Veolia ES Technical Solutions, L.L.C.
1275 Mineral Springs Drive, Port Washington, Wisconsin 53074
tel: 262 243 8900 - fax: 262 284 3775
www.VeoliaES.com

We anticipate the Department could issue the air construction permit by the end of February 2014. Therefore in March 2014 VESTS will likely begin the construction activities for R5. VESTS will manage the removal of R1 and R2 and the installation of R5 under the current regulatory classification of units as exempt metal recovery units under NR 666.100(4). We will submit a copy of the construction permit as an update to the FPOR.

If you have any questions regarding the changes for the FPOR, please contact me at 262-243-8909.

Sincerely,

VEOLIA ES TECHNICAL SOLUTIONS, L.L.C.

Kevin D. Shaver
Operations Manager

Enclosure As Stated

Cc: Frank Schultz, WDNR
Jae Lee, US EPA

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NORTH AMERICA

January 27, 2014

Mr. Michael J Ellenbecker
Wisconsin Department of Natural Resources
9531 Rayne Road, Suite IV
Sturtevant, WI 53177

RE: **Modification: Miscellaneous Unit – Mercury Recovery/Retort Operations Feasibility and Plan of Operation Report**
Veolia ES Technical Solutions, L.L.C.
1275 Mineral Springs Drive
Port Washington, WI 53074
EPA I.D. # WID988566543

Dear Mr. Ellenbecker:

On December 6, 2013 Veolia ES Technical Solutions, L.L.C. (VESTS) submitted to the Wisconsin Department of Natural Resources (Department) an update to the August 6, 2013 Feasibility and Plan of Operation Report (FPOR) to reflect a modification to the miscellaneous unit mercury recovery/retort operations. The update contained Appendix L1, which provided a copy of VESTS's December 5, 2013 Application for Air Pollution Control Construction Permit (Application) for the R5 Unit.

On January 8, 2014, Mr. Krishnan Balakrishnan, Air Management Engineer for the Wisconsin WDNR, submitted via e-mail a list of questions and comments to VESTS regarding the Application. On January 17, 2014, VESTS submitted a response to Mr. Balakrishnan regarding the questions and updated Application information. The enclosed new Appendix L2 provides a copy of the January 17, 2014 letter to Mr. Balakrishnan. Also enclosed please find an updated Table of Contents to reflect the addition of Appendix L2.

We still anticipate the Department will issue the air construction permit for R5 by the end of February 2014. Therefore in March 2014 VESTS will likely begin the construction activities for R5. VESTS will manage the removal of R1 and R2 and the installation of R5 under the current regulatory classification of units as exempt metal recovery units under NR 666.100(4). We will submit a copy of the construction permit as an update to the FPOR.

Veolia ES Technical Solutions, L.L.C.
1275 Mineral Springs Drive, Port Washington, Wisconsin 53074
tel: 262 243 8900 - fax: 262 284 3775
www.VeoliaES.com

If you have any questions regarding the changes for the FPOR, please contact me at 262-243-8909.

Sincerely,

VEOLIA ES TECHNICAL SOLUTIONS, L.L.C.

Kevin D. Shaver
Operations Manager

Enclosure As Stated

Cc: Frank Schultz, WDNR
Jae Lee, US EPA

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ENVIRONMENTAL SERVICES

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NORTH AMERICA

August 14, 2014

Mr. David Panofsky
Wisconsin Department of Natural Resources
P.O. Box 7921
Madison, WI 53707-7921

RE: Veolia ES Technical Solutions
1275 Mineral Springs Drive
Port Washington, WI 53074
EPA ID #: WID988566543
Response to Notice of Incompleteness extension request

Dear Mr. Panofsky:

This letter is being submitted to request an extension to the deadline for the submittal of the response to the Notice of Incompleteness dated May 6, 2014. This request is for an additional thirty days and would extend the deadline for the response to September 6, 2014, 120 days from the date the notice was issued.

Although we have made significant progress in the preparation of the response to the notice, there have been a number of factors that have delayed finalizing the response and have necessitated this request for an extension.

If you have any questions, please call me at 262-243-8908 or e-mail at phillip.ditter@veolia.com.

Sincerely,

VEOLIA ES TECHNICAL SOLUTIONS, L.L.C.

Phillip Ditter, CHMM
Environmental Health and Safety Manager

Veolia ES Technical Solutions, L.L.C.
1275 Mineral Springs, Drive, Port Washington, WI 53074
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NORTH AMERICA

January 23, 2015

Mr. David Panofsky
Wisconsin Department of Natural Resources
PO Box 7921
Madison, WI 53707-7921

RE: **Response to January 12, 2015 e-mail correspondence**

Dear Mr. Panofsky:

This letter and the enclosed documents, as listed below are being submitted in response to your January 12, 2015 e-mail correspondence requesting analytical testing data for the prior three years for the glass and aluminum end caps generated in the lamp recycling process.

Enclosed are updated copies of the following documents. Each document is a replacement for the current version within the Fesibility and Plan of Operation Report or is an entirely new document to be included.

- Table of Contents
- Appendix X – Laboratory Analysis 2012 - 2014

I f you have any questions regarding the documents contained in this submittal please contact me at 262-243-8908 or by e-mail at phillip.ditter@veolia.com.

Sincerely,

VEOLIA ES TECHNICAL SOLUTIONS, L.L.C.

Phillip Ditter, CHMM
Environmental Health and Safety Manager

Enc.

Cc: John Schwabe, WI Department of Natural Resources
Kevin Shaver, Veolia ES Technical Solutions

Veolia ES Technical Solutions, L.L.C.
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NORTH AMERICA

September 8, 2014

Mr. David Panofsky
Wisconsin Department of Natural Resources
PO Box 7921
Madison, WI 53707-7921

RE: **Response to Notice of Incompleteness**
Veolia ES Technical Solutions, L.L.C.
1275 Mineral Springs Drive
Port Washington, WI 53074
EPA I.D. # WID988566543

Dear Mr. Panofsky:

This letter and the enclosed attachments are being submitted in response to the Notice of Incompleteness for the Feasibility and Plan of Operation Report for the above listed facility, dated May 6, 2014.

Included with this letter is a document titled Response to Notice of Incompleteness, Summary of Responses. This document contains an itemized summary of the response to each item listed in the Notice of Incompleteness.

Also included are updated copies of the following Sections, Drawings and Appendices. Each Section, Drawing or Appendix is a replacement for the whole Section unless noted otherwise.

- Completeness and Technical Evaluation Checklist
- Table of Contents
- Section 1 – Introduction
- Section 2 – Facility Location (excluding figures and tables)
- Section 4 – Facility Operations (excluding Figure 4-1)
- Section 5 – Preparedness and Prevention
- Section 6 – Waste Analysis Plan (excluding figures and tables)
- Section 9 – Closure Plan
- Section 10 – Closure Cost Estimate and Financial Requirements
- Table 10.1 – Closure Estimate for Closure

Veolia ES Technical Solutions, L.L.C.
1275 Mineral Springs, Drive, Port Washington, WI 53074
tel: 262 243 8900 - fax: 262 284 3775
www.VeoliaES.com

- Drawings D1, D2 and D3 Signed by a Professional Engineer
- Appendix D – RCRA Part A Application
- Appendix N – Air Emission Inventory Reports and Monitoring Data
- Appendix Q – Closure Cost Support Documentation
- Appendix S – Solid Waste Processing Facility Plan of Operation
- Appendix T – Storage Room Floor Documentation
- Appendix U – 2014 Sampling Plan
- Appendix V – Groundwater Detection Monitoring Program
- Appendix W – Storm Water NOI and Storm Water Pollution Prevention Plan

I f you have any questions regarding the documents contained in this submittal please contact me at 262-243-8908 or by e-mail at phillip.ditter@veolia.com.

Sincerely,

VEOLIA ES TECHNICAL SOLUTIONS, L.L.C.

Phillip Ditter, CHMM
Environmental Health and Safety Manager

Enc.

Cc: John Schwabe, WI Department of Natural Resources
Kevin Shaver, Veolia ES Technical Solutions

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tel: 262 243 8900 - fax: 262 284 3775
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1275Mineral Springs Drive
Port Washington, WI 53074
EPA ID #: WID988566543

Response to Notice of Incompleteness
Summary of Responses

GENERAL ISSUES

1. *The Department had difficulties in determining the completeness of this FPOR due to the fact that the checklist provided did not correspond to the correct page numbers of the most recent submittal. This was due to a number of updates to the FPOR. In the future, if whole sections are updated resulting in page numbering changes relevant to references in the checklist, please also update the cross references in the checklist. Also, the formatting of the table cut off test in a number of table cells where sections were listed.*

The Completeness and Technical Evaluation Checklist has been updated to reflect all revisions to the application. Those revisions include any prior revisions that remain applicable as well as the revisions included in this submittal. With respect to table formatting, this spreadsheet was created by the department and is protected against updating. As such, we are providing an electronic copy of the checklist via e-mail correspondence in addition to the physical copy included in this submittal.

2. *S. NR 216.21(b)6, Wis. Adm. Code requires an up-to-date non-point storm water permit. All storm water application materials including a storm water pollution prevention plan (SW3P) should be in the facility record and provided to Hazardous Waste program plan review staff.*

Section 1.5.5 has been updated to reference the Storm Water NOI and Storm Water Pollution Prevention Plan and those documents have been included in Appendix W.

3. *Provide a copy of nonhazardous waste plans of operation and licenses, as well as narrative describing the various nonhazardous/ universal waste operations at the facility.*

A copy of the Solid Waste Processing Facility Plan of Operation, excluding drawings and appendixes which are duplicated elsewhere in this FPOR or have been superseded by newer documents, has been inserted in newly created Appendix S.

A description of the universal waste handling activities has been inserted into the newly created Section 4.6.5.

4. *Technical data, such as design drawing and specification and engineering studies must be certified by a registered professional engineer. This includes plan sheets D-1 through D-3 (s. NR 670.014, Wis. Adm. Code)*

Drawings D-1 through D-3 have been updated to include a certification by registered professional engineer.

5. *As part of an overall reevaluation assessment of the TSDF operations, the following additional pieces of environmental data-related information are requested:*
    a. *Air monitoring results (Jerome meter results) from calendar years 2012 and 2013 in all areas monitored at the facility.*

    Appendix N has been revised and updated to include copies of the facility air emissions inventory reports from 2012 and 2013, as well as copies of the air emissions monitoring data for the same periods.

    b. *Representative samples of sediment, soil, surface water analyzed for mercury and other parameters with similar methods of detection as identified in Appendix J. four representative samples of soil in a 10 cm profile (within 100 cm of each side of the parking area); sediment sampling consistent with Appendix J; and one representative sample of surface water collected from the pond located on the property north of the parking area and facility. Please contact us if have questions on the scope of the sampling effort.*

    A new Section 2.6.1.3 has been inserted to address this issue. Additionally a proposed work plan for the completion of the sampling has been included in Appendix V, 2014 Sampling Plan.

ITEMS OF INCOMPLETENESS

PART I – GENERAL REQUIREMENTS

Section A. General Requirements NR 670.010 to NR 670.014

6. *A.9. Technical data, such as design drawings and specifications and engineering studies are certified by WI registered PE. NR 670.014(1).*

Drawings D-1 through D-3 have been updated to include a certification by registered professional engineer.

7. *A. 25. Documentation demonstrating compliance with A.22. to A.24., including references to published scientific or engineering literature, data from trial tests, waste analysis or the results of treatment of similar waste by similar treatment under similar operating conditions. NR 664.0017(3).*

Section 4.2.2 has been updated documenting the technical resources available to the TSDF. These resources include the Veolia ES Technical Solutions corporate chemical Information Specialist as well as Veolia's chemical database.

Section B. Noncompliance with Plans or Orders NR 670.014(2)(x)1.

8. *B.4. Statement regarding whether or not all plan approvals and orders relating to all identified facilities are being complied with. NR 670.014(2)(x)1.d.*

Section 1.5.1 has been updated to reflect that all identified facilities located in Wisconsin are in compliance with all plan approvals or orders. Additionally, outdated language carried over from prior renewal application has been removed.

Section D. Groundwater Protection NR 670.014(3)

9. *D.7. If hazardous constituents have not been detected in the groundwater at the time of the license application, sufficient information, supporting data and analyses to establish a detection monitoring program with meets NR 664.0098. NR 670.014(3)(f).*

A new Section 2.5.4 Groundwater Detection Monitoring Program, and a new Appendix U, Groundwater Detection Monitoring Program Work Plan have been included to address the need for a detection monitoring program.

Section G. Waste Analysis Plan requirement NR 670.014(2)(e)

10. *G.8. Frequency of repeating initial analysis to ensure it is accurate and up to date. NR 664.0013(2)(d).*

Section 6.2 had previously established the frequency of retesting at five years, unless there is a change in the process. As part of this update, Section 6.2 has been further divided into Sections 6.2.1 for universal wastes and 6.2.2 for hazardous wastes. Section 6.2.2 retains the five year retest frequency; however the section has been updated to reflect the analysis to be performed must be consistent with the analysis originally performed to characterize the waste.

Section M: closure Cost Estimate and Financial Responsibility NR 670.014(2)(o)

11. *M.3. cost estimate is based on hiring a third party to close the facility. NR 664.014(1)(b). It is not appropriate for the purpose of this cost to assume in-house labor rates or that in-house cost to manage waste material applies.*

Section 10 has been updated to reflect that the facility closure cost estimate is based on a third party closing the facility as opposed to Veolia hiring a third party to close the facility. The closure cost estimate has also been updated to reflect Veolia's past experience in closing mercury recycling facilities. Supporting documentation for the updated closure cost estimate is included in Appendix Q.

PART II – UNIT REQUIREMENTS

Section C. Container Standards Ignitable, Reactive and Incompatible Waste NR 670.015(3) and NR 670.015(4)

12. *C.10. Description of procedures to ensure hazardous waste is not placed in an unwashed container that previously held an incompatible waste or material NR 664.0177(2).*

Section 4.2.2 has been updated to document that waste profiles are reviewed to determine if any potential incompatibilities. This information is then used to ensure that hazardous waste is not placed into a container which previously held incompatible materials. Copies of this correspondence in provided in Appendix C.

ITEMS NOT TECHNICALLY ADEQUATE

PART I – GENERAL REQUIREMENTS

Section A. General Requirements NR 670.010 to NR 670.014

13. *A.7. Documentation showing compliance with local approval requirements. NR 670.014(2)(w). Please provide documents supporting the conclusions that local approvals are not needed.*

As stated in Section 1.4, all local municipalities were contacted by submitting a letter to them notifying them of the license renewal process and seeking a determination whether local approvals are necessary for "siting" the existing TSDF. Veolia did not receive any responses from the local municipalities that approvals would be needed for the renewal of the license. Additionally, none of the local municipalities contacted the Facility Siting Board indicating a desire to participate in the negotiation of arbitration process. The Facility Siting Board then issued a letter indicating that Veolia could proceed with the renewal and local approvals would not be required.

14. *A.8. Complete Part A application. NR 670.013. Appendix D does not include description of the new unit covered under the air permit modification for the updated retort unit. Please include.*

An updated Part A application reflecting the new configuration with modified retort has been prepared and is included in Appendix D, Part A Application.

15. *A.12. Description of procedures, structures, or equipment used to prevent runoff from hazardous waste handling areas to prevent flooding. No description or analysis for storm water run on and potential flooding is provided.*

Section 5.5 has been updated to reflect that all storage areas are indoors and the facility is not located within a flood plain and as such the storage areas are protected against run-on or flooding.

16. *A.14. Description of procedures, structures or equipment used to mitigate effects of equipment failure or power outages. NR 670.014(2)(h)4. Provide details on how and why the procedures,*

structures and equipment at the facility are used to mitigate effects of equipment failure or power outages. Is there enough electrical capacity to maintain the air handling systems?

Section 5.5.3 has been updated to reflect the power output from the back-up generator and confirms this generator provides sufficient power to operate all critical systems including air pollution control devices and vacuum pumps.

17. *A16. Description of procedures, structures or equipment used to prevent release to the atmosphere. NR 670.014(2)(h)6. Provide details of how and why the procedures, structures and equipment at the facility are use to prevent release to the atmosphere. There are no mercury results. Pressure drop daily? Will additional lamp lines processing phosphor powder impact TSDF operations.*

Section 4.5.5 has been updated to reference the detailed information contained in Appendix L1 for a description of the air pollution control devices employed at the facility. With respect to the question regarding additional lamp lines, the TSDF would not be able to install additional lamp lines without an air pollution construction permit. In order to obtain a construction permit, the TSDF would be required to demonstrate compliance with all applicable air emission limits and permit requirements.

Section B. Noncompliance with Plans and Orders NR 670.014(2)(x)1.

18. *B2. Identification of all WI solid or hazardous waste facilities owned by the applicant or other identified person is named in or subject to a Department order or plan approval. NR 670/.014(2)(x)1.b. What are the results of this investigation?*

Section 1.5.1 has been updated to more clearly document compliance with the requirements of NR670.014(2)(x).

19. *B.3. Identification of all WI solid hazardous waste facilities owned by the applicant or other identified person who owns or previously owned ≥10% interest in the assets. NR 670.014(2)(x)1.b. What are those identified facilities?*

Section 1.5.1 has been updated to more clearly document compliance with the requirements of NR670.014(2)(x).

Section C. Environmental Impact Review

20. *C.5. Description of proposed physical changes related to air emissions and water discharges during facility construction, operation and closure. NR 670.014(2)(x)2.b.4. Please discuss mercury deposition.*

Section 2.3.2 has been updated to include a description of the impact of the proposed physical changes related to air emissions and a brief discussion of mercury deposition.

21. *C.19. Identify, describe and discuss feasible alternatives such as taking no action, enlargement, reduction or modification of the project. NR 670.014(2)(x)2.e. This discussion does not state where these wastes can be sent, in addition to Veolia-owned disposal facilities.*

Section 2.3.5 has been expanded to more fully address all alternatives to relicensing. The language in this Section was not intended to limit the alternatives to only Veolia owned facilities and has been updated to expand the alternatives to the upper Midwest as opposed to the southeastern portion of Wisconsin. The alternatives to the TSDF include but are not limited to national companies such as Waste Management, Heritage Environmental and Lighting Resources, as well as regional or local companies such as Lamp Recyclers or Recycle Technologies.

Section G. Waste Analysis Plan Requirements NR 670.014(2)(c)

22. *G.9. At a minimum, analysis is repeated if the process generating the waste has changed or when the inspection upon receiving the waste does not match the description on the manifest. NR664.013(1)(c). Provide more explicit procedures than simply stating "as appropriate…the waste will be analyzed."*

A new Section 6.2.1 has been added to describe the procedures for the characterization and approval of universal wastes into the TSDF.

Section 6.2.2, previously Section 6.2, has been updated to remove the phrase "as appropriate" and to include references to the tables and figures outlining procedures for selecting and methods for performing analysis contained within the waste analysis plan. This Section has also been updated to further describe the procedures employed for the recertification of a waste stream.

Section J. Contingency Plan Requirements NR 670.014(2)(g)

23. *J.8. Current list of emergency equipment, describing location, physical description and capability of each items. NR 664.0052(5). List where these are in the contingency plan.*

Section 8.10 of the contingency plan references Table 8-3, Equipment and Systems for Emergency Response, includes a listing of the emergency equipment, the location of that equipment and the capabilities of that equipment.

Section L. Closure Plan Requirements NR 670.014(2)(m)

24. *L.4. Description of the maximum extent of operations during the active life of the facility. NR 664.0112(2)(a). No discussion of what constitutes "maximum extent."*

A new paragraph has been added to Section 9.0 describing how the facility has no land disposal operations and as such could operate indefinitely but a useful life of thirty years has been established for the purpose of defining the maximum extent.

25. *L.7. Identification of the types of off-site hazardous waste management units to be used. NR 664.0112(2)(c). What defines an "appropriate" TSDF?*

Sections 9.1.2.1 – 9.1.2.5 have been updated to define an "appropriate" TSDF as a TSDF that is properly licensed and permitted to the accept the waste and is capable of managing the waste in accordance with the land disposal restriction standards.

26. *L.8. Detailed description of the steps needed to remove or decontaminate all hazardous waste residues and contaminated equipment, structure and soils during partial and final closure. NR 664.0112(2)(d). Describe what the standards are and what level is considered "clean."*

Sections 9.1.2.1 – 9.1.2.5 have been updated to describe the top down cleaning procedures to be used for the cleaning of the facility at closure. Section 9.1.3 has been updated to define a closure standard that would be considered "clean."

PART II – UNIT REQUIREMENTS

Section B. Container Standards – containment NR 670.015(1)

27. *B.1. Base of containment system is designed and operated to be free of cracks or gaps and sufficiently impervious to leaks and precipitation until material is removed. NR 664.0175(2)(a). Please provide an assessment of the current state of the containment system, including whether a chemically compatible coating has been applied and that there are no cracks, gaps, or other defects in the containment system.*

Section 5.5 has been updated to include a description of the material of construction and methods of construction. Additionally, an inspection of all containment pods was conducted and cracks were not identified in any of the pods. Photo documentation of that inspection is included Appendix T.

28. *B.3. Capacity of containment system is 10% of the volume of containers or the volume of the largest container, whichever, is greater. Containers without free liquids need not be considered. NR 664.0175(2)(c). How big is the biggest allowable volume for a single container allowed in storage.*

Section 5.5.1 has been updated identifying the capacity of the single largest container with free liquids. In storage pods 1A, 1B, 2A, 2B,and 2C the single largest container is a 350 gallon tote and the single largest container in any of the other storage pods is a 95 gallon drum.

29. *B.5. Spilled waste and precipitation are removed from sump or collection area in a timely manner to prevent overflow. NR 664.0175(2)(e). Please define what "in a timely manner" means in terms of hours or days or some defined procedure.*

Section 5.5.1 has been updated to define the phrase "in a timely manner" for the removal of spilled material as soon as it can safely be accomplished and not to exceed 24 hours following discovery.

30. *B.7. Description of basic design parameters, dimensions and materials of construction of the containment system. NR 670.015(1)(a). See 27 above.*

Section 5.5 has been updated to include a description of the material of construction and methods of construction. Additionally, a copy of the original floor plan with the construction specifications has been included in Appendix T.

31. *B.11. How accumulated liquids will be analyzed and removed to prevent overflow. NR 670.015(1)(e). Please define what "in a timely manner" means.*

Section 5.5.1 has been updated to define the phrase "in a timely manner" for the removal of spilled material as soon as it can safely be accomplished and not to exceed 24 hours following discovery.

July 15, 2015

Mr. David Panofsky
Wisconsin Department of Natural Resources
PO Box 7921
Madison, WI 53707-7921

RE: **Preliminary Determination**
Veolia ES Technical Solutions, L.L.C.
1275 Mineral Springs Drive
Port Washington, WI 53074
EPA I.D. # WID988566543

Dear Mr. Panofsky:

Veolia ES Technical Solutions, L.L.C. (VESTS) is submitting this letter to the Department as part of the public comment period that commenced on April 30, 2015 and extended by the Department to July 20, 2015. Veolia is submitting the same comment for two (2) documents contained in the Preliminary Determination issued by the Department on April 30, 2015. Specifically, VESTS's comment covers the following document and specific sections:

- The first paragraph in the section entitled "Treatment – License # 4585" on page 8 of 32 in the Preliminary Determination.
- The first paragraph in the section entitled "Treatment – License # 4585" on page 9 of 21 in the Fact Sheet.

The purpose of this revision is two-fold. First, the domestic use of recovered elemental mercury at this time is highly dependent on supply and demand and economic value of the mercury. VESTS's intent is to continue to recover elemental mercury and return it back into the United States marketplace even after the units are licensed as treatment unit. Secondly, VESTS is seeking acknowledgement from the Department that the units are currently exempt recycling units and not subject to an annual licensing fee. Therefore VESTS should not be subject to a non-prorated licensing fee for the period ending September 30, 2015. Restricting the marketing of mercury and the assessment of retroactive licensing fees would place VESTS at a competitive disadvantage for voluntarily permitting these units at the request of the department.

Veolia North America
1275 Mineral Springs Drive
Port Washington, WI 53074
tel. +1 800 556 5267 - fax +1 262 284 3775

www.veolianorthamerica.com

Veolia is respectively requesting the following revised text be substituted in the two (2) documents.

> "During the issuance of the August 7, 2012, call-in letter, the Department suggested to VESTS, that VESTS should consider licensing their retort ovens due to MEBA. The Department explained to VESTS, that if there is no market for mercury, then the retort ovens would likely no longer be eligible as an exempt hazardous waste treatment unit. Although a market currently exists for the mercury recovered in these units, VESTS agreed to include these units in the FPOR as it is probable that the market conditions for mercury will change within the next ten years. The licensing of these units will not restrict VESTS from marketing the recovered mercury as long as a market exists that is in compliance the requirements of MEBA. The effective date for the licensing of these units as miscellaneous treatment will be October 1, 2015 or the issuance date of the final determination, whichever is later."

If you have any questions regarding the documents contained in this submittal please contact me at 262-243-8908 or by e-mail at phillip.ditter@veolia.com.

Sincerely,

VEOLIA ES TECHNICAL SOLUTIONS, L.L.C.

KDS 7/16/15

Phillip Ditter, CHMM
Environmental Health and Safety Manager

Cc: Kevin Shaver, Veolia ES Technical Solutions

Veolia North America
1275 Mineral Springs Drive
Port Washington, WI 53074
tel. +1 800 556 5267 - fax +1 262 284 3775

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B

Pre-Application Meeting Documentation

Capital Newspapers Proof of Publication Affidavit

Ad #: 2044673 Price: $40.28 Ad ID: Public Notice for 5/9/13

Retain this portion for your records.
Please do not remit payment until you receive your advertising invoice.

Mail to:

Veolia ES Technical Solutions, LLC
Kevin D. Shaver
1275 Mineral Springs Drive
Port Washington, WI 53074

STATE OF WISCONSIN }
Dane County } ss.

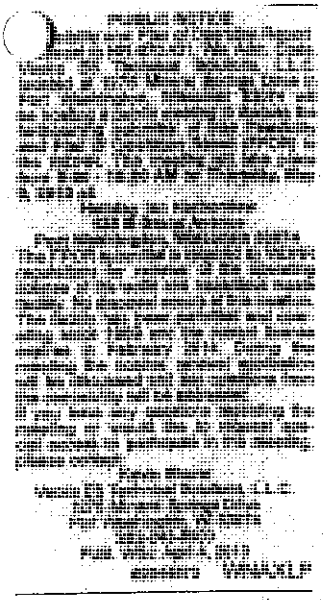
SHARON SCALLON

being duly sworn, doth depose and say that he (she) is an authorized representative of Capital Newspapers, publishers of

PWSJ

Wisconsin State Journal

a newspaper, at Madison, the seat of government of said State, and that an advertisement of which the annexed is a true copy, taken from said paper, was published therein on April 4th, 2013



(Signed) Sharon Scallon

(Title) Principal Clerk

Subscribed and sworn to before me on

4.4.13

Notary Public, Dane County, Wisconsin

My Commission expires April 15th, 2015

92.5 WBWI-FM / CLASSIC COUNTRY AM 1470 WBKV

CLIENT: VEOLIA ES TECHNICAL SOLUTIONS
TITLE: *PUBLIC MEETING*
CO-OP:
A.E.: PAUL CLEMENTS
WRITER: CLIENT/PAUL NOTES:
DATE: 04/01/13 EMAIL TO:
COPIES: # CD's: Mp3:

START: 04/09/13
END: 04/09/13
AV#: LIVE READ
LENGTH: :60

HERE'S A PUBLIC NOTICE FROM VEOLIA ES TECHNICAL SOLUTIONS IN PORT WASHINGTON. ~~ON A FEASIBILITY AND PLAN OF OPERATION REPORT.~~ PURSUANT TO NR 670.431, WISCONSIN ADMINISTRATION CODE, VEOLIA ES TECHNICAL SOLUTIONS, L.L.C., LOCATED AT 1275 MINERAL SPRINGS DRIVE IN PORT WASHINGTON, WISCONSIN 53074 WILL BE HOSTING A PUBLIC MEETING TO DISCUSS THE FORTHCOMING SUBMITTAL OF THEIR FEASIBILITY AND PLAN OF OPERATION REPORT (FPOR) TO THE WDNR. THE MEETING WILL TAKE PLACE ON THURSDAY, MAY 9, 2013, 9:00 AM TO 10:00 AM AT THE HOLIDAY INN HARBORVIEW, 135 E GRAND AVENUE, PORT WASHINGTON, WISCONSIN 53074. THE FPOR SUBMITTAL IS REQUIRED BY WDNR REGULATIONS FOR RENEWAL OF THE OPERATING LICENSE OF THE SOLID AND HAZARDOUS WASTE FACILITY. NO DISPOSAL OCCURS AT THIS LOCATION. THE FACILITY HAS BEEN PERMITTED AND OPERATING SINCE 1989 AND THE CURRENT LICENSE EXPIRES IN FEBRUARY 2014. DURING THE MEETING THE LICENSE RENEWAL APPLICATION WILL BE DISCUSSED AND ANY QUESTIONS FROM THE COMMUNITY WILL BE ADDRESSED. IF YOU HAVE ANY QUESTIONS REGARDING THE MEETING OR WOULD LIKE TO REQUEST SPECIAL ACCESS TO PARTICIPATE IN THE MEETING, PLEASE CONTACT KEVIN SHAVER, VEOLIA ES TECHNICAL SOLUTIONS, L.L.C., 1275 MINERAL SPRINGS DRIVE, PORT WASHINGTON, WISCONSIN 53074, OR CALL 262-243-89-HUNDRED.

WBKV-AM / WBWI-FM
WEST BEND BROADCASTING INC
Attn: Lynn Demerath
PO BOX 5001
[illegible]NESVILLE, WI 53547-5001
[illegible]-755-8322

VEOLIA ES TECHNICAL SOLUTIONS
Advertiser ID: 10903 Amount Paid

10903-00002-0000	4/30/2013	1
Official Invoice	**Date**	**Page**

DETACH AND RETURN WITH PAYMENT

10903-00002-0000 O 4/30/2013 1

VEOLIA ES TECHNICAL SOLUTIONS
Attn: KEVIN SHAVER
1275 MINERAL SPRINGS DR.
PORT WASHINGTON, WI 53074

Purchase Order Number:
Est. Number:
Co-Op:
Description: PUBLIC NOTICE
Salesperson: Clements, Paul

Date	Day	Length		Qty	Rate	Total
			Copy: LIVE			
4/10/2013	Wed	1:00	WBWI-FM 06:26:30 PM	1	$30.00	$30.00

Quantity	1	**Total**	**$30.00**
Total Due			**$30.00**

INVOICE

PORT PUBLICATIONS, INC.
125 E. MAIN STREET • P.O. BOX 249
PORT WASHINGTON, WISCONSIN 53074
(262) 284-3494 (262) 377-1250

Invoice

Invoice #: 00134734

Bill To:

VEOLIA ENVIRONMENTAL SERVICES
1275 MINERAL SPRINGS DR
PORT WASHINGTON, WI 53074

Ship To:

VEOLIA ENVIRONMENTAL SERVICES
1275 MINERAL SPRINGS DR
PORT WASHINGTON, WI 53074

SALESPERSON	YOUR ORDER NO.	SHIP VIA	FOB	PPD	SHIP DATE	TERMS	DATE	PG.
HOLLY OSTERMANN						Net 30	4/12/2013	1

QUANTITY	ITEM NO.	DESCRIPTION	PRICE	UNIT	DISC %	EXTENDED PRICE	TX
1	1	FEASIBILITY AND PLAN OF OPERATION REPORT (14 INCH) 4/4	$291.90			$291.90	

Please write your invoice number on your check. Thank you!

SALES AMOUNT	$291.90
TAX EXEMPT	$0.00
SALES TAX	$0.00
TOTAL AMOUNT	$291.90
PAID TODAY	$0.00
BALANCE DUE	$291.90

position in 2011.

Lightner has been the superintendent of Public schools since 2009. He previously served as superintendent of the Kimberly School District.

The Cedarburg School District received 36 applications for the superintendent's job. Recruitment and initial screening of applicants was done by BWT & Associates, a recruiting firm hired by the board.

BWT paired the field to six candidates who were interviewed last week. At that time, Ziegler said he was pleased with the quality of applicants, adding that he didn't think the board would have any problem finding an excellent person for the job.

Pechera's last day with the district will be June 30. Ziegler said his successor is not required to start work until July 1 but is likely to spend time with Cedarburg staff members before then during an extensive process.

Ozaukee Press staff

Village of Saukville officials are calling a cluster of new businesses approved by the Community Development Authority last month an indication of the improving economy.

The largest of the ventures supported by the CDA was Custom Color & Filling, which is moving into the vacant 9,600-square-foot building at 250 N. Progress Dr.

Company owners Richard Vanderkin and Robert Hanus told village officials the business started in 2007 in West Bend. It

The company has a working relationship with Threshold Industries, a West Bend-based sheltered workshop for workers with disabilities.

The CDA also approved the relocation of Broadband Solutions into the business park in a 5,000-square-foot building at 450 N. Progress Dr.

The company, owned by Brent Sager, is a cable subcontractor that works with Time Warner Cable. The building will be used for storage of equipment and materials.

Yet another approval was granted to

ronmental research.

After relative inactivity for more than year, village officials welcomed the flur of business brought before the CDA.

"This is the kind of CDA meeting ... li to have, with vacant building find ... ne tenants and existing buildings being sol said Village Administrator Dawn Wagner

Harold's son predicted the business sur might just be beginning, too, thanks to t loan program the village recently initiat with Port Washington State Bank.

The loan program is making up

Veolia ES Technical Solutions, LLC
Public Meeting
Attendance Sign-in Sheet

Date: 05/09/2013
Time: 9:00 am to 10:00 am
Location: Holiday Inn, Harborview
135 E Grand Avenue
Port Washington, Wisconsin 53074

NAME (print)	SIGNATURE	REPRESENTING	PHONE NUMBER / E-MAIL ADDRESS
Kevin Shaver		Veolia ES Technical Sol	262-243-8900 kevin.shaver@veolia.com
Phillip Dittel		Veolia ES Technical Sol	262-243-8900 phillip.dittel@veolia.com

C

Local Approval Request and Wisconsin Waste Facility Siting Board Documentation

State of Wisconsin
Waste Facility Siting Board
5005 University Avenue, Suite 201, Madison, WI 53705-5400
Phone: (608) 266-7709
Fax: (608) 264-9885
e-mail: dhamail@wisconsin.gov

James Schuerman
Chairman

David H. Schwarz
Executive Director

March 25, 2013

CERTIFIED MAIL

Kevin Shaver
Operations Manager
Veolia ES Technical Solutions, L.L.C
1275 Mineral Springs Drive
Port Washington, WI 53074

Mark Grams
City of Port Washington Clerk
100 West Grand Avenue
Port Washington, WI 53074

Amanda Schaefer
Town of Grafton Clerk
1230 11th Avenue
Grafton, WI 53024

Jenny Schlenvogt
Town of Port Washington Clerk
3715 Highland Drive
Port Washington, WI 53074

Julianne Winkelhorst
Ozaukee County Clerk
121 West Main Street
P.O. Box 994
Port Washington, WI 53074

Re: Veolia ES Technical Solutions, L.L.C permit renewal for hazardous waste storage; WFSB Case 219

To whom it may concern:

On January 17, 2013 the Waste Facility Siting Board received a copy of a written request for local approvals sent by Veolia ES Technical Solutions, L.L.C in Port Washington, WI. to the City of Port Washington Clerk, the Town of Grafton Clerk, the Town of Port Washington Clerk, and the Ozaukee County Clerk, regarding permit renewal of its hazardous waste facility located in Port Washington, Wisconsin. This request was received by the Town of Port Washington, the Town of Grafton, the City of Port Washington, and Ozaukee County on January 17th, 2013.

The law allows an affected municipality to participate in the negotiation process if the governing body adopts a siting resolution and appoints members of the local committee within 60 days after the municipality receives written requests by the applicant. Wis. Stats. § 289.33(6)(a).

In this case, neither the City of Port Washington, the Town of Grafton, the Town of Port Washington, nor Ozaukee County took the action required to participate in the negotiation and arbitration process.

As a result, the Waste Facility Siting Board considers this case closed and Veolia Technical Solutions, L.L.C may continue to seek permit renewal of its hazardous waste storage facility and is not required to negotiate or arbitrate under Wis. Stats. § 289.33

If you have any questions, please contact me.

Sincerely,

David H. Schwarz
Executive Director

DHA; br

Cc: Michael Ellenbecker, Wisconsin Department of Natural Resources

State of Wisconsin
Waste Facility Siting Board
5005 University Avenue, Suite 201, Madison, WI 53705-5400
Phone: (608) 266-7709
Fax: (608) 264-9885
e-mail: dhamail@wisconsin.gov

James Schuerman
Chairman

David H. Schwarz
Executive Director

January 29, 2013

CERTIFIED MAIL

Mr. Mark Grams
City of Port Washington Clerk
100 West Grand Avenue
Port Washington, WI 53074

Ms. Amanda Schaefer
Town of Grafton Clerk
1230 11th Avenue
Grafton, WI 53024

Ms. Jenny Schlenvogt
Town of Port Washington Clerk
3715 Highland Drive
Port Washington, WI 53074

Ms. Julianne B. Winkelhorst
Ozaukee County Clerk
121 West Main Street
P.O. Box 994
Port Washington, WI 53074

Re: Veolia ES Technical Solutions, L.L.C permit renewal for hazardous waste storage

To whom it may concern:

On January 17, 2013 the Waste Facility Siting Board received a copy of a written request for local approvals sent by Veolia ES Technical Solutions, L.L.C in Port Washington, WI. to the City of Port Washington Clerk, the Town of Grafton Clerk, the Town of Port Washington Clerk,

and the Ozaukee County Clerk, regarding permit renewal of its hazardous waste facility located in the Port Washington, Wisconsin. This request was received by the Town of Port Washington, the Town of Grafton, the City of Port Washington, and Ozaukee County on January 17th, 2013.

Within 60 days after a municipality receives this written request from the applicant, an affected municipality must adopt a siting resolution and appoint members to the local committee if it wants to participate in the negotiation-arbitration process. Wis. Stats. § 289.33(6)(a). A copy of the siting resolution and the names of the members who are appointed to the committee must be sent to the Waste Facility Siting Board within seven days after the municipality adopts the siting resolution. Each member appointed to a local committee shall file a statement of economic interest with the board. A Statement of Economic Interest form can be found on our website at http://dha.state.wi.us.

Sincerely,

David H. Schwarz
Executive Director

DHA;br

cc: Kevin Shaver, Operations Manager, Veolia Technical Solutions, L.L.C.
Michael Ellenbecker, Wisconsin Department of Natural Resources

Rite Copy
WDS 1/15/13

VEOLIA
ENVIRONMENTAL SERVICES

TECHNICAL SOLUTIONS
NORTH AMERICA

January 15, 2013

Mr. Mark Grams
City Clerk
City of Port Washington
100 West Grand Avenue
Port Washington, WI 53074
Sent USPS Certified Mail

Ms. Jenny Schlenvogt
Township Clerk
Town of Port Washington
3715 Highland Drive
Port Washington, WI 53074
Sent USPS Certified Mail

Ms. Amanda Schaefer
Township Clerk
Town of Grafton
1230 11th Avenue
Grafton, WI 53024
Sent USPS Certified Mail

Ms. Julianne B. Winkelhorst
County Clerk
Ozaukee County
121 West Main Street
P. O. Box 994
Port Washington, WI 53074
Sent USPS Certified Mail

RE: Local Approval Request
Veolia ES Technical Solutions, L.L.C.
1275 Mineral Springs Drive
Port Washington, WI 53074
EPA I.D. # WID988566543

Dear Clerks:

Veolia ES Technical Solutions, L.L.C. (Veolia) has been operating a hazardous waste storage facility in Port Washington since 1990. The facility has been operating under permits and licenses issued by the Wisconsin Department of Natural Resources (WDNR) during this time. During 2013, Veolia will work with the WDNR to review our operating permit and issue a new permit in 2014. The first part of the process is to contact the local or affected municipalities to determine if any new or additional requirements would apply to our facility. The requirement for Veolia to make this notification is outlined in Wisconsin Statute 289.22. The State of Wisconsin Waste Facility Siting Board has issued the enclosed "Standard Notice" to inform a municipality of the actions and deadlines required to qualify for participation in renewal process.

Over the past years, Veolia has provided many services to local businesses and households throughout Ozaukee County. The services include a permanent household hazardous waste, fluorescent lamps and electronics drop off site. Under the permit renewal, these services will continue.

Veolia is seeking confirmation from each municipality that we are complying with any local requirements. If your municipality is planning to issue Veolia a waiver from local approval requirements, please notify us regarding this determination.

Veolia ES Technical Solutions, L.L.C.
1275 Mineral Springs Drive, Port Washington, WI 53074
tel: 262 243 8900 - fax: 262 284 3775
www.VeoliaES.com

Veolia looks forward to continuing our presence in Port Washington and Ozaukee County. If you have any questions regarding this notification and the permit renewal application process, please contact me at 262-243-8909.

Sincerely,

VEOLIA ES TECHNICAL SOLUTIONS, L.L.C.

Kevin D. Shaver
Operations Manager

Enclosure: State of Wisconsin Waste Facility Siting Board Standard Notice

cc: Mr. James W. Schuerman, Chairman, State of Wisconsin Waste Facility Siting Board
Mr. Michael Ellenbecker, Wisconsin Department of Natural Resources

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Ms. Jenny Schlenvogt
Township Clerk
Town of Port Washington
3715 Highland Dr.
Port Washington, WI 53074

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Jenny Schlenvogt ☒ Agent ☐ Addressee

B. Received by (Printed Name) Jenny Schlenvogt C. Date of Delivery 1-17-13

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☒ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7008 3230 0001 4835 6961

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Ms. Amanda Schaefer
Township Clerk
Town of Grafton
1230 11th Ave.
Grafton, WI 53024

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Donna Rath ☐ Agent ☐ Addressee

B. Received by (Printed Name) Donna Rath C. Date of Delivery 1-17

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7008 3230 0001 4835 6954

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

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- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. Mark Grams
City Clerk
City of Port Washington
100 W. Grand Ave.
Port Washington, WI
53074

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Bonnie L Meyer ☒ Agent ☐ Addressee

B. Received by (Printed Name) Bonnie L Meyer C. Date of Delivery 1-17-13

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7008 3230 0001 4834 9246

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Ms. Julianne B. Winkelhorst
County Clerk
Ozaukee County
121 W. Main St.
P.O. Box 994
Port Washington, WI
53074

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Jane Merz ☒ Agent ☐ Addressee

B. Received by (Printed Name) Jane Merz C. Date of Delivery 1-17-13

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7008 3230 0001 4835 6978

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

State of Wisconsin
Waste Facility Siting Board
5005 University Avenue, Suite 201, Madison, WI 53705-5400
Phone: (608) 266-7709
Fax: (608) 264-9885
e-mail: dha.mail@wisconsin.gov

James W. Schuerman
Chairman

David H. Schwarz
Executive Director

STANDARD NOTICE

TIME LIMITS AND REQUIREMENTS FOR MUNICIPALITIES TO PARTICIPATE IN THE NEGOTIATION AND ARBITRATION PROCESS FOR THE SITING OF A SOLID OR HAZARDOUS WASTE FACILITY UNDER SEC. 289.33, WISCONSIN STATUTES.

PLEASE READ ALL PAGES CAREFULLY.

This notice informs a municipality of the actions and deadlines required to qualify for participation in negotiations and arbitration concerning the proposed siting of all new or expanded solid or hazardous waste facilities in the state of Wisconsin.

This standard notice shall be submitted with any written requests for local approvals by the applicant to the clerk of each affected municipality and to the main public library in each affected municipality. s. 289.22(1m)(2) and s. 289.32, Wis. Stats.

Who is the Waste Facility Siting Board?

The Waste Facility Siting Board is an impartial body composed of six members. These members include the secretaries, or their formally appointed designees, of the Departments of Agriculture, Trade and Consumer Protection; Commerce; and Transportation; and two town elected officials and one county elected official appointed by the governor for three year terms.

What does the Waste Facility Siting Board do?

The Waste Facility Siting Board administers the negotiation and arbitration process for the siting of every solid and hazardous waste facility in the state of Wisconsin.

The board's authority is created by law in Chapter 289, Subchapter III, Wis. Stats. The intent of the law is to create and maintain a comprehensive and effective policy of negotiation and arbitration between an applicant for a waste facility license and a local committee representing the affected municipalities.

Who is an Applicant?

An "applicant" is any person applying for a license or the owner or operator of a facility.

What is an Affected Municipality?

An affected municipality is any town, village, city, or county:

(a) where any or all of the proposed waste site will be located, or
(b) whose boundary is within 1500 feet of the facility designated in the feasibility report for the disposal of solid waste or the treatment, storage or disposal of hazardous waste.

An applicant that is a municipality or is under contract with a municipality for development of the site, is not considered an affected municipality for purposes of negotiation.

What is an Additional Municipality?

An additional municipality is any town, city, village, or county which does not qualify as an affected municipality but is included in the negotiation and arbitration process by written agreement of the applicant and the participating affected municipalities.

How does the negotiation-arbitration process begin?

The process is initiated by the applicant. Before submitting a feasibility report to the Department of Natural Resources (DNR), the applicant must submit by certified mail to the clerk of each affected municipality a written request for specification of all applicable local approvals. The municipality has 15 days to respond.

What is a "local approval"?

The term "local approval" is defined in s. 289.33(3)(d), Stats. It essentially means any requirement, restriction, condition, or prohibition imposed by a municipality on a waste facility site by ordinance, resolution, or regulation.

The law gives special weight to "pre-existing local approvals." Pre-existing local approvals are those that have been in effect at least 15 months before the applicant submits to DNR an initial site report or a feasibility report, whichever happens first. A new or expanded waste facility is subject to pre-existing local approvals unless specified as inapplicable in a negotiated agreement or an arbitration award. A new or expanded waste facility is not subject to other local approvals unless specified as applicable in a negotiated agreement.

If an Affected Municipality wants to negotiate with the applicant concerning the site what is required?

There are three requirements.

First, an affected municipality must pass a siting resolution within 60 days of receipt of the applicant's initial written request for local approvals. If this deadline is missed, a municipality

may not participate in negotiations. A copy of the siting resolution must be sent to the board within 7 days of passage.

Each affected municipality that wishes to negotiate with the applicant about the proposed facility must pass a siting resolution which shall state the following:

(1) the name and location of the municipality,
(2) the name and location of the applicant,
(3) the specific location of the proposed facility, and
(4) the municipality's intent to negotiate and, if necessary, arbitrate with the applicant concerning the proposed facility.

Second, an affected municipality must appoint members to the local committee within 60 days of receipt of the applicant's request for local approvals. Names and addresses of local committee members must be sent to the Waste Facility Siting Board within 7 days of appointment.

Each affected municipality that wishes to negotiate with the applicant must appoint members to the local negotiating committee. Each town, village, or city where all or part of the proposed waste facility is to be located may appoint 4 members, or 2 more than the total number of all other members, whichever number is greater; no more than 2, however, may be elected officials or municipal employees. Each county where all or any part of the proposed waste facility will be located may appoint 2 members. Every other town, village, city, or county within 1500 feet of the proposed waste facility may appoint 1 member. Appointment of members may be included in the siting resolution or in a separate resolution.

Third, each member appointed to the local committee must file with the Waste Facility Siting Board a Statement of Economic Interests within 15 days of appointment. A member who fails to file a Statement of Economic Interests may not serve on the local committee.

These forms are available at no cost from the Waste Facility Siting Board.

What is required if an Additional Municipality wants to negotiate with the applicant concerning the site?

There are four requirements.

First, an additional municipality must receive written agreement of all parties to be added to the process.

Second, an additional municipality must pass a siting resolution within 30 days of the agreement between the parties to allow participation by the additional municipality. A copy of the siting resolution must be sent to the board within 7 days of passage.

The siting resolution must state the following:

(1) the name and location of the municipality,
(2) the name and location of the applicant,
(3) the specific location of the proposed facility, and
(4) the municipality's intent to negotiate and, if necessary,

arbitrate with the applicant concerning the proposed facility.

Third, an additional municipality must appoint one member to the local committee within 60 days. The name and address of the local committee member must be sent to the Waste Facility Siting Board within 7 days of appointment.

Fourth, the appointed member to the local committee must file with the Waste Facility Siting Board a Statement of Economic Interests within 15 days of appointment. A member who fails to file a Statement of Economic Interests may not serve on the local committee.

These forms are available at no cost from the Waste Facility Siting Board.

When may negotiations begin?

Negotiations may begin at any time after notification by the Waste Facility Siting Board. The board will send a notification of participation to the applicant and the clerk of each participating municipality within 5 days after the board receives copies of the resolutions and names and addresses of members appointed to the local committee, or within 72 days after all affected municipalities have received written request for local approvals. This notice will identify the participating municipalities, identify the names of the members of the local committee, and inform the parties that negotiations may begin.

If, for error or change in plans, the applicant must add any other affected municipality following the board's notification of participation, that affected municipality shall have the same rights and obligations as outlined above. The board may issue an order delaying negotiations until that affected municipality has time to act. This procedure is outlined in s. 289.33(6)(c), Stats.

Either the applicant or the local committee may initiate negotiations. The time and place of negotiating sessions are determined by agreement between the applicant and the local committee. Negotiating sessions must be open to the public.

What issues can be negotiated?

Any subject may be negotiated except the need for the facility and any proposal that would make the applicant's responsibilities less stringent than required by the Department of Natural Resources. Either party may petition the board in writing for a determination as to whether a proposal is negotiable. The board will conduct a hearing and issue a binding decision in 14 days.

If a negotiated settlement is reached, what is required?

There are two requirements.

First, the agreement must be approved by all appropriate bodies.

An appropriate body is the governing body of each town, city, or village where all or a portion of the waste facility is to be located. If the agreement is approved by all of the appropriate bodies, the agreement is binding on all participating municipalities.

Second, if the agreement is approved, the applicant shall send a copy or notice of any negotiated agreement to the Waste Facility Siting Board and to the Department of Natural Resources within 10 days after the agreement is approved by all appropriate bodies. If the agreement is not approved by all of the appropriate bodies, the agreement is void. The parties may resume negotiations, begin mediation, or initiate arbitration.

Who initiates mediation?

Either party may request a mediator at any time during the negotiation.

Who is the mediator?

The board maintains a list of competent, impartial, disinterested persons consisting of lawyers, retired judges, and professional mediators who serve as mediators.

Who chooses the mediator?

Upon receipt of a request for a mediator, the board will immediately send the parties a list of 5 mediators. The parties shall alternately strike names until one name is left who will be appointed by the board.

What is the role of the mediator?

The role of the mediator is to encourage a voluntary settlement. The mediator may not impose a settlement on either party.

Who pays for the mediator?

Unless specified in the negotiated agreement or the arbitration award, the costs of the mediator will be shared equally by the applicant and the local committee.

What happens if the mediator fails to bring settlement?

The parties may resume negotiations or initiate arbitration.

Who initiates arbitration?

The applicant or the local committee may petition the board jointly or separately to initiate arbitration.

Arbitration may not be initiated until at least 120 days after the appointment of the local committee.

A statement in response to a unilateral arbitration petition must be filed within 14 days.

What issues can be arbitrated?

Only eight issues can be arbitrated. These issues are:

1. Compensation to any person for substantial economic impacts which are a direct result of the facility including insurance and damages not covered by the waste management fund.

1m. Reimbursement of reasonable costs, but not to exceed $20,0000, incurred by the local committee relating to negotiations, mediation and arbitration activities under this section.

2. Screening and fencing related to the appearance of the facility. This item may not affect the design capacity of the facility.
3. Operational concerns including, but not limited to, noise, dust, debris, odors and hours of operation but excluding design capacity.
4. Traffic flows and patterns resulting from the facility.
5. Uses of the site where the facility is located after closing the facility.
6. Economically feasible methods to recycle or reduce the quantities of waste to the facility. At facilities for which the applicant will not provide or contract for collection and transportation services, this item is limited to methods provided at the facility.
7. The applicability or non-applicability of any pre-existing local approvals.

If requested by either party, the board will rule on the arbitrability of a specific issue.

Once initiated, how does the arbitration process work?

Within 15 days of receipt of a petition to initiate arbitration, the board will issue a decision either to have the parties continue negotiation for at least 30 days, delay arbitration until a feasibility report is submitted, or order the parties to submit their final offers within 90 days. If, when ordered by the board, the applicant fails to submit a final offer within 90 days, the applicant may not construct or operate the facility. If the local committee fails to submit a final offer in 90 days the local committee loses all rights to further negotiation and the facility is not subject to any local approval.

Within 30 days after the last day for submitting final offers, the board shall conduct a public meeting for the parties to explain their final offers.

Within 90 days after the last day for submitting final offers, the board will issue an arbitration award. If the board fails to issue an award because it lacks the necessary five votes, the governor will issue an arbitration award within 120 days after the last day for submitting final offers.

The board's arbitration award is binding on the applicant and the participating municipalities.

The information presented here serves as a guide to help affected and additional municipalities comply with the negotiation-arbitration laws concerning siting of solid and hazardous waste facilities under s. 289.33, Stats. For specific legal advice, or changes in the statute or administrative rules, an applicant or affected municipality should consult its attorney or contact the Waste Facility Siting Board, 5005 University Avenue, Suite 201, Madison, Wisconsin 53705-5400, (608) 266-7709, FAX: (608) 264-9885.

STANDARD NOTICE
Revised: 01/31/11
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D

RCRA Part A Application

OMB# 2050-0024; Expires 12/31/2014

SEND COMPLETED FORM TO: The Appropriate State or Regional Office.

United States Environmental Protection Agency
RCRA SUBTITLE C SITE IDENTIFICATION FORM

1. Reason for Submittal

MARK ALL BOX(ES) THAT APPLY

Reason for Submittal:

- ☐ To provide an Initial Notification (first time submitting site identification information / to obtain an EPA ID number for this location)
- ☐ To provide a Subsequent Notification (to update site identification information for this location)
- ☐ As a component of a First RCRA Hazardous Waste Part A Permit Application
- ☒ As a component of a Revised RCRA Hazardous Waste Part A Permit Application (Amendment #_____)
- ☐ As a component of the Hazardous Waste Report (If marked, see sub-bullet below)
  - ☐ Site was a TSD facility and/or generator of ≥1,000 kg of hazardous waste, >1 kg of acute hazardous waste, or >100 kg of acute hazardous waste spill cleanup in one or more months of the report year (or State equivalent LQG regulations)

2. Site EPA ID Number

EPA ID Number W I D 9 8 8 5 6 6 5 4 3

3. Site Name

Name: VEOLIA ES TECHNICAL SOLUTIONS, L.L.C.

4. Site Location Information

Street Address: 1275 MINERAL SPRINGS DRIVE
City, Town, or Village: PORT WASHINGTON | **County:** OZAUKEE
State: WI | **Country:** USA | **Zip Code:** 53074

5. Site Land Type

☑ Private ☐ County ☐ District ☐ Federal ☐ Tribal ☐ Municipal ☐ State ☐ Other

6. NAICS Code(s) for the Site (at least 5-digit codes)

A. 5 6 2 2 1 1 | **C.** | **B.** | **D.**

7. Site Mailing Address

Street or P.O. Box: 1275 MINERAL SPRINGS DRIVE
City, Town, or Village: PORT WASHINGTON
State: WI | **Country:** USA | **Zip Code:** 53074

8. Site Contact Person

First Name: KEVIN | **MI:** D | **Last:** SHAVER
Title: OPERATIONS MANAGER
Street or P.O. Box: 1275 MINERAL SPRINGS DRIVE
City, Town or Village: PORT WASHINGTON
State: WI | **Country:** USA | **Zip Code:** 53074
Email: kevin.shaver@veoliaes.com
Phone: 262-243-8909 | **Ext.:** | **Fax:** 262-284-3775

9. Legal Owner and Operator of the Site

A. Name of Site's Legal Owner: VEOLIA ES TECHNICAL SOLUTIONS, L.L. | **Date Became Owner:** 1/1/2005
Owner Type: ☑ Private ☐ County ☐ District ☐ Federal ☐ Tribal ☐ Municipal ☐ State ☐ Other
Street or P.O. Box: 700 E BUTTERFIELD RD, SUITE 201
City, Town, or Village: LOMBARD | **Phone:** 630-218-1635
State: IL | **Country:** USA | **Zip Code:** 60148

B. Name of Site's Operator: VEOLIA ES TECHNICAL SOLUTIONS, L.L.C. | **Date Became Operator:** 1/1/2005
Operator Type: ☑ Private ☐ County ☐ District ☐ Federal ☐ Tribal ☐ Municipal ☐ State ☐ Other

10. Type of Regulated Waste Activity (at your site)
Mark "Yes" or "No" for all current activities (as of the date submitting the form); complete any additional boxes as instructed.

A. Hazardous Waste Activities; Complete all parts 1-10.

Y ☑ N ☐ **1. Generator of Hazardous Waste**
If "Yes", mark only one of the following – a, b, or c.

- ☑ a. LQG: Generates, in any calendar month, 1,000 kg/mo (2,200 lbs./mo.) or more of hazardous waste; **or** Generates, in any calendar month, or accumulates at any time, more than 1 kg/mo (2.2 lbs./mo) of acute hazardous waste; **or** Generates, in any calendar month, **or** accumulates at any time, more than 100 kg/mo (220 lbs./mo) of acute hazardous spill cleanup material.
- ☐ b. SQG: 100 to 1,000 kg/mo (220 – 2,200 lbs./mo) of non-acute hazardous waste.
- ☐ c. CESQG: Less than 100 kg/mo (220 lbs./mo) of non-acute hazardous waste.

If "Yes" above, indicate other generator activities in 2-4.

Y ☐ N ☑ **2. Short-Term Generator** (generate from a short-term or one-time event and not from on-going processes). If "Yes", provide an explanation in the Comments section.

Y ☑ N ☐ **3. United States Importer of Hazardous Waste**

Y ☐ N ☑ **4. Mixed Waste (hazardous and radioactive) Generator**

Y ☑ N ☐ **5. Transporter of Hazardous Waste**
If "Yes", mark all that apply.

- ☑ a. Transporter
- ☑ b. Transfer Facility (at your site)

Y ☑ N ☐ **6. Treater, Storer, or Disposer of Hazardous Waste** Note: A hazardous waste Part B permit is required for these activities.

Y ☑ N ☐ **7. Recycler of Hazardous Waste**

Y ☑ N ☐ **8. Exempt Boiler and/or Industrial Furnace**
If "Yes", mark all that apply.

- ☐ a. Small Quantity On-site Burner Exemption
- ☑ b. Smelting, Melting, and Refining Furnace Exemption

Y ☐ N ☑ **9. Underground Injection Control**

Y ☑ N ☐ **10. Receives Hazardous Waste from Off-site**

B. Universal Waste Activities; Complete all parts 1-2.

Y ☑ N ☐ **1. Large Quantity Handler of Universal Waste (you accumulate 5,000 kg or more) [refer to your State regulations to determine what is regulated]. Indicate types of universal waste managed at your site. If "Yes", mark all that apply.**

a. Batteries	☑
b. Pesticides	☐
c. Mercury containing equipment	☑
d. Lamps	☑
e. Other (specify) Antifreeze	☑
f. Other (specify) _____	☐
g. Other (specify) _____	☐

Y ☑ N ☐ **2. Destination Facility for Universal Waste**
Note: A hazardous waste permit may be required for this activity.

C. Used Oil Activities; Complete all parts 1-4.

Y ☑ N ☐ **1. Used Oil Transporter**
If "Yes", mark all that apply.

- ☐ a. Transporter
- ☑ b. Transfer Facility (at your site)

Y ☐ N ☑ **2. Used Oil Processor and/or Re-refiner**
If "Yes", mark all that apply.

- ☐ a. Processor
- ☐ b. Re-refiner

Y ☐ N ☑ **3. Off-Specification Used Oil Burner**

Y ☐ N ☑ **4. Used Oil Fuel Marketer**
If "Yes", mark all that apply.

- ☐ a. Marketer Who Directs Shipment of Off-Specification Used Oil to Off-Specification Used Oil Burner
- ☐ b. Marketer Who First Claims the Used Oil Meets the Specifications

D. Eligible Academic Entities with Laboratories—Notification for opting into or withdrawing from managing laboratory hazardous wastes pursuant to 40 CFR Part 262 Subpart K

❖ You can **ONLY** Opt into Subpart K if:

- you are at least one of the following: a college or university; a teaching hospital that is owned by or has a formal affiliation agreement with a college or university; or a non-profit research institute that is owned by or has a formal affiliation agreement with a college or university; AND
- you have checked with your State to determine if 40 CFR Part 262 Subpart K is effective in your state

Y ☐ N ☑ 1. Opting into or currently operating under 40 CFR Part 262 Subpart K for the management of hazardous wastes in laboratories **See the item-by-item instructions for definitions of types of eligible academic entities. Mark all that apply:**

☐ a. College or University

☐ b. Teaching Hospital that is owned by or has a formal written affiliation agreement with a college or university

☐ c. Non-profit Institute that is owned by or has a formal written affiliation agreement with a college or university

Y ☐ N ☑ 2. Withdrawing from 40 CFR Part 262 Subpart K for the management of hazardous wastes in laboratories

11. Description of Hazardous Waste

A. Waste Codes for Federally Regulated Hazardous Wastes. Please list the waste codes of the Federal hazardous wastes handled at your site. List them in the order they are presented in the regulations (e.g., D001, D003, F007, U112). Use an additional page if more spaces are needed.

D001	D010	D019	D028	D037	F002	F012
D002	D011	D020	D029	D038	F003	F019
D003	D012	D021	D030	D039	F004	F020
D004	D013	D022	D031	D040	F005	F021
D005	D014	D023	D032	D041	F006	F022
D006	D015	D024	D033	D042	F007	F023
D007	D016	D025	D034	D043	F008	F024
D008	D017	D026	D035	F001	F009	F025
D009	D018	D027	D036	F002	F010	F026

B. Waste Codes for State-Regulated (i.e., non-Federal) Hazardous Wastes. Please list the waste codes of the State-Regulated hazardous wastes handled at your site. List them in the order they are presented in the regulations. Use an additional page if more spaces are needed.

12. Notification of Hazardous Secondary Material (HSM) Activity

Y ☐ N ☑ Are you notifying under 40 CFR 260.42 that you will begin managing, are managing, or will stop managing hazardous secondary material under 40 CFR 261.2(a)(2)(ii), 40 CFR 261.4(a)(23), (24), or (25)?

If "Yes", you must fill out the Addendum to the Site Identification Form: Notification for Managing Hazardous Secondary Material.

13. Comments

14. Certification. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations. For the RCRA Hazardous Waste Part A Permit Application, all owner(s) and operator(s) must sign (see 40 CFR 270.10(b) and 270.11).

Signature of legal owner, operator, or an authorized representative	Name and Official Title (type or print)	Date Signed (mm/dd/yyyy)
	Kevin D. Shaver, Operations Manager	

EPA ID Number | W | I | D | 9 | 8 | 8 | 5 | 6 | 6 | 5 | 4 | 3 | OMB#: 2050-0024; Expires 12/31/2014

ADDENDUM TO THE SITE IDENTIFICATION FORM:
NOTIFICATION OF HAZARDOUS SECONDARY MATERIAL ACTIVITY

ONLY fill out this form if:

- You are located in a State that allows you to manage excluded hazardous secondary material (HSM) under 40 CFR 261.2(a)(2)(ii), 261.4(a)(23), (24), or (25) (or state equivalent). See http://www.epa.gov/epawaste/hazard/dsw/statespf.htm for a list of eligible states; **AND**
- You are or will be managing excluded HSM in compliance with 40 CFR 261.2(a)(2)(ii), 261.4(a)(23), (24), or (25) (or state equivalent) **or** you have stopped managing excluded HSM in compliance with the exclusion(s) and do not expect to manage any amount of excluded HSM under the exclusion(s) for at least one year. Do not include any information regarding your hazardous waste activities in this section.

1. Indicate reason for notification. Include dates where requested.

☐ Facility will begin managing excluded HSM as of _____ (mm/dd/yyyy).

☐ Facility is still managing excluded HSM/re-notifying as required by March 1 of each even-numbered year.

☐ Facility has stopped managing excluded HSM as of _____ (mm/dd/yyyy) and is notifying as required.

2. Description of excluded HSM activity. Please list the appropriate codes and quantities in **short tons** to describe your excluded HSM activity ONLY (do not include any information regarding your hazardous wastes). Use additional pages if more space is needed.

a. Facility code (answer using codes listed in the Code List section of the instructions)	**b. Waste code(s) for HSM**	**c. Estimated short tons of excluded HSM to be managed annually**	**d. Actual short tons of excluded HSM that was managed during the most recent odd-numbered year**	**e. Land-based unit code** (answer using codes listed in the Code List section of the instructions)

3. Facility has financial assurance pursuant to 40 CFR 261.4(a)(24)(vi). (Financial assurance is required for reclaimers and intermediate facilities managing excluded HSM under 40 CFR 261.4(a)(24) and (25))

Y ☐ N ☐ Does this facility have financial assurance pursuant to 40 CFR 261.4(a)(24)(vi)?

EPA ID Number | W | I | D | 9 | 8 | 8 | 5 | 6 | 6 | 5 | 4 | 3 |

OMB#: 2050-0024; Expires 12/31/2014

United States Environmental Protection Agency

HARDOUS WASTE PERMIT INFORMATION FORM

1. Facility Permit Contact

First Name: KEVIN | **MI:** D | **Last Name:** SHAVER

Contact Title: OPERATIONS MANAGER

Phone: 262-243-8909 | **Ext.:** | **Email:** kevin.shaver@veoliaes.com

2. Facility Permit Contact Mailing Address

Street or P.O. Box: 1275 MINERAL SPRINGS DRIVE

City, Town, or Village: PORT WASHINGTON

State: WI

Country: USA | **Zip Code:** 53074

3. Operator Mailing Address and Telephone Number

Street or P.O. Box: 1275 MINERAL SPRINGS DRIVE

City, Town, or Village: PORT WASHINGTON

State: WI | **Phone:** 262-243-8908

Country: USA | **Zip Code:** 53074

4. Facility Existence Date

Facility Existence Date (mm/dd/yyyy): 1/1/1990

5. Other Environmental Permits

A. Facility Type *(Enter code)*	B. Permit Number	C. Description
R	WID988566543	Hazardous waste
R	60088	Hazardous Waste Storage License issued by WDNR
E	03870	Solid Waste Processing License issued by WDNR
E	01DJH339	Air Operating Permit issued by WDNR

6. Nature of Business:

Veolia ES Technical Solutions, L.L.C. is a provider of waste management services including the transport, treatment and recycling of hazardous and universal wastes.

7. Process Codes and Design Capacities – Enter information in the Section on Form Page 3

A. PROCESS CODE – Enter the code from the list of process codes below that best describes each process to be used at the facility. If more lines are needed, attach a separate sheet of paper with the additional information. For "other" processes (i.e., D99, S99, T04 and X99), describe the process (including its design capacity) in the space provided in Item 8.

B. PROCESS DESIGN CAPACITY – For each code entered in Item 7.A; enter the capacity of the process.

1. **AMOUNT – Enter the amount. In a case where design capacity is not applicable (such as in a closure/post-closure or enforcement action) enter the total amount of waste for that process.**
2. **UNIT OF MEASURE – For each amount entered in Item 7.B(1), enter the code in Item 7.B(2) from the list of unit of measure codes below that describes the unit of measure used. Select only from the units of measure in this list.**

C. PROCESS TOTAL NUMBER OF UNITS – Enter the total number of units for each corresponding process code.

Process Code	Process	Appropriate Unit of Measure for Process Design Capacity
Disposal		
D79	Underground Injection Well Disposal	Gallons; Liters; Gallons Per Day; or Liters Per Day
D80	Landfill	Acre-feet; Hectares-meter; Acres; Cubic Meters; Hectares; Cubic Yards
D81	Land Treatment	Acres or Hectares
D82	Ocean Disposal	Gallons Per Day or Liters Per Day
D83	Surface Impoundment Disposal	Gallons; Liters; Cubic Meters; or Cubic Yards
D99	Other Disposal	Any Unit of Measure Listed Below
Storage		
S01	Container	Gallons; Liters; Cubic Meters; or Cubic Yards
S02	Tank Storage	Gallons; Liters; Cubic Meters; or Cubic Yards
S03	Waste Pile	Cubic Yards or Cubic Meters
S04	Surface Impoundment	Gallons; Liters; Cubic Meters; or Cubic Yards
S05	Drip Pad	Gallons; Liters; Cubic Meters; Hectares; or Cubic Yards
S06	Containment Building Storage	Cubic Yards or Cubic Meters
S99	Other Storage	Any Unit of Measure Listed Below
Treatment		
T01	Tank Treatment	Gallons Per Day; Liters Per Day
T02	Surface Impoundment	Gallons Per Day; Liters Per Day
T03	Incinerator	Short Tons Per Hour; Metric Tons Per Hour; Gallons Per Hour; Liters Per Hour; BTUs Per Hour; Pounds Per Hour; Short Tons Per Day; Kilograms Per Hour; Gallons Per Day; Metric Tons Per Hour; or Million BTU Per Hour
T04	Other Treatment	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Short Tons Per Day; BTUs Per Hour; Gallons Per Day; Liters Per Hour; or Million BTU Per Hour
T80	Boiler	Gallons; Liters; Gallons Per Hour; Liters Per Hour; BTUs Per Hour; or Million BTU Per Hour
Treatment (Continued)		**(for T81 – T94)**
T81	Cement Kiln	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; BTU Per Hour; Liters Per Hour; Kilograms Per Hour; or Million BTU Per Hour
T82	Lime Kiln	
T83	Aggregate Kiln	
T84	Phosphate Kiln	
T85	Coke Oven	
T86	Blast Furnace	
T87	Smelting, Melting, or Refining Furnace	
T88	Titanium Dioxide Chloride Oxidation Reactor	
T89	Methane Reforming Furnace	
T90	Pulping Liquor Recovery Furnace	
T91	Combustion Device Used in the Recovery of Sulfur Values from Spent Sulfuric Acid	
T92	Halogen Acid Furnaces	
T93	Other Industrial Furnaces Listed in 40 CFR 260.10	
T94	Containment Building Treatment	Cubic Yards; Cubic Meters; Short Tons Per Hour; Gallons Per Hour; Liters Per Hour; BTU Per Hour; Pounds Per Hour; Short Tons Per Day; Kilograms Per Hour; Metric Tons Per Day; Gallons Per Day; Liters Per Day; Metric Tons Per Hour; or Million BTU Per Hour
Miscellaneous (Subpart X)		
X01	Open Burning/Open Detonation	Any Unit of Measure Listed Below
X02	Mechanical Processing	Short Tons Per Hour; Metric Tons Per Hour; Short Tons Per Day; Metric Tons Per Day; Pounds Per Hour; Kilograms Per Hour; Gallons Per Hour; Liters Per Hour; or Gallons Per Day
X03	Thermal Unit	Gallons Per Day; Liters Per Day; Pounds Per Hour; Short Tons Per Hour; Kilograms Per Hour; Metric Tons Per Day; Metric Tons Per Hour; Short Tons Per Day; BTU Per Hour; or Million BTU Per Hour
X04	Geologic Repository	Cubic Yards; Cubic Meters; Acre-feet; Hectare-meter; Gallons; or Liters
X99	Other Subpart X	Any Unit of Measure Listed Below

Unit of Measure	Unit of Measure Code
Gallons	G
Gallons Per Hour	E
Gallons Per Day	U
Liters	L
Liters Per Hour	H
Liters Per Day	V
Short Tons Per Hour	D
Short Tons Per Day	N
Metric Tons Per Hour	W
Metric Tons Per Day	S
Pounds Per Hour	J
Kilograms Per Hour	X
Million BTU Per Hour	X
Cubic Yards	Y
Cubic Meters	C
Acres	B
Acre-feet	A
Hectares	Q
Hectare-meter	F
BTU Per Hour	I

7. Process Codes and Design Capacities (Continued)

EXAMPLE FOR COMPLETING Item 7 (shown in line number X-1 below): A facility has a storage tank, which can hold 533.788 gallons.

Line Number		A. Process Code (From list above)			B. PROCESS DESIGN CAPACITY (1) Amount (Specify)	B. PROCESS DESIGN CAPACITY (2) Unit of Measure	C. Process Total Number of Units	For Official Use Only
X	1	S	0	2	533.788	G	001	
	1	S	0	1	20000.00	G	001	
	2	T	8	7	12.5	N	003	
	3							
	4							
	5							
	6							
	7							
	8							
	9							
1	0							
1	1							
1	2							
1	3							

Note: If you need to list more than 13 process codes, attach an additional sheet(s) with the information in the same format as above. Number the line sequentially, taking into account any lines that will be used for "other" process (i.e., D99, S99, T04, and X99) in Item 8.

8. Other Processes (Follow instructions from Item 7 for D99, S99, T04, and X99 process codes)

Line Number (Enter #s in sequence with Item 7)		A. Process Code (From list above)			B. PROCESS DESIGN CAPACITY (1) Amount (Specify)	B. (2) Unit of Measure	C. Process Total Number of Units	For Official Use Only
X	2	T	0	4	100.00	U	001	

9. Description of Hazardous Wastes - Enter Information in the Sections on Form Page 5

A. EPA HAZARDOUS WASTE NUMBER – Enter the four-digit number from 40 CFR, Part 261 Subpart D of each listed hazardous waste you will handle. For hazardous wastes which are not listed in 40 CFR, Part 261 Subpart D, enter the four-digit number(s) from 40 CFR Part 261, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.

B. ESTIMATED ANNUAL QUANTITY – For each listed waste entered in Item 9.A, estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in Item 9.A, estimate the total annual quantity of all the non-listed waste(s) that will be handled which possess that characteristic or contaminant.

C. UNIT OF MEASURE – For each quantity entered in Item 9.B, enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure, taking into account the appropriate density or specific gravity of the waste.

D. PROCESSES

1. PROCESS CODES:

For listed hazardous waste: For each listed hazardous waste entered in Item 9.A, select the code(s) from the list of process codes contained in Items 7.A and 8.A on page 3 to indicate all the processes that will be used to store, treat, and/or dispose of all listed hazardous wastes.

For non-listed waste: For each characteristic or toxic contaminant entered in Item 9.A, select the code(s) from the list of process codes contained in Items 7.A and 8.A on page 3 to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous wastes that possess that characteristic or toxic contaminant.

NOTE: THREE SPACES ARE PROVIDED FOR ENTERING PROCESS CODES. IF MORE ARE NEEDED:

1. Enter the first two as described above.
2. Enter "000" in the extreme right box of Item 9.D(1).
3. Use additional sheet, enter line number from previous sheet, and enter additional code(s) in Item 9.E.

2. PROCESS DESCRIPTION: If code is not listed for a process that will be used, describe the process in Item 9.D(2) or in Item 9.E(2).

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER – Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. Select one of the EPA Hazardous Waste Numbers and enter it in Item 9.A. On the same line complete Items 9.B, 9.C, and 9.D by estimating the total annual quantity of the waste and describing all the processes to be used to store, treat, and/or dispose of the waste.
2. In Item 9.A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In Item 9.D.2 on that line enter "included with above" and make no other entries on that line.
3. Repeat step 2 for each EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING Item 9 (shown in line numbers X-1, X-2, X-3, and X-4 below) – A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operations. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

Line Number		A. EPA Hazardous Waste No. (Enter code)				B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES									
								(1) PROCESS CODES (Enter Code)									(2) PROCESS DESCRIPTION (If code is not entered in 9.D(1))
X	1	K	0	5	4	900	P	T	0	3	D	8	0				
X	2	D	0	0	2	400	P	T	0	3	D	8	0				
X	3	D	0	0	1	100	P	T	0	3	D	8	0				
X	4	D	0	0	2												Included With Above

9. Description of Hazardous Wastes *(Continued. Use additional sheet(s) as necessary; number pages as 5a, etc.)*

Line Number		A. EPA Hazardous Waste No. (Enter code)				B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES									
								(1) PROCESS CODES (Enter Code)									(2) PROCESS DESCRIPTION (If code is not entered in 9.D(1))
	1	D	0	0	9	750000	P	S	0	1	T	8	7				
	2	D	0	0	1												included with above
	3	D	0	0	2												included with above
	4	D	0	0	3												included with above
	5	D	0	0	4												included with above
	6	D	0	0	5												included with above
	7	D	0	0	6												included with above
	8	D	0	0	7												included with above
	9	D	0	0	8												included with above
1	0	D	0	1	0												included with above
1	1	D	0	1	1												included with above
1	2	U	1	5	1	200000	P	S	0	1	T	8	7				
1	3	D	0	0	1	750000	P	S	0	1							included with above
1	4	D	0	0	2												included with above
1	5	D	0	0	3												included with above
1	6	D	0	0	4												included with above
1	7	D	0	0	5												included with above
1	8	D	0	0	6												included with above
1	9	D	0	0	7												included with above
2	0	D	0	0	8												included with above
2	1	D	0	0	9												included with above
2	2	D	0	1	0												included with above
2	3	D	0	1	1												included with above
2	4	D	0	1	2												included with above
2	5	D	0	1	3												included with above
2	6	D	0	1	4												included with above
2	7	D	0	1	5												included with above
2	8	D	0	1	6												included with above
2	9	D	0	1	7												included with above
3	0	D	0	1	8												included with above
3	1	D	0	1	9												included with above
3	2	D	0	2	0												included with above
3	3	D	0	2	1												included with above
3	4	D	0	2	2												included with above
3	5	D	0	2	3												included with above
3	6	D	0	2	4												included with above

9. Description of Hazardous Wastes *(Continued. Use additional sheet(s) as necessary; number pages as 5a, etc.)*

Line Number		A. EPA Hazardous Waste No. (Enter code)				B. Estimated Annual Qty of Waste	C. Unit of Measure (Enter code)	D. PROCESSES									
								(1) PROCESS CODES (Enter Code)									(2) PROCESS DESCRIPTION (If code is not entered in 9.D.1)
3	7	D	0	2	5												included with above
3	8	D	0	2	6												included with above
3	9	D	0	2	7												included with above
4	0	D	0	2	8												included with above
4	1	D	0	2	9												included with above
4	2	D	0	3	0												included with above
4	3	D	0	3	1												included with above
4	4	D	0	3	2												included with above
4	5	D	0	3	3												included with above
4	6	D	0	3	4												included with above
4	7	D	0	3	5												included with above
4	8	D	0	3	6												included with above
4	9	D	0	3	7												included with above
5	0	D	0	3	8												included with above
5	1	D	0	3	9												included with above
5	2	D	0	4	0												included with above
5	3	D	0	4	1												included with above
5	4	D	0	4	2												included with above
5	5	D	0	4	3												included with above
5	6	F	0	0	1												included with above
5	7	F	0	0	2												included with above
5	8	F	0	0	3												included with above
5	9	F	0	0	4												included with above
6	0	F	0	0	5												included with above
6	1	F	0	0	6												included with above
6	2	F	0	0	7												included with above
6	3	F	0	0	8												included with above
6	4	F	0	0	9												included with above
6	5	F	0	1	0												included with above
6	6	F	0	1	1												included with above
6	7	F	0	1	2												included with above
6	8	F	0	1	9												included with above
6	9	F	0	2	0												included with above
7	0	F	0	2	1												included with above
7	1	F	0	2	2												included with above
7	2	F	0	2	3												included with above

9. Description of Hazardous Wastes *(Continued. Use additional sheet(s) as necessary; number pages as 5a, etc.)*							
Line Number	**A. EPA Hazardous Waste No. (Enter code)**	**B. Estimated Annual Qty of Waste**	**C. Unit of Measure (Enter code)**	**D. PROCESSES (1) PROCESS CODES (Enter Code)**			**2) PROCESS DESCRIPTION (If code is not entered in 9.D.1)**
73	F024						Included with above
74	F025						Included with above
75	F026						Included with above
76	F027						Included with above
77	F028						Included with above
78	F032						Included with above
79	F034						Included with above
80	F035						Included with above
81	F037						Included with above
82	F038						Included with above
83	F039						Included with above
84	K001						Included with above
85	K002						Included with above
86	K003						Included with above
87	K004						Included with above
88	K005						Included with above
89	K006						Included with above
90	K007						Included with above
91	K008						Included with above
92	K009						Included with above
93	K010						Included with above
94	K011						Included with above
95	K013						Included with above
96	K014						Included with above
97	K015						Included with above
98	K016						Included with above
99	K017						Included with above
100	K018						Included with above
101	K019						Included with above
102	K020						Included with above
103	K021						Included with above
104	K022						Included with above
105	K023						Included with above
106	K024						Included with above
107	K025						Included with above
108	K026						Included with above
109	K027						Included with above
110	K028						Included with above
111	K029						Included with above
112	K030						Included with above
113	K031						Included with above
114	K032						Included with above

9. Description of Hazardous Wastes *(Continued. Use additional sheet(s) as necessary; number pages as 5a, etc.)*							
Line Number	**A. EPA Hazardous Waste No. (Enter code)**	**B. Estimated Annual Qty of Waste**	**C. Unit of Measure (Enter code)**	**D. PROCESSES (1) PROCESS CODES (Enter Code)**			**2) PROCESS DESCRIPTION (If code is not entered in 9.D.1)**
115	K033						Included with above
116	K034						Included with above
117	K035						Included with above
118	K036						Included with above
119	K037						Included with above
120	K038						Included with above
121	K039						Included with above
122	K040						Included with above
123	K041						Included with above
124	K042						Included with above
125	K043						Included with above
126	K048						Included with above
127	K049						Included with above
128	K050						Included with above
129	K051						Included with above
130	K052						Included with above
131	K060						Included with above
132	K061						Included with above
133	K062						Included with above
134	K069						Included with above
135	K071						Included with above
136	K073						Included with above
137	K083						Included with above
138	K084						Included with above
139	K085						Included with above
140	K086						Included with above
141	K087						Included with above
142	K088						Included with above
143	K093						Included with above
144	K094						Included with above
145	K095						Included with above
146	K096						Included with above
147	K097						Included with above
148	K098						Included with above
149	K099						Included with above
150	K100						Included with above
151	K101						Included with above
152	K102						Included with above
153	K103						Included with above
154	K104						Included with above
155	K105						Included with above
156	K106						Included with above

9. Description of Hazardous Wastes *(Continued. Use additional sheet(s) as necessary; number pages as 5a, etc.)*							
Line Number	**A. EPA Hazardous Waste No. (Enter code)**	**B. Estimated Annual Qty of Waste**	**C. Unit of Measure (Enter code)**	**D. PROCESSES (1) PROCESS CODES (Enter Code)**			**2) PROCESS DESCRIPTION (If code is not entered in 9.D.1)**
157	K107						Included with above
158	K108						Included with above
159	K109						Included with above
160	K100						Included with above
161	K111						Included with above
162	K112						Included with above
163	K113						Included with above
164	K114						Included with above
165	K115						Included with above
166	K116						Included with above
167	K117						Included with above
168	K118						Included with above
169	K123						Included with above
170	K124						Included with above
171	K125						Included with above
172	K126						Included with above
173	K131						Included with above
174	K132						Included with above
175	K136						Included with above
176	K141						Included with above
177	K142						Included with above
178	K143						Included with above
179	K144						Included with above
180	K145						Included with above
181	K147						Included with above
182	K148						Included with above
183	K149						Included with above
184	K150						Included with above
185	K151						Included with above
186	K156						Included with above
187	K157						Included with above
188	K158						Included with above
189	K159						Included with above
190	K161						Included with above
191	K169						Included with above
192	K170						Included with above
193	K170						Included with above
194	K171						Included with above
195	K172						Included with above
196	P001						Included with above
197	P002						Included with above
198	P003						Included with above

9. Description of Hazardous Wastes *(Continued. Use additional sheet(s) as necessary; number pages as 5a, etc.)*							
Line Number	**A. EPA Hazardous Waste No. (Enter code)**	**B. Estimated Annual Qty of Waste**	**C. Unit of Measure (Enter code)**	**D. PROCESSES (1) PROCESS CODES (Enter Code)**			**2) PROCESS DESCRIPTION (If code is not entered in 9.D.1)**
199	P004						Included with above
200	P005						Included with above
201	P006						Included with above
202	P007						Included with above
203	P008						Included with above
204	P010						Included with above
205	P011						Included with above
206	P012						Included with above
207	P013						Included with above
208	P014						Included with above
209	P015						Included with above
210	P016						Included with above
211	P017						Included with above
212	P018						Included with above
213	P020						Included with above
214	P021						Included with above
215	P022						Included with above
216	P023						Included with above
217	P024						Included with above
218	P026						Included with above
219	P027						Included with above
220	P028						Included with above
221	P029						Included with above
222	P030						Included with above
223	P033						Included with above
224	P034						Included with above
225	P036						Included with above
226	P037						Included with above
227	P038						Included with above
228	P039						Included with above
229	P040						Included with above
230	P041						Included with above
231	P042						Included with above
232	P043						Included with above
233	P044						Included with above
234	P045						Included with above
235	P046						Included with above
236	P047						Included with above
237	P048						Included with above
238	P049						Included with above
239	P050						Included with above
240	P051						Included with above

9. Description of Hazardous Wastes *(Continued. Use additional sheet(s) as necessary; number pages as 5a, etc.)*							
Line Number	**A. EPA Hazardous Waste No. (Enter code)**	**B. Estimated Annual Qty of Waste**	**C. Unit of Measure (Enter code)**	**D. PROCESSES (1) PROCESS CODES (Enter Code)**			**2) PROCESS DESCRIPTION (If code is not entered in 9.D.1)**
241	P054						Included with above
242	P056						Included with above
243	P057						Included with above
244	P058						Included with above
245	P059						Included with above
246	P060						Included with above
247	P062						Included with above
248	P066						Included with above
249	P067						Included with above
250	P068						Included with above
251	P069						Included with above
252	P070						Included with above
253	P071						Included with above
254	P072						Included with above
255	P074						Included with above
256	P075						Included with above
257	P077						Included with above
258	P082						Included with above
259	P084						Included with above
260	P085						Included with above
261	P087						Included with above
262	P088						Included with above
263	P089						Included with above
264	P092						Included with above
265	P093						Included with above
266	P094						Included with above
267	P095						Included with above
268	P097						Included with above
269	P098						Included with above
270	P099						Included with above
271	P101						Included with above
272	P102						Included with above
273	P103						Included with above
274	P104						Included with above
275	P105						Included with above
276	P106						Included with above
277	P108						Included with above
278	P109						Included with above
279	P110						Included with above
280	P111						Included with above
281	P112						Included with above
282	P113						Included with above

9. Description of Hazardous Wastes *(Continued. Use additional sheet(s) as necessary; number pages as 5a, etc.)*							
Line Number	**A. EPA Hazardous Waste No. (Enter code)**	**B. Estimated Annual Qty of Waste**	**C. Unit of Measure (Enter code)**	**D. PROCESSES (1) PROCESS CODES (Enter Code)**			**2) PROCESS DESCRIPTION (If code is not entered in 9.D.1)**
283	P114						Included with above
284	P115						Included with above
285	P116						Included with above
286	P118						Included with above
287	P119						Included with above
288	P120						Included with above
289	P121						Included with above
290	P122						Included with above
291	P123						Included with above
292	P127						Included with above
293	P128						Included with above
294	P185						Included with above
295	P188						Included with above
296	P189						Included with above
297	P190						Included with above
298	P191						Included with above
299	P192						Included with above
300	P194						Included with above
301	P196						Included with above
302	P197						Included with above
303	P198						Included with above
304	P199						Included with above
305	P201						Included with above
306	P202						Included with above
307	P203						Included with above
308	P204						Included with above
309	P205						Included with above
310	U001						Included with above
311	U002						Included with above
312	U003						Included with above
313	U004						Included with above
314	U005						Included with above
315	U006						Included with above
316	U007						Included with above
317	U008						Included with above
318	U009						Included with above
319	U010						Included with above
320	U011						Included with above
321	U012						Included with above
322	U014						Included with above
323	U015						Included with above
324	U016						Included with above

9. Description of Hazardous Wastes *(Continued. Use additional sheet(s) as necessary; number pages as 5a, etc.)*							
Line Number	**A. EPA Hazardous Waste No. (Enter code)**	**B. Estimated Annual Qty of Waste**	**C. Unit of Measure (Enter code)**	**D. PROCESSES (1) PROCESS CODES (Enter Code)**			**2) PROCESS DESCRIPTION (If code is not entered in 9.D.1)**
325	U017						Included with above
326	U018						Included with above
327	U019						Included with above
328	U020						Included with above
329	U021						Included with above
330	U022						Included with above
331	U023						Included with above
332	U024						Included with above
333	U025						Included with above
334	U026						Included with above
335	U027						Included with above
336	U028						Included with above
337	U029						Included with above
338	U030						Included with above
339	U031						Included with above
340	U032						Included with above
341	U033						Included with above
342	U034						Included with above
343	U035						Included with above
344	U036						Included with above
345	U037						Included with above
346	U038						Included with above
347	U039						Included with above
348	U041						Included with above
349	U042						Included with above
350	U043						Included with above
351	U044						Included with above
352	U045						Included with above
353	U046						Included with above
354	U047						Included with above
355	U048						Included with above
356	U049						Included with above
357	U050						Included with above
358	U051						Included with above
359	U052						Included with above
360	U053						Included with above
361	U055						Included with above
362	U056						Included with above
363	U057						Included with above
364	U058						Included with above
365	U059						Included with above
366	U060						Included with above

9. Description of Hazardous Wastes *(Continued. Use additional sheet(s) as necessary; number pages as 5a, etc.)*							
Line Number	**A. EPA Hazardous Waste No. (Enter code)**	**B. Estimated Annual Qty of Waste**	**C. Unit of Measure (Enter code)**	**D. PROCESSES (1) PROCESS CODES (Enter Code)**			**2) PROCESS DESCRIPTION (If code is not entered in 9.D.1)**
367	U061						Included with above
368	U062						Included with above
369	U063						Included with above
370	U064						Included with above
371	U066						Included with above
372	U067						Included with above
373	U068						Included with above
374	U069						Included with above
375	U070						Included with above
376	U071						Included with above
377	U072						Included with above
378	U073						Included with above
379	U074						Included with above
380	U075						Included with above
381	U076						Included with above
382	U077						Included with above
383	U078						Included with above
384	U079						Included with above
385	U080						Included with above
386	U081						Included with above
387	U082						Included with above
388	U083						Included with above
389	U084						Included with above
390	U085						Included with above
391	U086						Included with above
392	U087						Included with above
393	U088						Included with above
394	U089						Included with above
395	U090						Included with above
396	U091						Included with above
397	U092						Included with above
398	U093						Included with above
399	U094						Included with above
400	U095						Included with above
401	U096						Included with above
402	U097						Included with above
403	U098						Included with above
404	U099						Included with above
405	U101						Included with above
406	U102						Included with above
407	U103						Included with above
408	U105						Included with above

9. Description of Hazardous Wastes *(Continued. Use additional sheet(s) as necessary; number pages as 5a, etc.)*							
Line Number	**A. EPA Hazardous Waste No. (Enter code)**	**B. Estimated Annual Qty of Waste**	**C. Unit of Measure (Enter code)**	**D. PROCESSES (1) PROCESS CODES (Enter Code)**			**2) PROCESS DESCRIPTION (If code is not entered in 9.D.1)**
409	U106						Included with above
410	U107						Included with above
411	U108						Included with above
412	U109						Included with above
413	U110						Included with above
414	U111						Included with above
415	U112						Included with above
416	U113						Included with above
417	U114						Included with above
418	U115						Included with above
419	U116						Included with above
420	U117						Included with above
421	U118						Included with above
422	U119						Included with above
423	U120						Included with above
424	U121						Included with above
425	U122						Included with above
426	U123						Included with above
427	U124						Included with above
428	U125						Included with above
429	U126						Included with above
430	U127						Included with above
431	U128						Included with above
432	U129						Included with above
433	U130						Included with above
434	U131						Included with above
435	U132						Included with above
436	U133						Included with above
437	U134						Included with above
438	U135						Included with above
439	U136						Included with above
440	U137						Included with above
441	U138						Included with above
442	U140						Included with above
443	U141						Included with above
444	U142						Included with above
445	U143						Included with above
446	U144						Included with above
447	U145						Included with above
448	U146						Included with above
449	U147						Included with above
450	U148						Included with above

9. Description of Hazardous Wastes *(Continued. Use additional sheet(s) as necessary; number pages as 5a, etc.)*							
Line Number	**A. EPA Hazardous Waste No. (Enter code)**	**B. Estimated Annual Qty of Waste**	**C. Unit of Measure (Enter code)**	**D. PROCESSES (1) PROCESS CODES (Enter Code)**			**2) PROCESS DESCRIPTION (If code is not entered in 9.D.1)**
451	U149						Included with above
452	U150						Included with above
453	U151						Included with above
454	U152						Included with above
455	U153						Included with above
456	U154						Included with above
457	U155						Included with above
458	U156						Included with above
459	U157						Included with above
460	U158						Included with above
461	U159						Included with above
462	U160						Included with above
463	U161						Included with above
464	U162						Included with above
465	U164						Included with above
466	U165						Included with above
467	U166						Included with above
468	U167						Included with above
469	U168						Included with above
470	U169						Included with above
471	U170						Included with above
472	U171						Included with above
473	U172						Included with above
474	U173						Included with above
475	U174						Included with above
476	U176						Included with above
477	U177						Included with above
478	U178						Included with above
479	U179						Included with above
480	U180						Included with above
481	U181						Included with above
482	U182						Included with above
483	U183						Included with above
484	U184						Included with above
485	U185						Included with above
486	U186						Included with above
487	U187						Included with above
488	U188						Included with above
489	U190						Included with above
490	U191						Included with above
491	U192						Included with above
492	U193						Included with above

9. Description of Hazardous Wastes *(Continued. Use additional sheet(s) as necessary; number pages as 5a, etc.)*							
Line Number	**A. EPA Hazardous Waste No. (Enter code)**	**B. Estimated Annual Qty of Waste**	**C. Unit of Measure (Enter code)**	**D. PROCESSES (1) PROCESS CODES (Enter Code)**			**2) PROCESS DESCRIPTION (If code is not entered in 9.D.1)**
493	U194						Included with above
494	U196						Included with above
495	U197						Included with above
496	U200						Included with above
497	U201						Included with above
498	U202						Included with above
499	U203						Included with above
500	U204						Included with above
501	U205						Included with above
502	U206						Included with above
503	U207						Included with above
504	U208						Included with above
505	U209						Included with above
506	U210						Included with above
507	U211						Included with above
508	U213						Included with above
509	U214						Included with above
510	U215						Included with above
511	U216						Included with above
512	U217						Included with above
513	U218						Included with above
514	U219						Included with above
515	U220						Included with above
516	U221						Included with above
517	U222						Included with above
518	U223						Included with above
519	U225						Included with above
520	U226						Included with above
521	U227						Included with above
522	U228						Included with above
523	U235						Included with above
524	U236						Included with above
525	U237						Included with above
526	U238						Included with above
527	U239						Included with above
528	U240						Included with above
529	U243						Included with above
530	U244						Included with above
531	U247						Included with above
532	U248						Included with above
533	U249						Included with above
534	U271						Included with above

9. Description of Hazardous Wastes *(Continued. Use additional sheet(s) as necessary; number pages as 5a, etc.)*							
Line Number	**A. EPA Hazardous Waste No. (Enter code)**	**B. Estimated Annual Qty of Waste**	**C. Unit of Measure (Enter code)**	**D. PROCESSES (1) PROCESS CODES (Enter Code)**			**2) PROCESS DESCRIPTION (If code is not entered in 9.D.1)**
535	U278						Included with above
536	U279						Included with above
537	U280						Included with above
538	U328						Included with above
539	U353						Included with above
540	U359						Included with above
541	U364						Included with above
542	U367						Included with above
543	U372						Included with above
544	U373						Included with above
545	U387						Included with above
546	U389						Included with above
547	U394						Included with above
548	U395						Included with above
549	U404						Included with above
550	U409						Included with above
551	U410						Included with above
552	U411						Included with above

10. Map

Attach to this application a topographical map, or other equivalent map, of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all spring, rivers, and other surface water bodies in this map area. See instructions for precise requirements.

11. Facility Drawing

All existing facilities must include a scale drawing of the facility (see instructions for more detail).

12. Photographs

All existing facilities must include photographs (aerial or ground-level) that clearly delineate all existing structures; existing storage, treatment, and disposal areas; and sites of future storage, treatment, or disposal areas (see instructions for more detail).

13. Comments

E

Other Regulatory Licenses and Permits

License/Permit Number	License/Permit Name
3870	SW Processing, Contaminated Soil Treatment
13-KB-181	Air Pollution Control Construction Permit
246076050-S01	Air Pollution Control Operation Permit Renewal

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
SOLID WASTE FACILITY OPERATION LICENSE

AUTHORIZED CONTACT:

PHILLIP DITTER, EHS MANAGER
VEOLIA ES TECHNICAL SOLUTIONS LLC
1275 MINERAL SPRINGS DR
PORT WASHINGTON, WI 53074

LICENSE NO:	3870
TYPE OF FACILITY:	SW Proc Contaminated Soil Treatment
EFFECTIVE DATE:	October 1, 2015
DATE OF EXPIRATION:	September 30, 2016

LICENSEE:	VEOLIA ES TECHNICAL SOLUTIONS LLC
NAME OF FACILITY:	VEOLIA ES TECHNICAL SOLUTIONS LLC
LOCATION OF FACILITY:	NW 1/4 OF SE 1/4 OF SECTION 32, T11, R22E 1275 MINERAL SPRINGS DRIVE PORT WASHINGTON, CTY OZAUKEE COUNTY, STATE OF WISCONSIN

This license authorizes the licensee to operate the solid waste facility described above during the term hereof except as modified by the Department. This license is subject to and conditioned upon compliance with the provisions of chapter 289, Wis. Stats., and chapters NR 500-590, Wis. Adm. Code, any plan approval and modifications thereof, and any special order and modifications thereof issued by the Department. Any exemptions from the requirements of chapters NR 500-590, Wis. Adm. Code, issued for the facility are listed above.

AIR POLLUTION CONTROL CONSTRUCTION PERMIT

EI FACILITY NO: 246076050 CONSTRUCTION PERMIT NO.:13-KB-181

TYPE: Construction Permit for: Process P14 and Stack S17

In compliance with the provisions of Chapter 285, Wis. Stats., and Chapters NR 400 to NR 499, Wis. Adm. Code,

Name of Source: Veolia ES Technical Solutions, LLC

Street Address: 1275 Mineral Springs Dr,
Port Washington, Ozaukee County, Wisconsin

Responsible Official, & Title: Kevin D. Shaver, Operations Manager

is authorized to construct Process P14 and Stack S17 described in the plans and specifications dated December 10, 2013, January 22, 2014, July 8, 2014, July 22, 2014, and September 17, 2014 and operate a hazardous waste storage and recycling of mercury bearing wastes facility in conformity with the conditions herein. The authority to construct, modify, replace and/or reconstruct any process covered in this Construction Permit expires eighteen (18) months from the date of issuance. This approved period to construct, modify, replace and/or reconstruct may be extended for up to 18 months upon request for cause, prior to expiration, unless otherwise specified by this construction permit. The conditions of this construction permit are permanent and may only be revised through a revision of the construction permit or through the issuance of a new construction permit. [s. 285.60(1), Wis. Stats.]

Conditions of the construction permit marked with an asterisk (*) have been created outside of the Wisconsin's federally approved State Implementation Plan (SIP) and are not federally enforceable.

This authorization requires compliance by the permit holder with the emission limitations, monitoring requirements and other terms and conditions set forth in Parts I and II hereof.

Dated at Milwaukee, Wisconsin November 11, 2014

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
For the Secretary

By /s/ Daniel H. Schramm
Daniel H. Schramm
Environmental Engineer Supervisor

Part I

A. Stack S14 (Retort room stack equipped with a carbon adsorber (C10) controlling discharges from process Stack S11, process Stack S15, and F99 fugitive emissions from retort room); Processes: [(1) Process P10, Control Device(s) C07, C09, Stack S11 – RipSys Retort Oven (constructed or last modified in 2002) equipped with electronic afterburner (C07) and carbon adsorber (C09) and discharges through process Stack S11 to retort room; (2) Process P11, Control Device(s) C08, C09, Stack S11 – Magna Drum Retort Oven (constructed or last modified in 2002) equipped with electronic afterburner (C08) and carbon adsorber (C09) and discharges through process Stack S11 to retort room; (3) Process P14, Control Device C11, Stack S15 – Natural Gas fired Wisconsin Oven Retort System equipped with a carbon adsorber (C11) and discharges through process stack S15 to retort room; and (4) F99 – Fugitive emissions from retort room] ---------- Emissions from Retort ovens and retort room ventilation.

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
1. Particulate Matter Emissions	(1) The particulate matter emissions from Stack S14 may not exceed 0.40 pounds of particulate matter per 1,000 pounds of gas.[1] [s. NR 415.05(1)(o), Wis. Adm. Code] (2) The ch. NR 415, Wis. Adm. Code allowable emissions of particulate matter are calculated by the use of the equation $E = 3.59\ P^{0.62}$ for process weight rates up to 60,000 pounds per hour and by use of the equation $E = 17.31\ P^{0.16}$ for process weight rates of 60,000 pounds per hour or more, where E is the allowable emissions in pounds per hour and P is the process weight rate in tons per hour. If the calculated emission rate is less restrictive than the applicable concentration specified under I.A.1.a.(1) based on the maximum exhaust flow rate and normal exhaust gas temperature, the limitation under I.A.1.a.(1) shall apply.[5] [s. NR 415.05(2), Wis. Adm. Code]	(1) The requirements in I.A.2.b.(1), (2), and (3) shall also serve as compliance demonstration methods for Particulate Matter Emissions. [s. NR 407.09(4)(a)1., Wis. Adm. Code; 13-KB-181]	(1) Reference Test Method for Particulate Matter Emissions: Whenever particulate matter emission testing is required, the permittee shall use U.S. EPA Method 5, 5A, 5B, 5D, 5E, 5F, 5G, 5H or 17 including condensable backhalf emissions (U.S. EPA Method 202), or another method/methods approved by the Department in writing. [s. NR 439.06(1), Wis. Adm. Code] (2) The requirements in I.A.2.c.(1), (2), (3), (4), (5) and (6) shall also serve as monitoring and recordkeeping methods for Particulate Matter Emissions. [ss. NR 439.04(1)(d) and 439.055(2)(b)1., Wis. Adm. Code; 13-KB-181]
2. *Hazardous Air Pollutant regulated by ch. NR 445 and	(1) *Mercury emissions exhausting Stack S14 may not exceed 0.019 pounds per hour.[2] [s. NR *445.07(1)(a), Wis. Adm. Code; 13-KB-181]	(1) *The carbon adsorber (C09) shall be in line and shall be operated at all times when either one or both of Processes P10 and P11 are in	(1) *The mercury concentration in the exhaust gas from Stack S14 shall be measured and recorded with a portable mercury vapor

[1]The ch. NR 415, Wis. Adm. Code allowable emission limit for Particulate Matter Emissions which is based on the allowable limit under s. NR 415.05(2), Wis. Adm. Code is equal to 1.836 lbs/hr which is more restrictive than the value calculated based on s. NR 415.05(1)(o), Wis. Adm. Code. The potential emission is a much lower value and is equal to 0.019 lb/hr. The limitations from ss. NR 415.05(1)(o) and NR 415.05(2), Wis. Adm. Code have been listed based on current Departmental Policy.

[2] The Mercury emissions limits are based on modeling and are included in the permit so that all air quality standards in ch. NR 445 and in ch. NR 446, Wis. Adm. Code are met.

A. Stack S14 (Retort room stack equipped with a carbon adsorber (C10) controlling discharges from process Stack S11, process Stack S15, and F99 fugitive emissions from retort room); Processes: [(1) Process P10, Control Device(s) C07, C09, Stack S11 – RipSys Retort Oven (constructed or last modified in 2002) equipped with electronic afterburner (C07) and carbon adsorber (C09) and discharges through process Stack S11 to retort room; (2) Process P11, Control Device(s) C08, C09, Stack S11 – Magna Drum Retort Oven (constructed or last modified in 2002) equipped with electronic afterburner (C08) and carbon adsorber (C09) and discharges through process Stack S11 to retort room; (3) Process P14, Control Device C11, Stack S15 – Natural Gas fired Wisconsin Oven Retort System equipped with a carbon adsorber (C11) and discharges through process stack S15 to retort room; and (4) F99 – Fugitive emissions from retort room] ---------- Emissions from Retort ovens and retort room ventilation.

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
ch. NR 446, Wis. Adm. Code: Mercury Emissions	(2) *The Mercury concentration in the exhaust gas from Stack S14 may not exceed 1.3527 milligrams per cubic meter.[8] [s. 285.65(4), Wis. Stats.; 13-KB-181] (3) *The permittee shall maintain the following parameters for the Stack S14 listed below:[3] (a) Stack S14 shall be at least 25 feet above ground level; (b) The stack inside diameter at the outlet for Stack S14 may not exceed 1.33 feet; and (c) Stack S14 may not be equipped with a rainhat or any other device which impedes the upward flow of the exhaust gases. [s. 285.65(3), Wis. Stats.; 13-KB-181]	operation. [s. NR 407.09(4)(a)1., Wis. Adm. Code; 13-KB-181] (2) *The carbon adsorber (C11) shall be in line and shall be operated at all times when Process P14 is in operation. [s. NR 407.09(4)(a)1., Wis. Adm. Code; 13-KB-181] (3) *The carbon adsorber (C10) shall be in line and shall be operated at all times when one or more of the Processes P10, P11, and P14 are in operation, and also when there are fugitive emissions in the retort room (F99). [s. NR 407.09(4)(a)1., Wis. Adm. Code; 13-KB-181] (4) *A malfunction prevention and abatement plan for the carbon adsorbers (C09, C11, and C10) including the concentration monitoring device for measuring emissions in the exhaust gas from Stack S14 and the pressure drop monitoring devices, shall be prepared and submitted for Department review and approval within 180 days of the date Process P14 becomes operational. [s. NR 439.11, Wis. Adm. Code; 13-KB-181] (5) *Within 210 days of Process P14 becoming operational, the permittee shall conduct mercury emissions testing to determine compliance with Conditions I.A.2.a.(1) and (2). The testing shall be conducted in accordance with Conditions I.A.2.c.(7) and I.ZZZ.4.. [s. NR 407.09(4)(a)1., Wis. Adm. Code; 13-KB-181]	analyzer (Arizona Instruments, Jerome 431X, or equivalent) once per day while when one or more of the Processes P10, P11, and P14 are in operation, and when there are fugitive emissions in the retort room (F99). [s. 285.65(10), Wis. Stats.; 13-KB-181] (2) *The permittee shall install and operate instrumentation to monitor the pressure drop across the carbon adsorber C09, and prefilter in inches of water, and temperature within the carbon adsorber C09 in degrees Fahrenheit or Celsius (centigrade) within two months of Process P14 becoming operational. [s. NR 439.055(1)(g), Wis. Adm. Code; 13-KB-181] (3) *The permittee shall install and operate instrumentation to monitor the pressure drop across the carbon adsorbers (C11 and C10) and prefilters in inches of water, and temperature within the carbon adsorbers (C11 and C10) in degrees Fahrenheit or Celsius (centigrade) within two months of Process P14 becoming operational. [s. NR 439.055(1)(g), Wis. Adm. Code; 13-KB-181] (4) *Whenever either one or both of the Processes P10 and P11 are in operation, the permittee shall measure and record the pressure drop across the carbon adsorber (C09) once for every 8 hours of source operation or once per day, whichever yields the greater number of measurements, after a pressure drop range

[3] These requirements are included because the source was reviewed with these stack parameters and it was determined that ambient air quality standards will not be violated.

A. Stack S14 (Retort room stack equipped with a carbon adsorber (C10) controlling discharges from process Stack S11, process Stack S15, and F99 fugitive emissions from retort room); Processes: [(1) Process P10, Control Device(s) C07, C09, Stack S11 – RipSys Retort Oven (constructed or last modified in 2002) equipped with electronic afterburner (C07) and carbon adsorber (C09) and discharges through process Stack S11 to retort room; (2) Process P11, Control Device(s) C08, C09, Stack S11 – Magna Drum Retort Oven (constructed or last modified in 2002) equipped with electronic afterburner (C08) and carbon adsorber (C09) and discharges through process Stack S11 to retort room; (3) Process P14, Control Device C11, Stack S15 – Natural Gas fired Wisconsin Oven Retort System equipped with a carbon adsorber (C11) and discharges through process stack S15 to retort room; and (4) F99 – Fugitive emissions from retort room] ---------- Emissions from Retort ovens and retort room ventilation.

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
			(lower and upper values in inches of water) that adequately represents the adsorber conditions has been established (which shall be done within six months of Process P14 becoming operational). The permittee shall keep these records for a period of five (5) years and make these records available to the Department personnel upon request any time during normal working hours. [s. NR 439.055(2)(b)1., Wis. Adm. Code; 13-KB-181] (5) *Whenever Process P14 is operating, the permittee shall measure and record the pressure drop across the carbon adsorber (C11) once for every 8 hours of source operation or once per day, whichever yields the greater number of measurements, after a pressure drop range (lower and upper values in inches of water) that adequately represents the adsorber conditions has been established (which shall be done within six months after Process P14 becomes operational). The permittee shall keep these records for a period of five (5) years and make these records available to the Department personnel upon request any time during normal working hours. [s. NR 439.055(2)(b)1., Wis. Adm. Code; 13-KB-181] (6) *Whenever one or more of the Processes P10, P11, and P14 are in operation, and also when there are fugitive emissions in the retort room (F99), the permittee shall measure and record the pressure drop across the carbon adsorber (C10) once for every 8 hours of source operation or once per day, whichever yields the greater number of measurements, after a pressure drop range (lower and upper values in

A. Stack S14 (Retort room stack equipped with a carbon adsorber (C10) controlling discharges from process Stack S11, process Stack S15, and F99 fugitive emissions from retort room); Processes: [(1) Process P10, Control Device(s) C07, C09, Stack S11 – RipSys Retort Oven (constructed or last modified in 2002) equipped with electronic afterburner (C07) and carbon adsorber (C09) and discharges through process Stack S11 to retort room; (2) Process P11, Control Device(s) C08, C09, Stack S11 – Magna Drum Retort Oven (constructed or last modified in 2002) equipped with electronic afterburner (C08) and carbon adsorber (C09) and discharges through process Stack S11 to retort room; (3) Process P14, Control Device C11, Stack S15 – Natural Gas fired Wisconsin Oven Retort System equipped with a carbon adsorber (C11) and discharges through process stack S15 to retort room; and (4) F99 – Fugitive emissions from retort room] ---------- Emissions from Retort ovens and retort room ventilation.

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
			inches of water) that adequately represents the adsorber conditions has been established (which shall be done within six months after Process P14 becomes operational). The permittee shall keep these records for a period of five (5) years and make these records available to the Department personnel upon request any time during normal working hours. [s. NR 439.055(2)(b)1., Wis. Adm. Code; 13-KB-181] (7) Reference Test Method for Mercury Emissions: Whenever compliance emission testing is required, the permittee shall use U.S. EPA Method 0012 or other methods and plans approved, in writing, by the Department. [s. NR 439.06(8), Wis. Adm. Code] (8) *A log shall be kept of all maintenance required on the carbon adsorbers (C09, C11, and C10) and the dates of adsorber replacements. [s. NR 439.04(1)(b), Wis. Adm. Code; 13-KB-181] (9) *The permittee shall keep and maintain on-site technical drawings, blueprints or equivalent records of the physical stack parameters for Stack S14. [s. NR 439.04(1)(d), Wis. Adm. Code; 13-KB-181] (10) *The permittee shall retain copies of the results of the compliance emission tests required in Condition I.A.2.b.(5). [s. NR

A. Stack S14 (Retort room stack equipped with a carbon adsorber (C10) controlling discharges from process Stack S11, process Stack S15, and F99 fugitive emissions from retort room); Processes: [(1) Process P10, Control Device(s) C07, C09, Stack S11 – RipSys Retort Oven (constructed or last modified in 2002) equipped with electronic afterburner (C07) and carbon adsorber (C09) and discharges through process Stack S11 to retort room; (2) Process P11, Control Device(s) C08, C09, Stack S11 – Magna Drum Retort Oven (constructed or last modified in 2002) equipped with electronic afterburner (C08) and carbon adsorber (C09) and discharges through process Stack S11 to retort room; (3) Process P14, Control Device C11, Stack S15 – Natural Gas fired Wisconsin Oven Retort System equipped with a carbon adsorber (C11) and discharges through process stack S15 to retort room; and (4) F99 – Fugitive emissions from retort room] ---------- Emissions from Retort ovens and retort room ventilation.

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
			439.04(1)(a), Wis. Adm. Code; 13-KB-181]
3. Visible Emissions	(1) Emissions of shade or density may not be greater than number 1 of the Ringlemann chart or 20% opacity. [s. NR 431.05, Wis. Adm. Code; 13-KB-181]	(1) The requirements in Condition I.A.1.b.(1), shall also serve as compliance demonstration methods for visible emissions. [s. NR 407.09(4)(a)1., Wis. Adm. Code; 13-KB-181]	(1) Whenever visible emissions testing is required, the permittee shall use U. S. EPA Method 9. [s. NR 439.06(9)(a)1., Wis. Adm. Code] (2) The requirements in Condition I.A.1.c.(2) shall also serve as monitoring and recordkeeping methods for visible emissions. [ss. NR 439.04(1)(d) and 439.055(2)(b)1., Wis. Adm. Code; 13-KB-181]
4. All Pollutants	(1) Process P12 (ASE MR25 Retort Ovens) shall be dismantled or rendered permanently inoperable before Process P14 (Natural Gas fired Wisconsin Oven Retort System) begins operation as defined under I.ZZZ.7.a.(1). [s. 285.65(3), Wis. Stats.; 13-KB-181]	(1) The permittee shall provide notification, as required under I.ZZZ.7.b.(1)(d), of the date that Process P12 (ASE MR25 Retort Ovens) is dismantled or rendered permanently inoperable. [s. 285.65(3), Wis. Stats.; 13-KB-181]	None.

B. Emissions from Flue Stacks from Retort Ovens: Stack S12, Process P10 – RipSys Retort Oven (Constructed or Last Modified in 2002, Natural Gas Fired, Maximum Heat Input: 0.4 MMBtu/hr); Stack S13, Process P11 - Magna Drum Retort Oven (Constructed or Last Modified in 2002, Natural Gas Fired, Maximum Heat Input: 0.5 MMBtu/hr); and Stack S17, Process P14 - Wisconsin Oven Retort System (Natural Gas Fired, Maximum Heat Input: 1.5 MMBtu/hr).

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
1. Particulate Matter Emissions	(1) Emissions of particulate matter from each of the Stacks S12, S13, and S17 may not exceed 0.15 pounds of particulate matter per million Btu heat input.[4] [s. NR 415.06(2)(a), Wis. Adm. Code; 13-KB-181]	(1) The permittee shall only fire Natural Gas in Processes P10, P11, and P14. [ss. NR 407.09(1)(c)1.b., Wis. Adm. Code and 285.65(3) and 285.63(1)(a), Wis. Stats.; 13-KB-181]	(1) Reference Test Method for Particulate Matter Emissions: Whenever particulate matter emission testing is required, the permittee shall use USEPA Method 5, including condensable backhalf emissions (USEPA Method 202). [s. NR 439.06(1), Wis. Adm. Code] (2) The permittee shall retain on site, plans and specifications or equivalent documentation that indicate fuel usage design capabilities of each of the Processes P10, P11, and P14.[5] [s. NR 439.04(1)(d), Wis. Adm. Code; 13-KB-181] (3) The permittee shall keep and maintain on-site technical drawings, blueprints or equivalent records of the physical stack parameters for Stacks S12, S13, and S17. [s. NR 439.04(1)(d), Wis. Adm. Code; 13-KB-181]
2. Visible Emissions	(1) Emissions may not be greater than 20% opacity or number 1 of the Ringlemann chart. [s. NR 431.05, Wis. Adm. Code; 13-KB-181]	(1) The requirement for Particulate Matter emissions in I.B.1.b.(1) shall be used as compliance demonstration for the opacity limit. [s. NR 407.09(4)(a)3.b., Wis. Adm. Code; 13-KB-181]	(1) Reference Test Method for Visible Emissions: Whenever visible emissions testing is required, the permittee shall use U. S. EPA Method 9. [s. NR 439.06(9)(a)1., Wis. Adm. Code] (2) Same as for particulate matter emissions listed in I.B.1.c.(2). [s. NR 439.04(1)(d), Wis. Adm. Code; 13-KB-181]
3. Emissions of other Criteria Pollutants	The General Limitations in Part II of the Permit shall apply.		

[4]Particulate matter emissions are associated with combustion by products while firing natural gas. Because the maximum theoretical emissions while firing natural gas are less than the allowable limit of 0.15 pounds per million Btu heat input from s. NR 415.06(2)(a), Wis. Adm. Code, limiting the type of fuel used is adequate to demonstrate compliance with the particulate matter emission limit.

[5]These plans and specifications are sufficient because these retort ovens are designed to only fire natural gas.

ZZZ. Conditions Applicable to the Entire Facility.

Pollutant/Condition	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
1. *Mercury	(1) *Ambient air concentration from the total facility may not exceed 1 microgram per cubic meter, averaged over a 30-day period. **[s. NR *446.03(1), Wis. Adm. Code; 13-KB-181]** Note: Based on dispersion modeling results, the ambient concentration will not exceed this level at the allowable emission rates specified for Stacks S01, S08, and S14 in operation permit number 246076050-S01.		
2. State Hazardous Air Pollutants (State HAPs).	(1) No owner or operator of a source may cause, allow or permit emissions of a hazardous air contaminant listed in Table A of s. NR 445.07, Wis. Adm. Code in such quantity or concentration or for such duration as to cause an ambient air concentration of the contaminant off the source property that exceeds the concentration in column (g) of Table A for the contaminant. **[s. NR 445.07(1)(a), Wis. Adm. Code)]***	(1) When the permittee elects to significantly change the existing operation (e.g., raw material or product change or production capacity increase), the permittee shall determine, either analytically or through the use of technical calculations, the facility's new or increased potential emissions of any state hazardous air pollutant (State HAP) emitted, assuming maximum operation conditions. **[s. NR 407.09(4)(a)3.b., Wis. Adm. Code]*** (2) The permittee shall determine if the facility's new or increased potential emission rate of any State HAP exceeds the	(1) Whenever any hazardous air pollutant concentration or emission rate testing of any material is required for demonstrating compliance, the permittee shall use a test method and testing protocol approved by either the US EPA or the Department. **[ss. NR 407.09(1)(c)1.a. & 4(a)1. and NR 439.06(8), Wis. Adm. Code]**

ZZZ. Conditions Applicable to the Entire Facility.

Pollutant/Condition	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
		applicable published de minimus value in Table A of s. NR 445.07, Wis. Adm. Code. **[s. NR 407.09(4)(a)3.b., Wis. Adm. Code]*** (3) When the facility's new or increased potential emission rate of any State HAP exceeds a published de minimus value, the permittee shall evaluate the impact of the pollutant's emission and determine if any additional action needs to be taken to protect the ambient air quality standard. **[s. NR 407.09(4)(a)3.b., Wis. Adm. Code]***	
3. Malfunction Prevention and Abatement Plan.	(1) A malfunction prevention and abatement plan shall be prepared and followed for the plant. **[s. NR 439.11, Wis. Adm. Code]** (2) All air pollution control equipment shall be operated and maintained in conformance with good engineering practices (i.e. operated and maintained according to manufacturer's specifications and directions) to minimize the possibility for the exceedance of any emission limitations. **[s. NR 439.11(4), Wis. Adm. Code]**	(1) The malfunction prevention and abatement plan shall be developed to prevent, detect and correct malfunctions or equipment failures which may cause any applicable emissions limitation to be violated or which may cause air pollution. **[s. NR 439.11(1), Wis. Adm. Code]** (2) This malfunction prevention and abatement plan shall include installation, maintenance and routine calibration procedures for the process monitoring and control equipment instrumentation. This plan shall require an instrumentation calibration at the frequency	None Applicable.

ZZZ. Conditions Applicable to the Entire Facility.

Pollutant/Condition	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
	(3) The facility shall submit the plan to the Wisconsin Department of Natural Resources, South Central Region Air Program, Reedsburg Area Office, PO Box 281, Reedsburg, WI 53959 for review. The Department may amend the plan if deemed necessary for malfunction prevention or for the reduction of excess emissions during malfunctions. **[s. NR 439.11(2), Wis. Adm. Code]**	specified by the manufacturer, yearly or at a frequency based on good engineering practice as established by operational history, whichever is more frequent. Inspection and calibration shall also be conducted whenever instrumentation anomalies are noted. **[ss. NR 407.09(1)(c)1.c., NR 439.055(4) and s. NR 439.11, Wis. Adm. Code]** (3) The malfunction prevention and abatement plan shall require a copy of the operation and maintenance manual for the control equipment to be maintained on site. The plan shall contain all of the elements in s. NR 439.11(1)(a) - (h), Wis. Adm. Code. **[s. NR 439.11, Wis. Adm. Code]**	
4. Stack Testing Requirements.	(1) If the compliance emission test(s) cannot be conducted within the time frames specified in this permit, the permit holder may request and the Department may approve, in writing, an extension of time to conduct the test(s). **[s. NR 439.07, Wis. Adm. Code]** (2) All testing shall be performed with the emissions unit operating at capacity or as close to capacity as practicable and in	(1) Two copies of the report on any compliance emission tests shall be submitted to the Department for evaluation within 60 days following the completion of tests. **[s. NR 439.07(9), Wis. Adm. Code]**	None Applicable.

ZZZ. Conditions Applicable to the Entire Facility.

Pollutant/Condition	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
	accordance with approved procedures. If operation at capacity is not feasible, the source shall operate at a capacity level which is approved by the Department in writing. **[s. NR 439.07(1), Wis. Adm. Code]** (3) The Department shall be informed at least 20 working days prior to a stack testing, so a Department representative can witness the testing. At the time of notification, a compliance emission test plan shall also be submitted to the Department for approval. When approved in writing, an equivalent test method may be substituted for the reference test method. The notification and test plan shall be submitted to the Wisconsin Department of Natural Resources, South Central Region Air Program, Reedsburg Area Office, PO Box 281, Reedsburg, WI 53959. **[s. NR 439.07(2), Wis. Adm. Code]**		
5. Compliance Reports/Records.	(1) Except as provided under I.ZZZ.7.a.(6), upon issuance of the operation permit, the permittee shall submit periodic monitoring reports. **[s. NR 407.09(1)(c)3., Wis. Adm. Code]**	(1) The permittee shall annually submit a monitoring report which contains the results of monitoring or a summary of monitoring results required by this permit to the Department. (a) The time period to be addressed by the	None Applicable.

ZZZ. Conditions Applicable to the Entire Facility.

Pollutant/Condition	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
	(2) Except as provided under I.ZZZ.7.a.(6), upon issuance of the operation permit, the permittee shall submit periodic certification of compliance. **[s. NR 407.09(4)(a)3., Wis. Adm. Code]** (3) The records required under this permit shall be retained for at least five (5) years and shall be made available to department personnel upon request during normal business hours. **[s. NR 439.04, s. NR 439.05, Wis. Adm. Code]**	report is the January 1 to December 31 period which precedes the report. (b) The report shall be submitted to the Wisconsin Department of Natural Resources, South Central Region Air Program, Reedsburg Area Office, PO Box 281, Reedsburg, WI 53959 within 45 days after the end of each reporting period. (c) All deviations from and violations of applicable requirements shall be clearly identified in the submittal. (d) Each submittal shall be certified by a responsible official as to the truth, accuracy and completeness of the report. (e) The content of the submittal is described in item D. of Part II of the operation permit. **[ss. NR 407.09(1)(c)3. & NR 439.03(1)(b), Wis. Adm. Code]** (2) The permittee shall submit an annual certification of compliance with the requirements of this permit to the Wisconsin Department of Natural Resources, South Central Region Air Program, Reedsburg Area Office, PO Box 281, Reedsburg, WI	

ZZZ. Conditions Applicable to the Entire Facility.

Pollutant/Condition	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
		53959. (a) The time period to be addressed by the report is January 1 to December 31 of the preceding year. (b) The report shall be submitted to the Wisconsin Department of Natural Resources within 45 days after the end of each reporting period. (c) The information included in the report shall comply with the requirements of Part II, Section N of this permit. (d) Each report shall be certified by a responsible official as to the truth, accuracy and completeness of the report. **[ss. NR 407.09(4)(a)3. & NR 439.03(1)(c), Wis. Adm. Code]**	
6. Alternate Operating Scenario – Use of raw material not included in the permit application	(1) If the permittee uses a raw material not included in the permit application reviewed for this permit, the following requirements shall be met by the permittee: (a) The source has continuously had such design capability. (b) The use will not cause or exacerbate the violation of an ambient air quality standard or an ambient air increment.	(1) The permittee shall keep at the facility all calculations and supporting material required to demonstrate compliance with limitation I.ZZZ.6.a.(1). [s. NR 407.09(2)(b), Wis. Adm. Code; 13-KB-181]	None Applicable.

ZZZ. Conditions Applicable to the Entire Facility.

Pollutant/Condition	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
	(c) The use is not prohibited by any permit, plan approval or special order applicable to the source. (d) The use will not result in a violation of any emission limit in chs. NR 405, 408, 409, 415 to 436 and 445, Wis. Adm. Code. (e) The use will not subject the source to any standard or regulation under section 112 of the Act (42 USC 7412). [ss. NR 407.09(2)(d), and NR 406.04(4)(a), Wis. Adm. Code; 13-KB-181]		
7. Construction Permit 13-KB-181 Transitional Language	**(1) Notifications.** The permittee shall inform the Department of the following dates: (a) The date construction commences on any new or modified emission unit(s) addressed in Permit 13-KB-181. (b) The date the new emission unit (P14) becomes operational. (c) The date the new Stack (S17) becomes operational. (d) The date existing emission unit P12 is dismantled or rendered permanently inoperable. For purposes of this permit, "operational" shall be defined as the first time of any	**(1) Notifications.** The permittee shall submit to the Wisconsin Department of Natural Resources, South Central Region Air Program, Reedsburg Area Office, PO Box 281, Reedsburg, WI 53959 in writing, within 15 days of the date the event, the following: (a) The date construction commences on the any new or modified emission unit(s) addressed in Permit 13-KB-181. (b) The date the new emission unit (P14) becomes operational. (c) The date the new Stack (S17) becomes operational. (d) The date existing emission unit P12 is	None Applicable.

ZZZ. Conditions Applicable to the Entire Facility.

Pollutant/Condition	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
	process related air contaminant is emitted into the ambient air. **[s. NR 439.03(1), Wis. Adm. Code (Permit 13-KB-181)]** **(2) Construction Authorization Expiration.** The Authorization to Construct, under Construction Permit 13-KB-181 expires 18 months after the date of issuance. Construction or modification and an initial operation period for equipment shakedown, testing and Department evaluation of operation to assure conformity with the permit conditions is authorized for each emissions unit covered in this permit. Please note that the sources covered by this permit are required to meet all emission limits and conditions contained in the permit at all times, including during the initial operation period. If 18 months is an insufficient time period for construction or modification, equipment shakedown, testing and Department evaluation of operation, the permit holder may request and the Department may approve in writing an extension of this permit. The conditions of the construction permit are permanent, unless revised, superseded or revoked. **[ss. 285.60(1)(a)2. and 285.66(1), Wis. Stats., and s. NR 406.12, Wis. Adm.**	dismantled or rendered permanently inoperable. **[s. NR 439.04(1)(d), Wis. Adm. Code (Permit 13-KB-181)]** **(2) Malfunction Prevention and Abatement Plan.** The owner or operator shall update the facility's Malfunction Prevention and Abatement Plan to include the new emission unit (P14) and submit it to the Wisconsin Department of Natural Resources, South Central Region Air Program, Reedsburg Area Office, PO Box 281, Reedsburg, WI 53959 for review and approval within 180 days of the date Process P14 becomes operational. **[s. NR 439.11(1), Wis. Adm. Code (Permit 13-KB-181)]** **(3) Emission Stack Testing.** Upon completion of the compliance emission tests listed in I.A.2.b.(5), the permittee shall submit to the Wisconsin Department of Natural Resources, South Central Region Air Program, Reedsburg Area Office, PO Box 281, Reedsburg, WI 53959 two copies of the report on the tests for evaluation within 60 days of the date the tests were completed.	

ZZZ. Conditions Applicable to the Entire Facility.

Pollutant/Condition	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
	Code (Permit 13-KB-181)] **(3) New Emission Unit (P14).** Once constructed and initially operating P14 shall operate under the conditions in Section I.A. (of the construction permit 13-KB-181). **[s. NR 439.03(1), Wis. Adm. Code (Permit 13-KB-181)]** **(4) Malfunction Prevention and Abatement Plan.** The permittee shall update the facility's Malfunction Prevention and Abatement Plan to include the operation and maintenance of the control equipment associated with the new emission unit (P14). **[s. NR 439.11, Wis. Adm. Code (Permit 13-KB-181)]** **(5) Emission Stack Testing.** The permittee shall conduct compliance emission stack tests as listed in I.A.2.b.(5). (a) If compliance emission test(s) cannot be conducted within the time frames specified, the permit holder may request and the Department may approve, in writing, an extension of time to conduct the test(s).	**[s. NR 439.04(1)(d), Wis. Adm. Code (Permit 13-KB-181)]** **(4) Submittal of Compliance Testing Information and other updates.** The permittee shall submit to the Department any updates of the permit application. Updates are required if any changes that occur which are not specified or described in the plans and specifications dated December 10, 2013, January 22, 2014, July 8, 2014, July 22, 2014 and September 17, 2014. The updates shall be made within 60 days of the date of the change. Other information to be submitted shall include the notification requirements, stack tests results and the update of the facility's Malfunction prevention and Abatement Plan. The continued operation of the modified and new emission units addressed in this construction permit are prohibited once the authorization to construct expires per Condition I.ZZZ.7.a.(2), unless any required updates have been submitted and the permittee has satisfied the notification requirements of Condition I.ZZZ.7.b.(1). **[s. NR 439.04(1)(d), Wis. Adm. Code (Permit 13-KB-181)]** **(5)** All submittals described in this permit shall be made in writing and include the name of	

ZZZ. Conditions Applicable to the Entire Facility.

Pollutant/Condition	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
	(b) All testing shall be performed with the emissions unit operating at capacity or as close to capacity as practicable and in accordance with approved procedures. If operation at capacity is not feasible, the source shall operate at a capacity level which is approved by the Department in writing. (c) The Department shall be informed at least 20 working days prior to any stack testing so a Department representative can witness the testing. At the time of notification, a compliance emission test plan shall also be submitted to the Department for approval. When approved in writing, an equivalent test method may be substituted for the reference test method. **[s. NR 439.07, Wis. Adm. Code (Permit 13-KB-181)]** **(6) Compliance Reports/Records.** The permittee shall submit periodic monitoring reports and certification of compliance as required by I.ZZZ.5.a.(1) and (2) for any new emission unit for the period when that unit becomes operational. Note that compliance monitoring and reporting requirements and limitations of any unmodified units remain in effect.	the facility, the facility's address, the construction permit number and a description of the affected emission unit(s). **[s. NR 439.04(1)(d), Wis. Adm. Code (Permit 13-KB-181)]**	

ZZZ. Conditions Applicable to the Entire Facility.

Pollutant/Condition	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
	(7) Completion of Operation Permit Application. The permittee shall update the permit application if any changes occur which are not specified or described in the plans and specifications approved under construction permit 13-KB-181. **NR 407.04(1)(b), Wis. Adm. Code (Permit 13-KB-181)]**		

PART II
General Permit Conditions For Construction Permits
Issued To Direct Stationary Sources

A. Scope

This permit is valid only for the structure, building, facility, equipment or operation specifically identified herein. All emissions authorized hereby shall be in compliance with the terms and conditions of Parts I and II of this permit. [s. 285.60(7), Wis. Stats.]

B. Emissions Prohibited

Unless the Department has approved an exception under s. NR 436.03(2), no person may cause, allow, or permit emissions of any air contaminant into the ambient air in excess of the limits set in chs. NR 400 to 499, Wis. Adm. Code. [s. NR 436.03(1), Wis. Adm. Code]

C. General Emission Limits

1. No person may cause, allow, or permit particulate matter to be emitted into the ambient air which substantially contributes to exceeding of an air standard, or creates air pollution. [s. NR 415.03, Wis. Adm. Code]
2. No person may cause, allow, or permit any materials to be handled, transported, or stored without taking precautions to prevent particulate matter from becoming airborne. Nor may a person allow a structure, a parking lot, or a road to be used, constructed, altered, repaired, sand blasted or demolished without taking such precautions. Such precautions shall include, but not be limited to the following [s. NR 415.04, Wis. Adm. Code]:
    a. Use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, or construction operations.
    b. Application of asphalt, oil, water, suitable chemicals, or plastic covering on dirt roads, material stockpiles, and other surfaces which can create airborne dust, provided such application does not create a hydrocarbon, odor, or water pollution problem.
    c. Installation and use of hoods, fans and air cleaning devices to enclose and vent the areas where dusty materials are handled.
    d. Covering or securing of materials likely to become airborne while being moved on public roads, railroads, or navigable waters.
    e. Conduct of agricultural practices such as tilling of land or application of fertilizers in such manner as not to create air pollution.
    f. The paving or maintenance of roadway areas so as not to create air pollution.
3. No person may cause, allow or permit emission of sulfur or sulfur compounds into the ambient air which substantially contribute to the exceeding of an air standard or cause air pollution. [s. NR 417.03, Wis. Adm. Code]
4. No person may cause, allow or permit organic compound emissions into the ambient air which substantially contribute to the exceeding of an air standard or cause air pollution. [s. NR 419.03(1), Wis. Adm. Code]
5. No person may cause, allow or permit the disposal of more than 5.7 liters (1.5 gallons) of any liquid Volatile Organic Compound (VOC) waste, or of any liquid, semisolid or solid waste materials containing more than 5.7 liters (1.5 gallons) of any VOC, in any one day from a facility in a manner that would permit their evaporation into the ambient air during the ozone season. This includes, but is not limited to, the disposal of VOC which must be removed from VOC control devices so as to maintain the control devices at their required operating efficiency. Disposal during the ozone season shall be by methods approved by the Department, such as incineration, recovery for reuse, or transfer in closed containers to an acceptable disposal facility, such that the quantity of VOC which evaporates into the ambient air does not exceed 15% (by weight) or 5.7 liters (1.5 gallons) in any one day, whichever is larger. [s. NR 419.04, Wis. Adm. Code]
6. No person may cause, allow or permit emissions of carbon monoxide to the ambient air which substantially contribute to the exceeding of an air standard or cause air pollution. [s. NR 426.03, Wis. Adm. Code]
7. No person may cause, allow or permit emissions into the ambient air of lead or lead compounds which substantially contribute to the exceeding of an air standard or air increment, or which create air pollution. [s. NR 427.025, Wis.

Adm. Code]

8. No person may cause, allow, or permit nitrogen oxides or nitrogen compounds to be emitted to the ambient air which substantially contribute to the exceeding of an air standard or cause air pollution. [s. NR 428.03, Wis. Adm. Code]

9. No person may cause, allow or permit emission into the ambient air of any substance or combination of substances in such quantities that an objectionable odor is determined to result unless preventive measures satisfactory to the Department are taken to abate or control such emission. [s. NR 429.03(1), Wis. Adm. Code]

10. Open burning is prohibited except as provided in s. NR 429.04, Wis. Adm. Code. [s. NR 429.04, Wis. Adm. Code]

    [Note: Under the Wisconsin Recycling Law, small businesses, commercial enterprises, and industries may not use burn barrels or engage in other kinds of open burning and may not be granted burning permits by municipalities. However, the prohibition on burn barrels does not apply to small businesses in which the owners reside at the same location and cannot separate their business waste from their household waste.]

11. No person may cause, allow or permit emissions into the ambient air from any direct or portable source in excess of one of the limits specified in ch. NR 431, Wis. Adm. Code. Where the presence of uncombined water is the only reason for failure to meet the requirements of ch. NR 431, Wis. Adm. Code, such failure is not a violation of the chapter. [s. NR 431.03, Wis. Adm. Code]

12. No person may cause, allow, or permit emissions into the ambient air of any hazardous substance in such quantity, concentration, or duration as to be injurious to human health, plant or animal life unless the purpose of that emission is for the control of plant or animal life. Hazardous substances include, but are not limited to, hazardous air contaminants listed in Tables A to C of s. NR 445.07, Wis. Adm. Code. [s. NR 445.03, Wis. Adm. Code]

13. Chapter NR 447, Wis. Adm. Code, applies to all air contaminant sources which may emit asbestos, to their owners and operators and to any person whose action causes the emission of asbestos to the ambient air, including demolition and renovation activities. Chapter NR 447, Wis. Adm. Code, establishes emission limitations for asbestos air contaminant sources, establishes procedures to be followed when working with asbestos materials and contains additional reporting and record keeping requirements for owners or operators of asbestos air contaminant sources in order to protect air quality. [ch. NR 447, Wis. Adm. Code]

14. When the department requires instrumentation to monitor the operation of air pollution control equipment, or to monitor source performance, the instrument shall measure operational variables with the following accuracy: [s. NR 439.055(3), Wis. Adm. Code]

    a. The temperature monitoring device shall have an accuracy of 0.5% of the temperature being measured in degrees Fahrenheit or ±5°F of the temperature being measured, or the equivalent in degrees Celsius (centigrade), whichever is greater.

    b. The pressure drop monitoring device shall be accurate to within 5% of the pressure drop being measured or within ±1 inch of water column, whichever is greater.

    c. The current, voltage, flow or pH monitoring device shall be accurate to within 5% of the specific variable being measured.

15. All instruments used for measuring source or air pollution control equipment operational variables shall be calibrated yearly or at a frequency based on good engineering practice as established by operational history, whichever is more frequent. [s. NR 439.055(4), Wis. Adm. Code]

D. Reporting Requirements

1. The Department shall be notified of the following events:

Event	Timing
a. Hazardous substance air spill	Immediate call: 1-800-943-0003
b. Malfunction or other unscheduled event which causes or may cause any emission limitation to be exceeded [except certain visible emission limit exceedances - see s. NR 439.03(4), Wis. Adm. Code].	Notification by next business day of any such event at the source which is not reported in advance to the Department. Report the cause and duration of the exceedance, the period of time considered necessary for correction, and measures taken to minimize emissions during the

		period
c.	Deviation from any other condition specified in this permit.	Notification by next business day identifying the deviation, cause, duration and steps taken to prevent recurrence.

[ss. 292.11(2) and 285.65(10), Wis. Stats., and ss. NR 439.03(4) and 445.16, Wis. Adm. Code]

2. The permittee shall report to the Department, in advance, schedules for planned shutdown and startup of air pollution control equipment and the measures to be taken to minimize the down time of the control equipment while the source is operating. Scheduled maintenance or any other scheduled event, including startup, shutdown or sootblowing procedures which have been approved by the Department under s. NR 436.03(2)(b), which causes an emission limit to be exceeded shall also be reported in advance to the Department. Advance reporting pursuant to this permit condition does not relieve any person from the duty to comply with any applicable emission limitations. [s. NR 439.03(6), Wis. Adm. Code]

3. Except for information determined to be confidential under s. 285.70(2), Wis. Stats., any information or reports obtained by the Department in the administration of ss. 285.01 to 285.87 and 299.15, Wis. Stats., will be available for public inspection at the offices of the Department. [s. 285.70(1), Wis. Stats.]

E. Right of Entry and Inspection

The permittee shall allow authorized representatives of the Department to enter upon the permittee's premises at any reasonable time, to have access to and examine any record relating to emissions or required to be kept, and to make any inspection necessary to ascertain compliance with air pollution control laws and the terms of this permit. The Department may, for the purpose of determining a source's compliance with applicable requirements, sample or monitor at reasonable times production materials or other substances or operational parameters. [ss. 285.13(6) and 285.19, Wis. Stats., and s. NR 439.05, Wis. Adm. Code]

F. Malfunction Prevention and Abatement Plans

The owner or operator of any direct or portable source which may emit hazardous substances or emits more than 15 pounds in any day or 3 pounds in any hour of any air contaminant for which emission limits have been adopted shall prepare a written malfunction prevention and abatement plan to prevent, detect, and correct malfunctions or equipment failures which may cause any applicable emission limitation to be violated or which may cause air pollution. Any such plan shall be carried out by the owner or operator. The plan shall be updated at least every 5 years. The Department may require the plan to be submitted for review and approval. [s. NR 439.11, Wis. Adm. Code]

G. Emission Control Action Plan

For source(s) covered by this permit which emit 0.25 tons or more per day of any air contaminant for which air standards have been adopted, the permittee shall prepare an emission control action program, consistent with good industrial practice and safe operating procedures, for reducing the emission of air contaminants into the outdoor atmosphere during periods of an air pollution alert, air pollution warning or air pollution emergency declared under s. NR 493.03(2), Wis. Adm. Code. The emission control action program shall be in writing, available on the premises and is subject to review and approval by the Department on request. [s. NR 493.04, Wis. Adm. Code]

H. Construction, Reconstruction, Replacement, Relocation or Modification

1. Unless the replacement is authorized by a permit or is exempt under s. NR 406.04, Wis. Adm. Code, replacement of the source(s) covered by this permit is prohibited. [s. 285.60(1)(a), Wis. Stats.]

2. No person may commence construction, reconstruction, replacement, relocation or modification of a stationary source unless the person has a construction permit for the source or unless the source is exempt from the requirement to obtain a permit under s. 285.60(5), Wis. Stats., or under ch. NR 406, Wis. Adm. Code. Applications for the construction permit shall be submitted on forms which are available from the Department at its Madison headquarters and district offices. [s. 285.60(1)(a), Wis. Stats.]

   Note: The address of the Madison headquarters is: Wisconsin Department of Natural Resources, Bureau of Air Management, PO Box 7921, Madison, WI 53707, Attention: Permit Application Forms.

3. For new or modified sources for which no construction permit is required, the application for an operation permit shall be filed before the source commences construction or modification. [s. NR 407.04, Wis. Adm. Code]

I. Payment of Construction Permit Application Fees

Any person who obtains a construction permit shall pay the application fee within thirty days of the date of the billing statement. [s. NR 410.03(4), Wis. Adm. Code]

J. Construction Permit Revision, Suspension, and Revocation

A construction permit may be suspended, revoked or revised, in whole or in part, for cause. [s. NR 406.11, Wis. Adm. Code]

K. Circumvention

1. The installation or use of any article, machine, equipment, process, or method which conceals an emission which would otherwise constitute a violation of an applicable rule is prohibited unless written approval has been obtained from the Department. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance and the unnecessary separation of an operation into parts to avoid coverage by a rule that applies only to operations larger than a specified size. [s. NR 439.10, Wis. Adm. Code]
2. No one may render inaccurate any monitoring device or method required under ch. NR 439, Wis. Adm. Code, or in this permit. [s. NR 439.03(12), Wis. Adm. Code]

L. Violations

Any owner or operator who fails to construct a stationary source in accordance with the application as approved by the department; any owner or operator who fails to construct and operate a stationary source in accordance with conditions imposed by the department under s. 285.65, Wis. Stats.; any owner or operator who modifies a stationary source in violation of conditions imposed by the department under s. 285.65, Wis. Stats.; or any owner or operator who commences construction or modification of a stationary source without applying for and receiving a permit as required under this chapter or ch. NR 408 shall be considered in violation of s. 285.60, Wis. Stats. [s. NR 406.10, Wis. Adm. Code]

M. Duty to Comply

Approval to construct or modify does not relieve any owner or operator of the responsibility to comply with the emission limits of chs. NR 400 to 499, the air quality standards of ch. NR 404 or the control strategies of all local, state and federal regulations which are part of the state implementation plan. [s. NR 406.13, Wis. Adm. Code]

N. Recordkeeping Requirements

1. The permittee shall maintain the following records:
   a. Records of all sampling, testing and monitoring conducted or required under chs. NR 400 to 499 or under this permit. Records of sampling, testing or monitoring shall include the following:
      1) The date, monitoring site and time and duration of sampling, testing, monitoring or measurements.
      2) The dates the analyses were performed.
      3) The company or entity that performed the analysis.
      4) The analytical techniques or methods used, including supporting information such as calibration and maintenance records of all original recording charts for continuous monitoring instrumentation including emissions or equipment monitors.
      5) The results of the analyses.
      6) The relevant operating conditions that existed at the time of sampling, testing, monitoring or measurement.
   b. Records detailing all malfunctions which cause any applicable emission limitation to be exceeded, including logs to document the implementation of the plan required under s. NR 439.11, Wis. Adm. Code;
   c. Records detailing all activities specified in any compliance schedule approved by the Department under chs. NR 400 to 499, Wis. Adm. Code; and
   d. Any other records relating to the emission of air contaminants which may be requested in writing by the Department.

   [s. NR 439.04, Wis. Adm. Code]

2. Copies of all records and reports required under this permit shall be retained by the permittee for a period of 5 years. [s. NR 439.04(2), Wis. Adm. Code]

O. Required Air Emission Inventory Reports

The permittee shall annually submit to the Department an emission inventory report of annual, actual emissions or throughput information in accordance with ch. NR 438, Wis. Adm. Code. [s. NR 438.03, Wis. Adm. Code]

P. Annual Emission Fees

The permittee shall pay an annual emissions fee to the Department at the rate specified in s. 285.69(2), Wis. Stats. [ss. NR 410.04 and NR 407.09(1)(e), Wis. Adm. Code]

Q. General Provisions for Hazardous Air Pollutant MACT Standards.

The general provisions in ch. NR 460, Wis. Adm. Code, apply to any permittee that is affected or becomes affected by a standard promulgated by EPA under section 112 of the act (42 USC 7412). [s. NR 460.01, Wis. Adm. Code]

AIR POLLUTION CONTROL OPERATION PERMIT RENEWAL

EI FACILITY NO: 246076050 OPERATION PERMIT NO: 246076050-S01

TYPE: Renewal of Operation Permit number 01-DJH-339-OP

In compliance with the provisions of Chapter 285, Wis. Stats., and Chapters NR 400 to NR 499, Wis. Adm. Code,

Name of Source: Veolia ES Technical Solutions, LLC

Street Address: 1275 Mineral Springs Dr,
Port Washington, Ozaukee County, Wisconsin

Responsible Official, & Title: Kevin D. Shaver, Operations Manager

This renewed operation permit expires on November 11, 2019 **[ss. 285.66(3)(a), Wis. Stats. and NR 407.04(2), Wis. Adm. Code]**. A renewal application must be submitted at least 6 months before the renewed operation permit listed above expires [ss. 285.66(3)(a), Wis. Stats. and NR 407.04(2), Wis. Adm. Code]. No permittee may continue operation of a source after the operation permit expires, unless the permittee submits a timely application for renewal of the permit. If a timely application for renewal is submitted, the existing operation permit will not expire until the renewal application has been finally acted upon by DNR. [ss. 227.51(2), 285.62(8)(b), Wis. Stats. and s. NR 407.04(2), Wis. Adm. Code].

Conditions of the operation permit marked with an asterisk (*) have been created outside of the Wisconsin's federally approved State Implementation Plan (SIP) and are not federally enforceable.

This authorization requires compliance by the permit holder with the emission limitations, monitoring requirements and other terms and conditions set forth in Parts I and II hereof.

Dated at Milwaukee, Wisconsin November 11, 2014

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES
For the Secretary

By /s/ Daniel H. Schramm
Daniel H. Schramm
Environmental Engineer Supervisor

PREAMBLE TO OPERATION PERMIT

An Asterisk (*) throughout this document denotes legal authority, limitations and conditions which are not federally enforceable [Section NR 407.09(3)(b), Wis. Adm. Code].

Historical Summary of Permits/Orders Issued to the Facility.

The following construction permits, orders, etc., are adopted, under ss. 285.65(3), Wis. Stats., and NR 407.09(2)(d), Wis. Adm. Code, by Permit number 246076050-S01 which then becomes the primary enforceable document:

Permit No.	Issued/Approved	Sources covered and desc.	Permit status
94-JSB-248	01/17/1995	S01, P01; S02, P02	Inactive, Adopted by 94-JSB-248-OP
94-JSB-248-OP	05/19/1997	Total Facility	Renewed by 01-DJH-339-OP
01-DJH-339	06/06/2002	S08, P08; S14, P09, P10, P11, F99; Removal of P02	Inactive, Adopted by 01-DJH-339-OP
03-DJH-236	09/09/2003	Exemption – P12	Active
01-DJH-339-OP	03/01/2005	Total Facility	Renewed by 246076050-S01
01-DJH-339-OP-R1	Included in 246076050-S01	Revision-Minor	Included in 246076050-S01
13-KB-181	11/11/2014	P14 and S17	Adopted by246076050-S01
246076050-S01	11/11/2014	Total Facility	Primary Compliance Document

Stack and Process Index.

a) P01: Model 2000 Lamp Recycler, equipped with a Donaldson – Torit TD Cartridge Filter System (C01) and carbon adsorber (C02) and discharges to Stack S01. This unit has a capacity to process 2,500 four foot (T12 – 1.5" diameter) lamps per hour.

b) P08: Model LSSI Lamp Recycler equipped with a HEPA PM Collector (C04) and carbon adsorber (C05) and discharges to Stack S08. This unit has a capacity to process 4,000 four foot (T12 – 1.5" diameter) lamps per hour.

c) P10: RipSys Retort Oven equipped with electronic with electronic afterburner (C07) and carbon adsorber (C09) and discharges through process Stack S11 to retort room. Flue gas goes to flue Stack S12.

d) P11: Magna Drum Retort Oven equipped with electronic afterburner (C08) and carbon adsorber (C09) and discharges through process Stack S11 to retort room. Flue gas goes to flue Stack S13.

e) P14: Natural Gas fired Retort Oven equipped with a carbon adsorber (C11) and discharges through process Stack S15 to retort room. Flue gas discharges to flue stack S17.

f) P13: Generac SD500 Emergency Generator (Diesel fuel fired) which discharges through Stack S16.

g) S14: Retort room Stack equipped with a carbon adsorber (C10) controlling discharges from process Stacks S11 and S15, and F99 (fugitive emissions from retort room).

Insignificant Emissions Units.

Maintenance of Grounds, Equipment, and Buildings (lawn care, painting, etc.)
Boiler, Turbine, and HVAC System Maintenance
Pollution Control Equipment Maintenance
Internal Combustion Engines Used for Warehousing and Material Transport.
Fire Control Equipment
Janitorial Activities
Office Activities
Convenience Water Heating
Convenience Space Heating (< 5 million BTU/hr Burning Gas, Liquid, or Wood)
Fuel Oil Storage Tanks (< 10,000 gal.)
Sanitary Sewer and Plumbing Venting
S03: Consolidation of packaged laboratory chemicals
S03, S05, S06: Storage of hazardous waste in closed containers
S04: Loading Dock operations
S07: Laboratory Operations

Permit Shield. Unless precluded by the Administrator of the US EPA, compliance with all emission limitations in this operation permit is considered to be compliance with all emission limitations established under ss. 285.01 to 285.87, Wis. Stats., and emission limitations under the federal clean air act, that are applicable to the source if the permit includes the applicable limitation or if the Department determines that the emission limitations do not apply. The following emission limitations were reviewed in the analysis and preliminary determination and were determined not to apply to this stationary source: None.

Part I - The headings for the areas in the permit are defined below. The legal authority for these limitations or methods follows them in [brackets].

Pollutant - This area will note which pollutant is being regulated by the permit.

Limitations - This area will list all applicable emission limitations that apply to the source, including case-by-case limitations such as Latest Available Control Techniques (LACT), Best Available Control Technology (BACT), or Lowest Achievable Emission Rate (LAER). It will also list any voluntary restrictions on hours of operation, raw material use, or production rate requested by the permittee to limit potential to emit.

Compliance Demonstration - The compliance demonstration methods outlined in this area may be used to demonstrate compliance with the associated emission limit or work practice standard listed under the corresponding **Limitations** column. The compliance demonstration area contains limits on parameters or other mechanisms that will be monitored periodically to ensure compliance with the limitations. The requirement to test as well as initial and periodic test schedules, if testing is required, will be stated here. Notwithstanding the compliance determination methods which the owner or operator of a sources is authorized to use under ch. NR 439, Wis. Adm. Code, the Department may use any relevant information or appropriate method to determine a source's compliance with applicable emission limitations.

Reference Test Methods, Recordkeeping, and Monitoring Requirements - Specific US EPA Reference test methods or other approved test methods will be contained in this area and are the methods that must be used whenever testing is required. A reference test method will be listed even if no testing is immediately required.

Also included in this area are any recordkeeping requirements and their frequency and reporting requirements. Accuracy of monitoring equipment shall meet, at a minimum, the requirements of s. NR 439.055(3) and (4), Wis. Adm. Code, as specified in Part II of this permit.

Condition Type - This area will specify other conditions that are applicable to the entire facility that may not be tied to one specific pollutant.

Conditions - Specific conditions usually applicable to the entire facility or compliance requirements.

PART II - This section contains the general limitations that the permittee must abide by. These requirements are standard for most sources of air pollutants so they are included in this section with every permit.

Part I

A. Process P01; Control Device(s) C01, C02; Stack S01 – Model 2000 Lamp Recycler (constructed or last modified in 1993), Equipped with a Donaldson – Torit TD cartridge filter system (C01) and carbon adsorber (C02) and discharges to Stack S01.

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
1. Particulate Matter Emissions	(1) The particulate matter emissions from Stack S01 may not exceed 0.40 pounds of particulate matter per 1,000 pounds of gas.[1] [s. NR 415.05(1)(o), Wis. Adm. Code] (2) The ch. NR 415, Wis. Adm. Code allowable emissions of particulate matter are calculated by the use of the equation $E = 3.59\ P^{0.62}$ for process weight rates up to 60,000 pounds per hour and by use of the equation $E = 17.31\ P^{0.16}$ for process weight rates of 60,000 pounds per hour or more, where E is the allowable emissions in pounds per hour and P is the process weight rate in tons per hour. If the calculated emission rate is less restrictive than the applicable concentration specified under I.A.1.a.(1) based on the maximum exhaust flow rate and normal exhaust gas temperature, the limitation under I.A.1.a.(1) shall apply.[1] [s. NR 415.05(2), Wis. Adm. Code]	(1) The cartridge filter system (C01) shall be in line and shall be operated at all times when Process P01 is in operation. [s. NR 407.09(4)(a)1., Wis. Adm. Code] (2) The pressure drop across the cartridge filter system (C01) shall be within the range of 0.4 to 6.0 inches of water when Process P01 is in operation . [s. NR 439.11(4), Wis. Adm. Code] (3) A malfunction prevention and abatement plan for the cartridge filter system (C01) including the pressure drop monitoring device, shall be prepared and submitted for Department review and approval within 180 days of the date Process P14 becomes operational. [s. NR 439.11, Wis. Adm. Code]	(1) Whenever Process P01 is operating, the pressure drop across the cartridge filter system (C01) shall be measured and recorded a minimum of once for every 8 hours of source operation or once per day, whichever yields the greater number of measurements. The permittee shall keep these records for a period of five (5) years and make these records available to the Department personnel upon request any time during normal working hours. [s. NR 439.055(2)(b)1., Wis. Adm. Code] (2) Reference Test Method for Particulate Matter Emissions: Whenever particulate matter emission testing is required, the permittee shall use U.S. EPA Method 5, 5A, 5B, 5D, 5E, 5F, 5G, 5H or 17 including condensable backhalf emissions (U.S. EPA Method 202), or another method/methods approved by the Department in writing. [s. NR 439.06(1), Wis. Adm. Code] (3) A log shall be kept of all maintenance required on the cartridge filter system (C01), and the dates of filter replacements. [s. NR 439.04(1)(b), Wis. Adm. Code]
2. *Hazardous Air Pollutant regulated by ch. NR 445 and	(1) *Mercury emissions exhausting Stack S01 may not exceed 0.00055 pounds per hour.[2] [s. NR *445.07(1)(a), Wis. Adm. Code; 13-KB-181]	(1) *The carbon adsorber (C02) shall be in line and shall be operated at all times when Process P01 is in operation. [s. NR 407.09(4)(a)1., Wis. Adm. Code; 13-KB-181]	(1) *The mercury concentration in the exhaust gas shall be measured and recorded with a portable mercury vapor analyzer (Arizona Instruments, Jerome 431X, or equivalent) once per day while Process P01 is operating. [s.

[1]The ch. NR 415, Wis. Adm. Code allowable emission limit for Particulate Matter Emissions which is based on the allowable limit under s. NR 415.05(1)(o), Wis. Adm. Code is equal to 0.72 lb/hr which is more restrictive than the value calculated using the process weight rate in s. NR 415.05(2), Wis. Adm. Code. The potential emission is a much lower value and is equal to 0.0055 lb/hr. The limitations from ss. NR 415.05(1)(o) and NR 415.05(2), Wis. Adm. Code have been listed based on current Departmental Policy.

[2] The Mercury emissions limits are based on modeling and are included in the permit so that all air quality standards in ch. NR 445 and in ch. NR 446, Wis. Adm. Code are met.

A. Process P01; Control Device(s) C01, C02; Stack S01 – Model 2000 Lamp Recycler (constructed or last modified in 1993), Equipped with a Donaldson – Torit TD cartridge filter system (C01) and carbon adsorber (C02) and discharges to Stack S01.

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
ch. NR 446, Wis. Adm. Code: Mercury Emissions	(2) *The Mercury concentration in the exhaust gas from Stack S01 may not exceed 0.3671 milligrams per cubic meter.[2] [s. 285.65(4), Wis. Stats.; 13-KB-181] (3) *The permittee shall maintain the following parameters for Stack S01 listed below:[3] (a) Stack S01 shall be at least 25 feet above ground level; (b) The stack inside diameter at the outlet for Stack S01 may not exceed 0.67 feet; and (c) Stack S01 may not be equipped with a rainhat or any other device which impedes the upward flow of the exhaust gases. [s. 285.65(3), Wis. Stats.; 13-KB-181]	(2) *A malfunction prevention and abatement plan for the carbon adsorber (C02) including the concentration monitoring and pressure drop monitoring devices, shall be prepared and submitted for Department review and approval within 180 days of the date Process P14 becomes operational. [s. NR 439.11, Wis. Adm. Code; 13-KB-181] (3) *Within 210 days of Process P14 becoming operational, the permittee shall conduct mercury emissions testing to determine compliance with Conditions I.A.2.a.(1) and (2). The testing shall be conducted in accordance with Conditions I.A.2.c.(4) and I.ZZZ.4.. [s. NR 407.09(4)(a)1., Wis. Adm. Code; 13-KB-181]	285.65(10), Wis. Stats.; 13-KB-181] (2) *The permittee shall install and operate instrumentation to monitor the pressure drop across the carbon adsorber (C02) and prefilter in inches of water, and temperature within the carbon adsorber (C02) in degrees Fahrenheit or Celsius (centigrade) within two months after the effective date of this permit. [s. NR 439.055(1)(g), Wis. Adm. Code; 13-KB-181] (3) *Whenever Process P01 is operating, the permittee shall measure and record the pressure drop across the carbon adsorber (C02) once for every 8 hours of source operation or once per day, whichever yields the greater number of measurements, after a pressure drop range (lower and upper values in inches of water) that adequately represents the adsorber conditions has been established (which shall be done within six months after the effective date of this permit). The permittee shall keep these records for a period of five (5) years and make these records available to the Department personnel upon request any time during normal working hours. [s. NR 439.055(2)(b)1., Wis. Adm. Code; 13-KB-181] (4) Reference Test Method for Mercury Emissions: Whenever compliance emission testing is required, the permittee shall use U.S. EPA Method 0012 or other methods and plans approved, in writing, by the Department. [s. NR 439.06(8), Wis. Adm. Code]

[3] These requirements are included because the source was reviewed with these stack parameters and it was determined that ambient air quality standards will not be violated.

A. Process P01; Control Device(s) C01, C02; Stack S01 – Model 2000 Lamp Recycler (constructed or last modified in 1993), Equipped with a Donaldson – Torit TD cartridge filter system (C01) and carbon adsorber (C02) and discharges to Stack S01.

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
			(5) *A log shall be kept of all maintenance required on the carbon adsorber (C02) and the dates of adsorber replacements. [s. NR 439.04(1)(b), Wis. Adm. Code; 13-KB-181] (6) *The permittee shall keep and maintain on-site technical drawings, blueprints or equivalent records of the physical stack parameters for Stack S01. [s. NR 439.04(1)(d), Wis. Adm. Code; 13-KB-181] (7) *The permittee shall retain copies of the results of the compliance emission tests required in Condition I.A.2.b.(3). [s. NR 439.04(1)(a), Wis. Adm. Code; 13-KB-181]
3. Visible Emissions	(1) Emissions of shade or density may not be greater than number 1 of the Ringlemann chart or 20% opacity. [s. NR 431.05, Wis. Adm. Code]	(1) The requirements in Conditions I.A.1.b.(1), and (2) shall also serve as compliance demonstration methods for visible emissions. [s. NR 407.09(4)(a)1., Wis. Adm. Code]	(1) Whenever visible emissions testing is required, the permittee shall use U. S. EPA Method 9. [s. NR 439.06(9)(a)1., Wis. Adm. Code] (2) The requirements in Conditions I.A.1.c.(1) shall also serve as monitoring and recordkeeping methods for visible emissions. [ss. NR 439.04(1)(d) and 439.055(2)(b)1., Wis. Adm. Code]

B. Process P08; Control Device(s) C04, C05; Stack S08 – Model LSSI Lamp Recycler (constructed or last modified in 2004) equipped with a HEPA filter system (C04) and carbon adsorber (C05) and discharges to Stack S08.

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
1. Particulate Matter Emissions	(1) The particulate matter emissions from Stack S08 may not exceed 0.40 pounds of particulate matter per 1,000 pounds of gas.[4] [s. NR 415.05(1)(o), Wis. Adm. Code; 01-DJH-339] (2) The ch. NR 415, Wis. Adm. Code allowable emissions of particulate matter are calculated by the use of the equation $E = 3.59\ P^{0.62}$ for process weight rates up to 60,000 pounds per hour and by use of the equation $E = 17.31\ P^{0.16}$ for process weight rates of 60,000 pounds per hour or more, where E is the allowable emissions in pounds per hour and P is the process weight rate in tons per hour. If the calculated emission rate is less restrictive than the applicable concentration specified under I.B.1.a.(1) based on the maximum exhaust flow rate and normal exhaust gas temperature, the limitation under I.B.1.a.(1) shall apply.[3] [s. NR 415.05(2), Wis. Adm. Code]	(1) The HEPA filter system (C04) shall be in line and shall be operated at all times when Process P08 is in operation. [s. NR 407.09(4)(a)1., Wis. Adm. Code] (2) The pressure drop across the HEPA filter system (C04) shall be within the range of 0.4 to 6.0 inches of water when Process P08 is in operation. [s. NR 439.11(4), Wis. Adm. Code] (3) A malfunction prevention and abatement plan for HEPA filter system (C04) including the pressure drop monitoring device, shall be prepared and submitted for Department review and approval within 180 days of the date Process P14 becomes operational. [s. NR 439.11, Wis. Adm. Code]	(1) Whenever Process P08 is operating, the pressure drop across the HEPA filter system (C04) shall be measured and recorded a minimum of once for every 8 hours of source operation or once per day, whichever yields the greater number of measurements. The permittee shall keep these records for a period of five (5) years and make these records available to the Department personnel upon request any time during normal working hours. [s. NR 439.055(2)(b)1., Wis. Adm. Code] (2) Reference Test Method for Particulate Matter Emissions: Whenever particulate matter emission testing is required, the permittee shall use U.S. EPA Method 5, 5A, 5B, 5D, 5E, 5F, 5G, 5H or 17 including condensable backhalf emissions (U.S. EPA Method 202), or another method/methods approved by the Department in writing. [s. NR 439.06(1), Wis. Adm. Code] (3) A log shall be kept of all maintenance required on the HEPA filter system (C04) and the dates of filter replacements. [s. NR 439.04(1)(b), Wis. Adm. Code]
2. *Hazardous Air Pollutant regulated by ch. NR 445 and ch. NR 446, Wis.	(1) *Mercury emissions exhausting Stack S08 may not exceed 0.00089 pounds per hour.[5] [s. NR *445.07(1)(a), Wis. Adm. Code; 13-KB-181] (2) *The Mercury concentration in the exhaust gas from Stack S08 may not exceed 0.4752 milligrams	(1) *The carbon adsorber (C05) shall be in line and shall be operated at all times when Process P08 is in operation. [s. NR 407.09(4)(a)1., Wis. Adm. Code; 13-KB-181]	(1) *The mercury concentration in the exhaust gas shall be measured and recorded with a portable mercury vapor analyzer (Arizona Instruments, Jerome 431X, or equivalent) once per day while Process P08 is operating. [s. 285.65(10), Wis. Stats.; 13-KB-181]

[4] The ch. NR 415, Wis. Adm. Code allowable emission limit for Particulate Matter Emissions which is based on the allowable limit under s. NR 415.05(1)(o), Wis. Adm. Code is equal to 0.90 lb/hr which is more restrictive than the value calculated using the process weight rate in s. NR 415.05(2), Wis. Adm. Code. The potential emission is a much lower value and is equal to 0.0088 lb/hr. The limitations from ss. NR 415.05(1)(o) and NR 415.05(2), Wis. Adm. Code have been listed based on current Departmental Policy.

[5] The Mercury emissions limits are based on modeling and are included in the permit so that all air quality standards in ch. NR 445 and in ch. NR 446, Wis. Adm. Code are met.

B. Process P08; Control Device(s) C04, C05; Stack S08 – Model LSSI Lamp Recycler (constructed or last modified in 2004) equipped with a HEPA filter system (C04) and carbon adsorber (C05) and discharges to Stack S08.

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
Adm. Code: Mercury Emissions	per cubic meter.[5] [s. 285.65(4), Wis. Stats.; 13-KB-181] (3) *The permittee shall maintain the following parameters for Stack S08 listed below:[6] (a) Stack S08 shall be at least 25 feet above ground level; (b) The stack inside diameter at the outlet for Stack S08 may not exceed 0.67 feet; and (c) Stack S08 may not be equipped with a rainhat or any other device which impedes the upward flow of the exhaust gases. [s. 285.65(3), Wis. Stats.; 13-KB-181]	(2) *A malfunction prevention and abatement plan for the carbon adsorber (C05) including the concentration monitoring and pressure drop monitoring devices, shall be prepared and submitted for Department review and approval within 180 days of the date Process P14 becomes operational. [s. NR 439.11, Wis. Adm. Code; 13-KB-181] (3) *Within 210 days of Process P14 becoming operational, the permittee shall conduct mercury emissions testing to determine compliance with Conditions I.B.2.a.(1) and (2). The testing shall be conducted in accordance with Conditions I.B.2.c.(4) and I.ZZZ.4.. [s. NR 407.09(4)(a)1., Wis. Adm. Code; 13-KB-181]	(2) *The permittee shall install and operate instrumentation to monitor the pressure drop across the carbon adsorber (C05) and prefilter in inches of water, and temperature within the carbon adsorber (C05) in degrees Fahrenheit or Celsius (centigrade) within two months after the effective date of this permit. [s. NR 439.055(1)(g), Wis. Adm. Code; 13-KB-181] (3) *Whenever Process P08 is operating, the permittee shall measure and record the pressure drop across the carbon adsorber (C05) once for every 8 hours of source operation or once per day, whichever yields the greater number of measurements, after a pressure drop range (lower and upper values in inches of water) that adequately represents the adsorber conditions has been established (which shall be done within six months after the effective date of this permit). The permittee shall keep these records for a period of five (5) years and make these records available to the Department personnel upon request any time during normal working hours. [s. NR 439.055(2)(b)1., Wis. Adm. Code; 13-KB-181] (4) Reference Test Method for Mercury Emissions: Whenever compliance emission testing is required, the permittee shall use U.S. EPA Method 0012 or other methods and plans approved, in writing, by the Department. [s. NR 439.06(8), Wis. Adm. Code] (5) *A log shall be kept of all maintenance required on the carbon adsorber (C05) and the dates of adsorber replacements. [s. NR 439.04(1)(b), Wis. Adm. Code; 13-KB-181]

[6] These requirements are included because the source was reviewed with these stack parameters and it was determined that ambient air quality standards will not be violated.

B. Process P08; Control Device(s) C04, C05; Stack S08 – Model LSSI Lamp Recycler (constructed or last modified in 2004) equipped with a HEPA filter system (C04) and carbon adsorber (C05) and discharges to Stack S08.

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
			(6) *The permittee shall keep and maintain on-site technical drawings, blueprints or equivalent records of the physical stack parameters for Stack S08. [s. NR 439.04(1)(d), Wis. Adm. Code; 13-KB-181] (7) *The permittee shall retain copies of the results of the compliance emission tests required in Condition I.B.2.b.(3). [s. NR 439.04(1)(a), Wis. Adm. Code; 13-KB-181]
3. Visible Emissions	(1) Emissions of shade or density may not be greater than number 1 of the Ringlemann chart or 20% opacity. [s. NR 431.05, Wis. Adm. Code]	(1) The requirements in Conditions I.B.1.b.(1), and (2) shall also serve as compliance demonstration methods for visible emissions. [s. NR 407.09(4)(a)1., Wis. Adm. Code]	(1) Whenever visible emissions testing is required, the permittee shall use U. S. EPA Method 9. [s. NR 439.06(9)(a)1., Wis. Adm. Code] (2) The requirements in Conditions I.B.1.c.(1) shall also serve as monitoring and recordkeeping methods for visible emissions. [ss. NR 439.04(1)(d) and 439.055(2)(b)1., Wis. Adm. Code]

C. Stack S14 (Retort room stack equipped with a carbon adsorber (C10) controlling discharges from process Stack S11, process Stack S15, and F99 fugitive emissions from retort room); Processes: [(1) Process P10, Control Device(s) C07, C09, Stack S11 – RipSys Retort Oven (constructed or last modified in 2002) equipped with electronic afterburner (C07) and carbon adsorber (C09) and discharges through process Stack S11 to retort room; (2) Process P11, Control Device(s) C08, C09, Stack S11 – Magna Drum Retort Oven (constructed or last modified in 2002) equipped with electronic afterburner (C08) and carbon adsorber (C09) and discharges through process Stack S11 to retort room; (3) Process P14, Control Device C11, Stack S15 – Natural Gas fired Wisconsin Oven Retort System equipped with a carbon adsorber (C11) and discharges through process stack S15 to retort room; and (4) F99 – Fugitive emissions from retort room] ---------- Emissions from Retort ovens and retort room ventilation.

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
1. Particulate Matter Emissions	(1) The particulate matter emissions from Stack S14 may not exceed 0.40 pounds of particulate matter per 1,000 pounds of gas.[7] [s. NR 415.05(1)(o), Wis. Adm. Code] (2) The ch. NR 415, Wis. Adm. Code allowable emissions of particulate matter are calculated by the use of the equation $E = 3.59\ P^{0.62}$ for process weight rates up to 60,000 pounds per hour and by use of the equation $E = 17.31\ P^{0.16}$ for process weight rates of 60,000 pounds per hour or more, where E is the allowable emissions in pounds per hour and P is the process weight rate in tons per hour. If the calculated emission rate is less restrictive than the applicable concentration specified under I.C.1.a.(1) based on the maximum exhaust flow rate and normal exhaust gas temperature, the limitation under I.C.1.a.(1) shall apply.[5] [s. NR 415.05(2), Wis. Adm. Code]	(1) The requirements in I.C.2.b.(1), (2), and (3) shall also serve as compliance demonstration methods for Particulate Matter Emissions. [s. NR 407.09(4)(a)1., Wis. Adm. Code; 13-KB-181]	(1) Reference Test Method for Particulate Matter Emissions: Whenever particulate matter emission testing is required, the permittee shall use U.S. EPA Method 5, 5A, 5B, 5D, 5E, 5F, 5G, 5H or 17 including condensable backhalf emissions (U.S. EPA Method 202), or another method/methods approved by the Department in writing. [s. NR 439.06(1), Wis. Adm. Code] (2) The requirements in I.C.2.c.(1), (2), (3), (4), (5) and (6) shall also serve as monitoring and recordkeeping methods for Particulate Matter Emissions. [ss. NR 439.04(1)(d) and 439.055(2)(b)1., Wis. Adm. Code; 13-KB-181]
2. *Hazardous Air Pollutant regulated by ch. NR 445 and ch. NR 446, Wis. Adm. Code: Mercury	(1) *Mercury emissions exhausting Stack S14 may not exceed 0.019 pounds per hour.[8] [s. NR *445.07(1)(a), Wis. Adm. Code; 13-KB-181] (2) *The Mercury concentration in the exhaust gas from Stack S14 may not exceed 1.3527	(1) *The carbon adsorber (C09) shall be in line and shall be operated at all times when either one or both of Processes P10 and P11 are in operation. [s. NR 407.09(4)(a)1., Wis. Adm. Code; 13-KB-181]	(1) *The mercury concentration in the exhaust gas from Stack S14 shall be measured and recorded with a portable mercury vapor analyzer (Arizona Instruments, Jerome 431X, or equivalent) once per day while when one or more of the Processes P10, P11, and P14 are in

[7]The ch. NR 415, Wis. Adm. Code allowable emission limit for Particulate Matter Emissions which is based on the allowable limit under s. NR 415.05(2), Wis. Adm. Code is equal to 1.836 lbs/hr which is more restrictive than the value calculated based on s. NR 415.05(1)(o), Wis. Adm. Code. The potential emission is a much lower value and is equal to 0.019 lb/hr. The limitations from ss. NR 415.05(1)(o) and NR 415.05(2), Wis. Adm. Code have been listed based on current Departmental Policy.

[8] The Mercury emissions limits are based on modeling and are included in the permit so that all air quality standards in ch. NR 445 and in ch. NR 446, Wis. Adm. Code are met.

C. Stack S14 (Retort room stack equipped with a carbon adsorber (C10) controlling discharges from process Stack S11, process Stack S15, and F99 fugitive emissions from retort room); Processes: [(1) Process P10, Control Device(s) C07, C09, Stack S11 – RipSys Retort Oven (constructed or last modified in 2002) equipped with electronic afterburner (C07) and carbon adsorber (C09) and discharges through process Stack S11 to retort room; (2) Process P11, Control Device(s) C08, C09, Stack S11 – Magna Drum Retort Oven (constructed or last modified in 2002) equipped with electronic afterburner (C08) and carbon adsorber (C09) and discharges through process Stack S11 to retort room; (3) Process P14, Control Device C11, Stack S15 – Natural Gas fired Wisconsin Oven Retort System equipped with a carbon adsorber (C11) and discharges through process stack S15 to retort room; and (4) F99 – Fugitive emissions from retort room] ---------- Emissions from Retort ovens and retort room ventilation.

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
Emissions	milligrams per cubic meter.[8] [s. 285.65(4), Wis. Stats.; 13-KB-181] (3) *The permittee shall maintain the following parameters for the Stack S14 listed below:[9] (a) Stack S14 shall be at least 25 feet above ground level; (b) The stack inside diameter at the outlet for Stack S14 may not exceed 1.33 feet; and (c) Stack S14 may not be equipped with a rainhat or any other device which impedes the upward flow of the exhaust gases. [s. 285.65(3), Wis. Stats.; 13-KB-181]	(2) *The carbon adsorber (C11) shall be in line and shall be operated at all times when Process P14 is in operation. [s. NR 407.09(4)(a)1., Wis. Adm. Code; 13-KB-181] (3) *The carbon adsorber (C10) shall be in line and shall be operated at all times when one or more of the Processes P10, P11, and P14 are in operation, and also when there are fugitive emissions in the retort room (F99). [s. NR 407.09(4)(a)1., Wis. Adm. Code; 13-KB-181] (4) *A malfunction prevention and abatement plan for the carbon adsorbers (C09, C11, and C10) including the concentration monitoring device for measuring emissions in the exhaust gas from Stack S14 and the pressure drop monitoring devices, shall be prepared and submitted for Department review and approval within 180 days of the date Process P14 becomes operational. [s. NR 439.11, Wis. Adm. Code; 13-KB-181] (5) *Within 210 days of Process P14 becoming operational, the permittee shall conduct mercury emissions testing to determine compliance with Conditions I.C.2.a.(1) and (2). The testing shall be conducted in accordance with Conditions I.C.2.c.(7) and I.ZZZ.4.. [s. NR 407.09(4)(a)1., Wis. Adm. Code; 13-KB-181]	operation, and when there are fugitive emissions in the retort room (F99). [s. 285.65(10), Wis. Stats.; 13-KB-181] (2) *The permittee shall install and operate instrumentation to monitor the pressure drop across the carbon adsorber C09, and prefilter in inches of water, and temperature within the carbon adsorber C09 in degrees Fahrenheit or Celsius (centigrade) within two months of Process P14 becoming operational. [s. NR 439.055(1)(g), Wis. Adm. Code; 13-KB-181] (3) *The permittee shall install and operate instrumentation to monitor the pressure drop across the carbon adsorbers (C11 and C10) and prefilters in inches of water, and temperature within the carbon adsorbers (C11 and C10) in degrees Fahrenheit or Celsius (centigrade) within two months of Process P14 becoming operational. [s. NR 439.055(1)(g), Wis. Adm. Code; 13-KB-181] (4) *Whenever either one or both of the Processes P10 and P11 are in operation, the permittee shall measure and record the pressure drop across the carbon adsorber (C09) once for every 8 hours of source operation or once per day, whichever yields the greater number of measurements, after a pressure drop range (lower and upper values in inches of water) that adequately represents the adsorber conditions has been established (which shall be done

[9] These requirements are included because the source was reviewed with these stack parameters and it was determined that ambient air quality standards will not be violated.

C. Stack S14 (Retort room stack equipped with a carbon adsorber (C10) controlling discharges from process Stack S11, process Stack S15, and F99 fugitive emissions from retort room); Processes: [(1) Process P10, Control Device(s) C07, C09, Stack S11 – RipSys Retort Oven (constructed or last modified in 2002) equipped with electronic afterburner (C07) and carbon adsorber (C09) and discharges through process Stack S11 to retort room; (2) Process P11, Control Device(s) C08, C09, Stack S11 – Magna Drum Retort Oven (constructed or last modified in 2002) equipped with electronic afterburner (C08) and carbon adsorber (C09) and discharges through process Stack S11 to retort room; (3) Process P14, Control Device C11, Stack S15 – Natural Gas fired Wisconsin Oven Retort System equipped with a carbon adsorber (C11) and discharges through process stack S15 to retort room; and (4) F99 – Fugitive emissions from retort room] ---------- Emissions from Retort ovens and retort room ventilation.

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
			within six months of Process P14 becoming operational). The permittee shall keep these records for a period of five (5) years and make these records available to the Department personnel upon request any time during normal working hours. [s. NR 439.055(2)(b)1., Wis. Adm. Code; 13-KB-181] (5) *Whenever Process P14 is operating, the permittee shall measure and record the pressure drop across the carbon adsorber (C11) once for every 8 hours of source operation or once per day, whichever yields the greater number of measurements, after a pressure drop range (lower and upper values in inches of water) that adequately represents the adsorber conditions has been established (which shall be done within six months after Process P14 becomes operational). The permittee shall keep these records for a period of five (5) years and make these records available to the Department personnel upon request any time during normal working hours. [s. NR 439.055(2)(b)1., Wis. Adm. Code; 13-KB-181] (6) *Whenever one or more of the Processes P10, P11, and P14 are in operation, and also when there are fugitive emissions in the retort room (F99), the permittee shall measure and record the pressure drop across the carbon adsorber (C10) once for every 8 hours of source operation or once per day, whichever yields the greater number of measurements, after a pressure drop range (lower and upper values in inches of water) that adequately represents the adsorber conditions has been established (which shall be done within six months after Process

C. Stack S14 (Retort room stack equipped with a carbon adsorber (C10) controlling discharges from process Stack S11, process Stack S15, and F99 fugitive emissions from retort room); Processes: [(1) Process P10, Control Device(s) C07, C09, Stack S11 – RipSys Retort Oven (constructed or last modified in 2002) equipped with electronic afterburner (C07) and carbon adsorber (C09) and discharges through process Stack S11 to retort room; (2) Process P11, Control Device(s) C08, C09, Stack S11 – Magna Drum Retort Oven (constructed or last modified in 2002) equipped with electronic afterburner (C08) and carbon adsorber (C09) and discharges through process Stack S11 to retort room; (3) Process P14, Control Device C11, Stack S15 – Natural Gas fired Wisconsin Oven Retort System equipped with a carbon adsorber (C11) and discharges through process stack S15 to retort room; and (4) F99 – Fugitive emissions from retort room] ---------- Emissions from Retort ovens and retort room ventilation.

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
			P14 becomes operational). The permittee shall keep these records for a period of five (5) years and make these records available to the Department personnel upon request any time during normal working hours. [s. NR 439.055(2)(b)1., Wis. Adm. Code; 13-KB-181] (7) Reference Test Method for Mercury Emissions: Whenever compliance emission testing is required, the permittee shall use U.S. EPA Method 0012 or other methods and plans approved, in writing, by the Department. [s. NR 439.06(8), Wis. Adm. Code] (8) *A log shall be kept of all maintenance required on the carbon adsorbers (C09, C11, and C10) and the dates of adsorber replacements. [s. NR 439.04(1)(b), Wis. Adm. Code; 13-KB-181] (9) *The permittee shall keep and maintain on-site technical drawings, blueprints or equivalent records of the physical stack parameters for Stack S14. [s. NR 439.04(1)(d), Wis. Adm. Code; 13-KB-181] (10) *The permittee shall retain copies of the results of the compliance emission tests required in Condition I.C.2.b.(5). [s. NR 439.04(1)(a), Wis. Adm. Code; 13-KB-181]
3. Visible Emissions	(1) Emissions of shade or density may not be greater than number 1 of the Ringlemann chart	(1) The requirements in Condition I.C.1.b.(1), shall also serve as compliance demonstration	(1) Whenever visible emissions testing is required, the permittee shall use U. S. EPA

C. Stack S14 (Retort room stack equipped with a carbon adsorber (C10) controlling discharges from process Stack S11, process Stack S15, and F99 fugitive emissions from retort room); Processes: [(1) Process P10, Control Device(s) C07, C09, Stack S11 – RipSys Retort Oven (constructed or last modified in 2002) equipped with electronic afterburner (C07) and carbon adsorber (C09) and discharges through process Stack S11 to retort room; (2) Process P11, Control Device(s) C08, C09, Stack S11 – Magna Drum Retort Oven (constructed or last modified in 2002) equipped with electronic afterburner (C08) and carbon adsorber (C09) and discharges through process Stack S11 to retort room; (3) Process P14, Control Device C11, Stack S15 – Natural Gas fired Wisconsin Oven Retort System equipped with a carbon adsorber (C11) and discharges through process stack S15 to retort room; and (4) F99 – Fugitive emissions from retort room] ---------- Emissions from Retort ovens and retort room ventilation.

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
	or 20% opacity. [s. NR 431.05, Wis. Adm. Code; 13-KB-181]	methods for visible emissions. [s. NR 407.09(4)(a)1., Wis. Adm. Code; 13-KB-181]	Method 9. [s. NR 439.06(9)(a)1., Wis. Adm. Code] (2) The requirements in Condition I.C.1.c.(2) shall also serve as monitoring and recordkeeping methods for visible emissions. [ss. NR 439.04(1)(d) and 439.055(2)(b)1., Wis. Adm. Code; 13-KB-181]
4. All Pollutants	(1) Process P12 (ASE MR25 Retort Ovens) shall be dismantled or rendered permanently inoperable before Process P14 (Natural Gas fired Wisconsin Oven Retort System) begins operation as defined under I.ZZZ.7.a.(1). [s. 285.65(3), Wis. Stats.; 13-KB-181]	(1) The permittee shall provide notification, as required under I.ZZZ.7.b.(1)(d), of the date that Process P12 (ASE MR25 Retort Ovens) is dismantled or rendered permanently inoperable. [s. 285.65(3), Wis. Stats.; 13-KB-181]	None.

D. Process P13, Uncontrolled, Stack S16 – Generac SD500 500 KW Emergency Diesel Generator (constructed or last modified in 2010), discharges through Stack S16. Subject to NSPS Subpart A and IIII and MACT Subpart ZZZZ.

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
1. All Pollutants / General Limitations	(1) The emergency generator may only be used to provide power if normal electrical service is interrupted and for periodic testing purposes. [s. NR 400.02(56) and s. NR 406.10, Wis. Adm. Code] (2) The generator is limited to no more than 200 hours per year of operation and not more than 16.67 hours per month averaged over the prior 12 consecutive months. [ss. NR 407.09(4)(a)1., and NR 400.02(56), Wis. Adm. Code; s. 285.65(3), Wis. Stats.] (3) This diesel engine generator is a new affected area source under 40 CFR Part 63 Subpart ZZZZ. (a) Compliance with the MACT requirements are met by meeting the standards of 40 CFR Part 60 Subpart IIII based on: §63.6590(c) Stationary RICE subject to Regulations under 40 CFR Part 60. An affected source that meets any of the criteria in paragraphs (c)(1) through (7) of this section must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines or 40 CFR part 60 subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under this part. (1) A new or reconstructed stationary RICE located at an area source; [s. 285.65(13), Wis. Stats.; 40 CFR §63.6590(a)(2)(iii) and (c)(1)] (4) The permittee shall notify the Department within 24 hours of the emergency generator start up in case of emergency. The Department may or may not give approval for continued	(1) The permittee may only use Distillate Fuel Oil to fire the emergency generator. See I.D.5.a.(6). [s. 285.65(3), Wis. Stats.] (2) The sulfur content of the distillate fuel oil fired by the emergency generator may not exceed 0.0015% sulfur (15 ppm S). [s. NR 406.10, Wis. Adm. Code] (3) The engine shall be equipped with a non-resettable hour meter. [s. 285.65(3), Wis. Stats.; s. NR 439.04, and s. NR 439.055, Wis. Adm. Code]	(1) The permittee shall keep and maintain the following records for the emergency generator: (a) Dates of operation; (b) Time of start-up; (c) Time of shut-down; (d) An indication of whether the emergency generator was operated for periodic testing, usage in the event of a power outage, or other uses of the generator; (e) The hours of operation for the emergency generator per month; and (f) The cumulative hours of operation for the emergency generator over any 12 consecutive month period. [s. NR 439.04(1)(d), Wis. Adm. Code] (2) On a monthly basis, the permittee shall record the type of fuel used to fire the emergency generator when operating. [s. NR 439.04(1)(d), Wis. Adm. Code] (3) The facility shall maintain documentation from the fuel supplier which demonstrates that the fuel sulfur content meets the 15ppm sulfur (max.) requirement. [s. NR 439.04, Wis. Adm. Code]

D. Process P13, Uncontrolled, Stack S16 – Generac SD500 500 KW Emergency Diesel Generator (constructed or last modified in 2010), discharges through Stack S16. Subject to NSPS Subpart A and IIII and MACT Subpart ZZZZ.

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
	equipment use. This notification shall include the date of start-up of the generator. [s. NR 436.03(2)(c), Wis. Adm. Code]		
2. Particulate Matter Emissions from Stationary Diesel Internal Combustion Engine	(1) Particulate matter emissions may not exceed 0.50 pounds of particulate per million Btu heat input from the emergency generator. [s. NR 485.055, Wis. Adm. Code]	(1) The permittee shall only use No. 2 Diesel Fuel to fire the emergency generator. See I.D.5.a.(6). [s. 285.65(3), Wis. Stats.; s. NR 406.10, Wis. Adm. Code.] (2) The sulfur content of the distillate fuel oil fired by the emergency generator may not exceed 0.0015% sulfur (15 ppm S). [s. 285.65(3), Wis. Stats.; s. NR 406.10, Wis. Adm. Code] (3) Stack Parameters: (a) The stack height for each of the two Stacks that make up Stack S16 shall be at least 12 feet above ground level; (b) The stack inside equivalent diameter at the outlet for each of two Stacks that make up Stack S16 may not exceed 0.5 feet; and (c) Each of the two Stacks that make up Stack S16 may not be equipped with a rainhat or other device which impedes the upward flow of the exhaust gases. [s. 285.65(3), Wis. Stats.]	(1) Reference Test Method for Particulate Matter Emissions: Whenever particulate matter emission testing is required, the permittee shall use USEPA Method 5, including condensable backhalf emissions (USEPA Method 202). [s. NR 439.06(1), Wis. Adm. Code] (2) Reference Test Method for PM_{10} Emissions: Whenever emission testing is required, the permittee shall use USEPA Method 201 or 201A (including condensable particulate by US EPA Method 202). [s. NR 439.06(1m), Wis. Adm. Code] (3) Reference Test Method for $PM_{2.5}$ Emissions: Whenever emission testing is required, USEPA Method 201A with an approved $PM_{2.5}$ sampling head shall be used. This shall include condensable backhalf emissions (using ESEPA Method 202). Other methods may be used as approved by the Department in writing. [s. NR 439.06, Wis. Adm. Code] (4) See I.D.1.c.(3) (5) The permittee shall keep and maintain on site records that document what fuels that the emergency generator has the ability to combust. [s. NR 439.04(1)(d), Wis. Adm. Code] (6) The permittee shall keep and maintain on-site technical drawings, blueprints or equivalent

D. Process P13, Uncontrolled, Stack S16 – Generac SD500 500 KW Emergency Diesel Generator (constructed or last modified in 2010), discharges through Stack S16. Subject to NSPS Subpart A and IIII and MACT Subpart ZZZZ.

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
			records of the physical stack parameters for Stack S16. [s. NR 439.04(1)(d), Wis. Adm. Code] (7) The permittee shall maintain monthly records of the amount of No. 2 Diesel Fuel combusted in the emergency generator, in gallons. [s. NR 439.04(1)(d), Wis. Adm. Code]
3. Sulfur Dioxide	(1) No. 2 Diesel Fuel with no more than 15 parts per million by weight of sulfur is the only fuel that may be fired in the emergency generator. [s. 285.65(7), Wis. Stats.]	(1) The recordkeeping requirements under I.D.3.c.(2) shall serve as the compliance demonstration methods for the sulfur dioxide emission limitation. [s. 285.65(3), Wis. Stats. and s. NR 407.09(4)(a)3.b., Wis. Adm. Code]	(1) Reference Test Method for Sulfur Dioxide Emissions: Whenever compliance emission testing is required, US EPA Method 6 shall be used to demonstrate compliance. [s. NR 439.06(2)(a), Wis. Adm. Code] (2) The permittee shall keep and maintain all certificates of analysis, test results, or other supplier documentation that indicate the sulfur content for each delivery of No. 2 Diesel Fuel. [s. NR 439.04(1)(d), Wis. Adm. Code]
4. Visible Emissions	(1) Emissions of shade or density may not exceed number 1 of the Ringlemann chart or 20% opacity. [s. NR 431.05, Wis. Adm. Code] (2) When combustion equipment is being cleaned or a new fire started, emissions may exceed number 1 of the Ringlemann chart or 20% opacity but may not exceed number 4 of the Ringlemann chart or 80% opacity for 6 minutes in any one hour. Combustion equipment may not be cleaned nor a fire started more than 3 times per day. [s. NR 431.05(1), Wis. Adm. Code] (3) Emissions may exceed number 1 of the Ringlemann chart or 20% opacity for stated periods of time, as permitted by the Department, for such purpose as an operating test, use of emergency equipment, or other good	(1) The requirements in I.D.1.b. and I.D.2.b. shall serve as the compliance demonstration methods for visible emission limits. [s. 285.65(3), Wis. Stats. and s. NR 407.09(4)(a)3.b., Wis. Adm. Code]	(1) Reference Test Method for Visible Emissions: Whenever visible emission testing is required, the permittee shall use USEPA Method 9. [s. NR 439.06(9)(a)1., Wis. Adm. Code] (2) The compliance monitoring and recordkeeping in I.D.1.c. and I.D.2.c. shall be considered compliance monitoring and recordkeeping for the visible emission limits. [s. 285.65(3), Wis. Stats. and s. NR 407.09(1)(c)1.b., Wis. Adm. Code]

D. Process P13, Uncontrolled, Stack S16 – Generac SD500 500 KW Emergency Diesel Generator (constructed or last modified in 2010), discharges through Stack S16. Subject to NSPS Subpart A and IIII and MACT Subpart ZZZZ.

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
	cause, provided no hazard or unsafe conditions arises. [s. NR 431.05(2), Wis. Adm. Code]		
5. Standards of Performance for Stationary Compression Ignition Internal Combustion Engines (CI ICE) in 40 CFR Part 60 subpart IIII (60.4200-60.4219) A copy of the rule is attached in Appendix A	(1) §60.4202 (a) Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later emergency stationary CI ICE with a maximum engine power less than or equal to 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder that are not fire pump engines to the emission standards specified below. (i) For engines with a maximum engine power greater than or equal to 37 KW (50 HP), the certification emission standards for new nonroad CI engines for the same model year and maximum engine power in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants beginning in model year 2007. [s. 285.65(13), Wis. Stats.; 40 CFR §60.4202(a)] (2) §60.4205 (b) Owners and operators of 2007 model year and later emergency stationary CI ICE with a displacement of less than 30 liters per cylinder that are not fire pump engines must comply with the emission standards for new nonroad CI engines in § 60.4202, for all pollutants, for the same model year and maximum engine power for their 2007 model year and later emergency stationary CI ICE. [s. 285.65(13), Wis. Stats.; 40 CFR §60.4205(b)] (3)(a) Carbon monoxide emissions from the class of engine used in engine generator P13 shall not exceed 3.5 grams per kilowatt-hour (g/kW-hr) and not more than 4.33 pounds per hour (from each engine). (b) The emissions of the carbon monoxide (CO) from the engine generator P13 shall not exceed 4.4 grams per kilowatt-hour (g/kW-hr) and not more than 5.44 pounds per hour (from engine generator P13).	(1)(a) § 60.4211 (a) If you are an owner or operator and must comply with the emission standards specified in this subpart, you must do all of the following, except as permitted under (3) based on § 60.4211(g) (i) Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturers' emission-related written instructions; (ii) Change only those emission-related settings that are permitted by the manufacturer; and (iii) Meet the requirements of 40 CFR parts 89, 94 and/or 1068, as they apply to you. (b) § 60.4211 (c) If you are an owner or operator of a 2007 model year and later stationary CI internal combustion engine and must comply with the emission standards specified in § 60.4205(b), you must comply by purchasing an engine certified to the emission standards in § 60.4205(b), for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in (3). [s. 285.65(3), Wis. Stats.; 40 CFR §60.4211(a) and (b)] (2) §60.4211(f) If you own or operate an emergency stationary ICE, you must operate the emergency stationary ICE according to the requirements in paragraphs (f)(1) through (3) of this section (b.(2)(a) –(c)). In order for the engine to be considered an emergency stationary ICE under this subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50	(1) [§60.4212] Owners and operators of stationary CI ICE with a displacement of less than 30 liters per cylinder who conduct performance tests pursuant to this subpart [IIII] must do so according to paragraphs (a) through (e) of this section. (a) The performance test must be conducted according to the in-use testing procedures in 40 CFR part 1039, subpart F, for stationary CI ICE with a displacement of less than 10 liters per cylinder. (b) Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR part 1039 must not exceed the not-to-exceed (NTE) standards for the same model year and maximum engine power as required in 40 CFR 1039.101(e) and 40 CFR 1039.102(g)(1), except as specified in 40 CFR 1039.104(d). This requirement starts when NTE requirements take effect for nonroad diesel engines under 40 CFR part 1039. (c) Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR 89.112 or 40 CFR 94.8, as applicable, must not exceed the NTE numerical requirements, rounded to the same number of decimal places as the applicable standard in 40 CFR 89.112 or 40 CFR 94.8, as applicable, determined from the following equation: NTE requirement for each pollutant = (1.25) × (STD) Where: STD = The standard specified for that pollutant in 40 CFR 89.112 or 40 CFR 94.8, as applicable.

D. Process P13, Uncontrolled, Stack S16 – Generac SD500 500 KW Emergency Diesel Generator (constructed or last modified in 2010), discharges through Stack S16. Subject to NSPS Subpart A and IIII and MACT Subpart ZZZZ.

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
	[s. 285.65(13), Wis. Stats. and 40 CFR § 60.4205(b), §60.4202(a), §60.4212(c), and §89.112 Table 1] (4)(a) The emissions of the combination of Non-methane Hydrocarbons (NMHC) and Nitrogen oxides (NO_x) from the class of engines used in engine generator P13 shall not exceed 6.4 grams per kilowatt-hour (g/kW-hr) and not more than 7.91 pounds per hour (from each engine). (b) The emissions of the combination of Non-methane Hydrocarbons (NMHC) and Nitrogen oxides (NO_x) from the engine generator P13 shall not exceed 8.0 grams per kilowatt-hour (g/kW-hr) and not more than 9.89 pounds per hour (from engine generator P13). [s. 285.65(3), and (13), Wis. Stats. and 40 CFR § 60.4205(b), §60.4202(a), §60.4212(c), and §89.112 Table 1] (5)(a) Particulate matter emissions from the class of engines used in engine generator P13 shall not exceed 0.20 grams per kilowatt-hour (g/kW-hr), and not more than 0.25 pounds per hour (from each engine, excluding backhalf method 202 under NSPS). (b) Particulate matter emissions from the engine generator P13 shall not exceed 0.25 grams per kilowatt-hour (g/kW-hr), and not more than 0.31 pounds per hour (from the engine generator P13, excluding backhalf method 202 under NSPS) [s. 285.65(3) and (13), Wis. Stats.; 40 CFR § 60.4205(b), §60.4202(a), §60.4212(c), and §89.112 Table 1] (6) Owners and operators of stationary CI ICE with a displacement of less than 30 liters per	hours per year, as described below is prohibited. If you do not operate the engine according to these requirements the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines. (a) There is no time limit on the use of emergency stationary ICE in emergency situations under Subpart IIII. [Each of these engines has hour limitations that limit total operation (for each engine) including for emergencies to not more than 200 hours per year. See I.D.1.a.] (b) You may operate your emergency stationary ICE for any combination of the purposes specified in b.(2)(b)(i) –(iii) for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by b.(2)(c) counts as part of the 100 hours per calendar year allowed by b.(2)(b). (i) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year. (ii) Emergency stationary ICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability	Alternatively, stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR 89.112 or 40 CFR 94.8 may follow the testing procedures specified in § 60.4213 of this subpart, as appropriate. (d) Not used for these engines. (e) Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR part 1042 must not exceed the NTE standards for the same model year and maximum engine power as required in 40 CFR 1042.101(c). [s. 285.65(13), Wis. Stats. and 40 CFR §60.4212] (2) The permittee shall maintain records indicating the sulfur content and the cetane index or aromatic content of the diesel fuel. [s. NR 439.04(1)(d), Wis. Adm. Code] (3) The permittee shall maintain records of the hours of operation and type of operation to ensure that the diesel generator never exceeds 200 hours of operation per year (based on a 12 month average over the most recent 12 consecutive months (see. I.D.1.a.), not more than 100 hours per calendar year for maintenance checks and readiness testing and other non-emergency operation; and not more than 50 hours per calendar year for non-emergency operation. See I.D.1., which does not authorize non-emergency operation (other than routine reliability / maintenance testing). [ss. 285.65(3) and 285.63(1)(a), Wis. Stats.; s. NR 439.04, Wis. Adm. Code] (4) The permittee shall keep records of the following information: (a) All notifications submitted to comply with

D. Process P13, Uncontrolled, Stack S16 – Generac SD500 500 KW Emergency Diesel Generator (constructed or last modified in 2010), discharges through Stack S16. Subject to NSPS Subpart A and IIII and MACT Subpart ZZZZ.

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
	cylinder that use diesel fuel must use diesel fuel that meets the following requirements for nonroad diesel fuel: (a) Sulfur content: 15 ppm maximum for nonroad diesel fuel. (b) Cetane index or aromatic content, as follows: i. A minimum cetane index of 40; or ii. A maximum aromatic content of 35 volume percent. [s. 285.65(13), Wis. Stats., 40 CFR §60.4207(b), 40 CFR §80.510(b); s. NR 445.09(2), Wis. Adm. Code]	Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see § 60.17), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3. (iii) Emergency stationary ICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency. (c) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in b.(2)(b). Except as provided in paragraph b.(2)(b)(i), the 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity. See I.D.1.a.(1). (i) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met: (A) The engine is dispatched by the local balancing authority or local transmission and distribution system operator; (B) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region. (C) The dispatch follows reliability, emergency operation or similar protocols that follow	the requirements in I.D.5. and all documentation supporting any notification. (b) Maintenance conducted on the engine and emission control system. (c) If the stationary CI internal combustion is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards. (d) If the stationary CI internal combustion is not a certified engine, documentation that the engine meets the emission standards. [s. 285.65(13), Wis. Stats. and 40 CFR §60.4214(a)(2)] (5) Generator P13 is subject to the general provisions in 40 CFR §60.1, 40 CFR §60.2, 40 CFR §60.3, 40 CFR §60.4, 40 CFR §60.5, 40 CFR §60.6, 40 CFR §60.9, 40 CFR §60.10, 40 CFR §60.12, 40 CFR §60.14, 40 CFR §60.15, 40 CFR §60.16, 40 CFR §60.17, and 40 CFR §60.19. [s. 285.65(13), Wis. Stats. and 40 CFR §60.4218] Note: Notifications and reports required under this subpart and under subpart A of this part to demonstrate compliance with this subpart shall be sent by the permittee to the Wisconsin Department of Natural Resources, South Central Region Air Program, Reedsburg Area Office, PO Box 281, Reedsburg, WI 53959 and to the Director, Air and Radiation Division, U.S. Environmental Protection Agency, 77 West Jackson Boulevard, Chicago, IL 60604-3590.

D. Process P13, Uncontrolled, Stack S16 – Generac SD500 500 KW Emergency Diesel Generator (constructed or last modified in 2010), discharges through Stack S16. Subject to NSPS Subpart A and IIII and MACT Subpart ZZZZ.

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
		specific NERC, regional, state, public utility commission or local standards or guidelines. (D) The power is provided only to the facility itself or to support the local transmission and distribution system. (E) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator. [s. 285.65(13), Wis. Stats.; 40 CFR §60.4211(f)] (3) §60.4211(g) If you do not install, configure, operate, and maintain your engine and control device according to the manufacturer's emission-related written instructions, or you change emission-related settings in a way that is not permitted by the manufacturer, you must demonstrate compliance as follows: (iii) [§60.4211(g)(3)] If you are an owner or operator of a stationary CI internal combustion engine greater than 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change	

D. Process P13, Uncontrolled, Stack S16 – Generac SD500 500 KW Emergency Diesel Generator (constructed or last modified in 2010), discharges through Stack S16. Subject to NSPS Subpart A and IIII and MACT Subpart ZZZZ.

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
		emission-related settings in a way that is not permitted by the manufacturer. You must conduct subsequent performance testing every 8,760 hours of engine operation or 3 years, whichever comes first, thereafter to demonstrate compliance with the applicable emission standards. [s. 285.65(13), Wis. Stats.; 40 CFR §60.4211(g)] (4) The permittee shall install and operate a non-resettable hour meter. [s. 285.65(13), Wis. Stats., s. NR 407.09(4)(a)1., Wis. Adm. Code, and 40 CFR §60.4209(a)] (5) § 60.4206 Owners and operators of stationary CI ICE must operate and maintain stationary CI ICE that achieve the emission standards as required in §§ 60.4204 and 60.4205 over the entire life of the engine. [s. 285.65(13), Wis. Stats.; 40 CFR § 60.4206]	

E. Emissions from Flue Stacks from Retort Ovens: Stack S12, Process P10 – RipSys Retort Oven (Constructed or Last Modified in 2002, Natural Gas Fired, Maximum Heat Input: 0.4 MMBtu/hr); Stack S13, Process P11 - Magna Drum Retort Oven (Constructed or Last Modified in 2002, Natural Gas Fired, Maximum Heat Input: 0.5 MMBtu/hr); and Stack S17, Process P14 - Wisconsin Oven Retort System (Natural Gas Fired, Maximum Heat Input: 1.5 MMBtu/hr).

Pollutant	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
1. Particulate Matter Emissions	(1) Emissions of particulate matter from each of the Stacks S12, S13, and S17 may not exceed 0.15 pounds of particulate matter per million Btu heat input.[10] [s. NR 415.06(2)(a), Wis. Adm. Code; 13-KB-181]	(1) The permittee shall only fire Natural Gas in Processes P10, P11, and P14. [ss. NR 407.09(1)(c)1.b., Wis. Adm. Code and 285.65(3) and 285.63(1)(a), Wis. Stats.; 13-KB-181]	(1) Reference Test Method for Particulate Matter Emissions: Whenever particulate matter emission testing is required, the permittee shall use USEPA Method 5, including condensable backhalf emissions (USEPA Method 202). [s. NR 439.06(1), Wis. Adm. Code] (2) The permittee shall retain on site, plans and specifications or equivalent documentation that indicate fuel usage design capabilities of each of the Processes P10, P11, and P14.[11] [s. NR 439.04(1)(d), Wis. Adm. Code; 13-KB-181] (3) The permittee shall keep and maintain on-site technical drawings, blueprints or equivalent records of the physical stack parameters for Stacks S12, S13, and S17. [s. NR 439.04(1)(d), Wis. Adm. Code; 13-KB-181]
2. Visible Emissions	(1) Emissions may not be greater than 20% opacity or number 1 of the Ringlemann chart. [s. NR 431.05, Wis. Adm. Code; 13-KB-181]	(1) The requirement for Particulate Matter emissions in I.E.1.b.(1) shall be used as compliance demonstration for the opacity limit. [s. NR 407.09(4)(a)3.b., Wis. Adm. Code; 13-KB-181]	(1) Reference Test Method for Visible Emissions: Whenever visible emissions testing is required, the permittee shall use U. S. EPA Method 9. [s. NR 439.06(9)(a)1., Wis. Adm. Code] (2) Same as for particulate matter emissions listed in I.E.1.c.(2). [s. NR 439.04(1)(d), Wis. Adm. Code; 13-KB-181]
3. Emissions of other Criteria Pollutants	The General Limitations in Part II of the Permit shall apply.		

[10]Particulate matter emissions are associated with combustion by products while firing natural gas. Because the maximum theoretical emissions while firing natural gas are less than the allowable limit of 0.15 pounds per million Btu heat input from s. NR 415.06(2)(a), Wis. Adm. Code, limiting the type of fuel used is adequate to demonstrate compliance with the particulate matter emission limit.

[11]These plans and specifications are sufficient because these retort ovens are designed to only fire natural gas.

ZZZ. Conditions Applicable to the Entire Facility.

Pollutant/Condition	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
1. *Mercury	(1) *Ambient air concentration from the total facility may not exceed 1 microgram per cubic meter, averaged over a 30-day period. **[s. NR *446.03(1), Wis. Adm. Code; 13-KB-181]** Note: Based on dispersion modeling results, the ambient concentration will not exceed this level at the allowable emission rates specified for Stacks S01, S08, and S14 in this permit.		
2. State Hazardous Air Pollutants (State HAPs).	(1) No owner or operator of a source may cause, allow or permit emissions of a hazardous air contaminant listed in Table A of s. NR 445.07, Wis. Adm. Code in such quantity or concentration or for such duration as to cause an ambient air concentration of the contaminant off the source property that exceeds the concentration in column (g) of Table A for the contaminant. **[s. NR 445.07(1)(a), Wis. Adm. Code)]***	(1) When the permittee elects to significantly change the existing operation (e.g., raw material or product change or production capacity increase), the permittee shall determine, either analytically or through the use of technical calculations, the facility's new or increased potential emissions of any state hazardous air pollutant (State HAP) emitted, assuming maximum operation conditions. **[s. NR 407.09(4)(a)3.b., Wis. Adm. Code]*** (2) The permittee shall determine if the facility's new or increased potential emission rate of any State HAP exceeds the applicable published de minimus value in	(1) Whenever any hazardous air pollutant concentration or emission rate testing of any material is required for demonstrating compliance, the permittee shall use a test method and testing protocol approved by either the US EPA or the Department. **[ss. NR 407.09(1)(c)1.a. & 4(a)1. and NR 439.06(8), Wis. Adm. Code]**

ZZZ. Conditions Applicable to the Entire Facility.

Pollutant/Condition	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
		Table A of s. NR 445.07, Wis. Adm. Code. **[s. NR 407.09(4)(a)3.b., Wis. Adm. Code]*** (3) When the facility's new or increased potential emission rate of any State HAP exceeds a published de minimus value, the permittee shall evaluate the impact of the pollutant's emission and determine if any additional action needs to be taken to protect the ambient air quality standard. **[s. NR 407.09(4)(a)3.b., Wis. Adm. Code]***	
3. Malfunction Prevention and Abatement Plan.	(1) A malfunction prevention and abatement plan shall be prepared and followed for the plant. **[s. NR 439.11, Wis. Adm. Code]** (2) All air pollution control equipment shall be operated and maintained in conformance with good engineering practices (i.e. operated and maintained according to manufacturer's specifications and directions) to minimize the possibility for the exceedance of any emission limitations. **[s. NR 439.11(4), Wis. Adm. Code]** (3) The facility shall submit the plan to the	(1) The malfunction prevention and abatement plan shall be developed to prevent, detect and correct malfunctions or equipment failures which may cause any applicable emissions limitation to be violated or which may cause air pollution. **[s. NR 439.11(1), Wis. Adm. Code]** (2) This malfunction prevention and abatement plan shall include installation, maintenance and routine calibration procedures for the process monitoring and control equipment instrumentation. This plan shall require an instrumentation calibration at the frequency specified by the manufacturer, yearly or at	None Applicable.

ZZZ. Conditions Applicable to the Entire Facility.

Pollutant/Condition	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
	Wisconsin Department of Natural Resources, South Central Region Air Program, Reedsburg Area Office, PO Box 281, Reedsburg, WI 53959 for review within 180 days of the date Process P14 becomes operational. The Department may amend the plan if deemed necessary for malfunction prevention or for the reduction of excess emissions during malfunctions. **[s. NR 439.11(2), Wis. Adm. Code]**	a frequency based on good engineering practice as established by operational history, whichever is more frequent. Inspection and calibration shall also be conducted whenever instrumentation anomalies are noted. **[ss. NR 407.09(1)(c)1.c., NR 439.055(4) and s. NR 439.11, Wis. Adm. Code]** (3) The malfunction prevention and abatement plan shall require a copy of the operation and maintenance manual for the control equipment to be maintained on site. The plan shall contain all of the elements in s. NR 439.11(1)(a) - (h), Wis. Adm. Code. **[s. NR 439.11, Wis. Adm. Code]**	
4. Stack Testing Requirements.	(1) If the compliance emission test(s) cannot be conducted within the time frames specified in this permit, the permit holder may request and the Department may approve, in writing, an extension of time to conduct the test(s). **[s. NR 439.07, Wis. Adm. Code]** (2) All testing shall be performed with the emissions unit operating at capacity or as close to capacity as practicable and in accordance with approved procedures. If	(1) Two copies of the report on any compliance emission tests shall be submitted to the Department for evaluation within 60 days following the completion of tests. **[s. NR 439.07(9), Wis. Adm. Code]**	None Applicable.

ZZZ. Conditions Applicable to the Entire Facility.

Pollutant/Condition	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
	operation at capacity is not feasible, the source shall operate at a capacity level which is approved by the Department in writing. **[s. NR 439.07(1), Wis. Adm. Code]** (3) The Department shall be informed at least 20 working days prior to a stack testing, so a Department representative can witness the testing. At the time of notification, a compliance emission test plan shall also be submitted to the Department for approval. When approved in writing, an equivalent test method may be substituted for the reference test method. The notification and test plan shall be submitted to the Wisconsin Department of Natural Resources, South Central Region Air Program, Reedsburg Area Office, PO Box 281, Reedsburg, WI 53959. **[s. NR 439.07(2), Wis. Adm. Code]**		
5. Compliance Reports/Records.	(1) Except as provided under I.ZZZ.7.a.(6), upon issuance of the operation permit, the permittee shall submit periodic monitoring reports. **[s. NR 407.09(1)(c)3., Wis. Adm. Code]** (2) Except as provided under I.ZZZ.7.a.(6),	(1) The permittee shall annually submit a monitoring report which contains the results of monitoring or a summary of monitoring results required by this permit to the Department. (a) The time period to be addressed by the report is the January 1 to December 31	None Applicable.

ZZZ. Conditions Applicable to the Entire Facility.

Pollutant/Condition	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
	upon issuance of the operation permit, the permittee shall submit periodic certification of compliance. **[s. NR 407.09(4)(a)3., Wis. Adm. Code]** (3) The records required under this permit shall be retained for at least five (5) years and shall be made available to department personnel upon request during normal business hours. **[s. NR 439.04, s. NR 439.05, Wis. Adm. Code]**	period which precedes the report. (b) The report shall be submitted to the Wisconsin Department of Natural Resources, South Central Region Air Program, Reedsburg Area Office, PO Box 281, Reedsburg, WI 53959 within 45 days after the end of each reporting period. (c) All deviations from and violations of applicable requirements shall be clearly identified in the submittal. (d) Each submittal shall be certified by a responsible official as to the truth, accuracy and completeness of the report. (e) The content of the submittal is described in item D. of Part II of the operation permit. **[ss. NR 407.09(1)(c)3. & NR 439.03(1)(b), Wis. Adm. Code]** (2) The permittee shall submit an annual certification of compliance with the requirements of this permit to the Wisconsin Department of Natural Resources, South Central Region Air Program, Reedsburg Area Office, PO Box 281, Reedsburg, WI 53959.	

ZZZ. Conditions Applicable to the Entire Facility.

Pollutant/Condition	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
		(a) The time period to be addressed by the report is January 1 to December 31 of the preceding year. (b) The report shall be submitted to the Wisconsin Department of Natural Resources within 45 days after the end of each reporting period. (c) The information included in the report shall comply with the requirements of Part II, Section N of this permit. (d) Each report shall be certified by a responsible official as to the truth, accuracy and completeness of the report. **[ss. NR 407.09(4)(a)3. & NR 439.03(1)(c), Wis. Adm. Code]**	
6. Alternate Operating Scenario – Use of raw material not included in the permit application	(1) If the permittee uses a raw material not included in the permit application reviewed for this permit, the following requirements shall be met by the permittee: (a) The source has continuously had such design capability. (b) The use will not cause or exacerbate the violation of an ambient air quality standard or an ambient air increment. (c) The use is not prohibited by any permit, plan approval or special order	(1) The permittee shall keep at the facility all calculations and supporting material required to demonstrate compliance with limitation I.ZZZ.6.a.(1). [s. NR 407.09(2)(b), Wis. Adm. Code; 13-KB-181]	None Applicable.

ZZZ. Conditions Applicable to the Entire Facility.

Pollutant/Condition	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
	applicable to the source. (d) The use will not result in a violation of any emission limit in chs. NR 405, 408, 409, 415 to 436 and 445, Wis. Adm. Code. (e) The use will not subject the source to any standard or regulation under section 112 of the Act (42 USC 7412). [ss. NR 407.09(2)(d), and NR 406.04(4)(a), Wis. Adm. Code; 13-KB-181]		
7. Construction Permit 13-KB-181 Transitional Language	**(1) Notifications.** The permittee shall inform the Department of the following dates: (a) The date construction commences on any new or modified emission unit(s) addressed in Permit 13-KB-181. (b) The date the new emission unit (P14) becomes operational. (c) The date the new Stack (S17) becomes operational. (d) The date existing emission unit P12 is dismantled or rendered permanently inoperable. For purposes of this permit, "operational" shall be defined as the first time of any process related air contaminant is emitted	**(1) Notifications.** The permittee shall submit to the Wisconsin Department of Natural Resources, South Central Region Air Program, Reedsburg Area Office, PO Box 281, Reedsburg, WI 53959 in writing, within 15 days of the date the event, the following: (a) The date construction commences on the any new or modified emission unit(s) addressed in Permit 13-KB-181. (b) The date the new emission unit (P14) becomes operational. (c) The date the new Stack (S17) becomes operational. (d) The date existing emission unit P12 is dismantled or rendered permanently	None Applicable.

ZZZ. Conditions Applicable to the Entire Facility.

Pollutant/Condition	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
	into the ambient air. **[s. NR 439.03(1), Wis. Adm. Code (Permit 13-KB-181)]** **(2) Construction Authorization Expiration.** The Authorization to Construct, under Construction Permit 13-KB-181 expires 18 months after the date of issuance. Construction or modification and an initial operation period for equipment shakedown, testing and Department evaluation of operation to assure conformity with the permit conditions is authorized for each emissions unit covered in this permit. Please note that the sources covered by this permit are required to meet all emission limits and conditions contained in the permit at all times, including during the initial operation period. If 18 months is an insufficient time period for construction or modification, equipment shakedown, testing and Department evaluation of operation, the permit holder may request and the Department may approve in writing an extension of this permit. The conditions of the construction permit are permanent, unless revised, superseded or revoked. **[ss. 285.60(1)(a)2. and 285.66(1), Wis. Stats., and s. NR 406.12, Wis. Adm.**	inoperable. **[s. NR 439.04(1)(d), Wis. Adm. Code (Permit 13-KB-181)]** **(2) Malfunction Prevention and Abatement Plan.** The owner or operator shall update the facility's Malfunction Prevention and Abatement Plan to include the new emission unit (P14) and submit it to the Wisconsin Department of Natural Resources, South Central Region Air Program, Reedsburg Area Office, PO Box 281, Reedsburg, WI 53959 for review and approval within 180 days of the date Process P14 becomes operational. **[s. NR 439.11(1), Wis. Adm. Code (Permit 13-KB-181)]** **(3) Emission Stack Testing.** Upon completion of the compliance emission tests listed in I.A.2.b.(3), I.B.2.b.(3), and I.C.2.b.(5), the permittee shall submit to the Wisconsin Department of Natural Resources, South Central Region Air Program, Reedsburg Area Office, PO Box 281, Reedsburg, WI 53959 two copies of the report on the tests for evaluation within 60 days of the date the tests were completed. **[s. NR 439.04(1)(d), Wis. Adm. Code**	

ZZZ. Conditions Applicable to the Entire Facility.

Pollutant/Condition	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
	Code (Permit 13-KB-181)] **(3) New Emission Unit (P14).** Once constructed and initially operating P14 shall operate under the conditions in Section I.C. (of the construction permit 13-KB-181). **[s. NR 439.03(1), Wis. Adm. Code (Permit 13-KB-181)]** **(4) Malfunction Prevention and Abatement Plan.** The permittee shall update the facility's Malfunction Prevention and Abatement Plan to include the operation and maintenance of the control equipment associated with the new emission unit (P14). **[s. NR 439.11, Wis. Adm. Code (Permit 13-KB-181)]** **(5) Emission Stack Testing.** The permittee shall conduct compliance emission stack tests as listed in I.A.2.b.(3), I.B.2.b.(3), and I.C.2.b.(5). (a) If compliance emission test(s) cannot be conducted within the time frames specified, the permit holder may request and the Department may approve, in writing, an	**(Permit 13-KB-181)]** **(4) Submittal of Compliance Testing Information and other updates.** The permittee shall submit to the Department any updates of the permit application. Updates are required if any changes that occur which are not specified or described in the plans and specifications dated December 10, 2013, January 22, 2014, July 8, 2014, July 22, 2014 and September 17, 2014. The updates shall be made within 60 days of the date of the change. Other information to be submitted shall include the notification requirements, stack tests results and the update of the facility's Malfunction prevention and Abatement Plan. The continued operation of the modified and new emission units addressed in this construction permit are prohibited once the authorization to construct expires per Condition I.ZZZ.7.a.(2), unless any required updates have been submitted and the permittee has satisfied the notification requirements of Condition I.ZZZ.7.b.(1). **[s. NR 439.04(1)(d), Wis. Adm. Code (Permit 13-KB-181)]** **(5)** All submittals described in this permit shall be made in writing and include the name of the facility, the facility's address, the	

ZZZ. Conditions Applicable to the Entire Facility.

Pollutant/Condition	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
	extension of time to conduct the test(s). (b) All testing shall be performed with the emissions unit operating at capacity or as close to capacity as practicable and in accordance with approved procedures. If operation at capacity is not feasible, the source shall operate at a capacity level which is approved by the Department in writing. (c) The Department shall be informed at least 20 working days prior to any stack testing so a Department representative can witness the testing. At the time of notification, a compliance emission test plan shall also be submitted to the Department for approval. When approved in writing, an equivalent test method may be substituted for the reference test method. **[s. NR 439.07, Wis. Adm. Code (Permit 13-KB-181)]** **(6) Compliance Reports/Records.** The permittee shall submit periodic monitoring reports and certification of compliance as required by I.ZZZ.5.a.(1) and (2) for any new emission unit for the period when that unit becomes operational. Note that compliance monitoring and reporting requirements and limitations of any	construction permit number and a description of the affected emission unit(s). **[s. NR 439.04(1)(d), Wis. Adm. Code (Permit 13-KB-181)]**	

ZZZ. Conditions Applicable to the Entire Facility.

Pollutant/Condition	a. Limitations	b. Compliance Demonstration	c. Reference Test Methods, Recordkeeping and Monitoring Requirements
	unmodified units remain in effect. **(7) Completion of Operation Permit Application.** The permittee shall update the permit application if any changes occur which are not specified or described in the plans and specifications approved under construction permit 13-KB-181. **NR 407.04(1)(b), Wis. Adm. Code (Permit 13-KB-181)]**		

APPENDIX A

Title 40 Part 60, Subpart IIII—Standards of Performance for Stationary Compression Ignition Internal Combustion Engines

Source: Electronic Code of Federal Regulations (www.ecfr.gov)

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SOURCE: 71 FR 39172, July 11, 2006, unless otherwise noted.

WHAT THIS SUBPART COVERS

§60.4200 Am I subject to this subpart?

(a) The provisions of this subpart are applicable to manufacturers, owners, and operators of stationary compression ignition (CI) internal combustion engines (ICE) and other persons as specified in paragraphs (a)(1) through (4) of this section. For the purposes of this subpart, the date that construction commences is the date the engine is ordered by the owner or operator.

(1) Manufacturers of stationary CI ICE with a displacement of less than 30 liters per cylinder where the model year is:

(i) 2007 or later, for engines that are not fire pump engines;

(ii) The model year listed in Table 3 to this subpart or later model year, for fire pump engines.

(2) Owners and operators of stationary CI ICE that commence construction after July 11, 2005, where the stationary CI ICE are:

(i) Manufactured after April 1, 2006, and are not fire pump engines, or

(ii) Manufactured as a certified National Fire Protection Association (NFPA) fire pump engine after July 1, 2006.

(3) Owners and operators of any stationary CI ICE that are modified or reconstructed after July 11, 2005 and any person that modifies or reconstructs any stationary CI ICE after July 11, 2005.

(4) The provisions of §60.4208 of this subpart are applicable to all owners and operators of stationary CI ICE that commence construction after July 11, 2005.

(b) The provisions of this subpart are not applicable to stationary CI ICE being tested at a stationary CI ICE test cell/stand.

(c) If you are an owner or operator of an area source subject to this subpart, you are exempt from the obligation to obtain a permit under 40 CFR part 70 or 40 CFR part 71, provided you are not required to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a) for a reason other than your status as an area source under this subpart. Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart applicable to area sources.

(d) Stationary CI ICE may be eligible for exemption from the requirements of this subpart as described in 40 CFR part 1068, subpart C (or the exemptions described in 40 CFR part 89, subpart J and 40 CFR part 94, subpart J, for engines that would need to be certified to standards in those parts), except that owners and operators, as well as manufacturers, may be eligible to request an exemption for national security.

(e) Owners and operators of facilities with CI ICE that are acting as temporary replacement units and that are located at a stationary source for less than 1 year and that have been properly certified as meeting the standards that would be applicable to such engine under the appropriate nonroad engine provisions, are not required to meet any other provisions under this subpart with regard to such engines.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37967, June 28, 2011]

EMISSION STANDARDS FOR MANUFACTURERS

§60.4201 What emission standards must I meet for non-emergency engines if I am a stationary CI internal combustion engine manufacturer?

(a) Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later non-emergency stationary CI ICE with a maximum engine power less than or equal to 2,237 kilowatt (KW) (3,000 horsepower (HP)) and a displacement of less than 10 liters per cylinder to the certification emission standards for new nonroad CI engines in 40 CFR 89.112, 40 CFR 89.113, 40 CFR 1039.101, 40 CFR 1039.102, 40 CFR 1039.104, 40 CFR 1039.105, 40 CFR 1039.107, and 40 CFR 1039.115, as applicable, for all pollutants, for the same model year and maximum engine power.

(b) Stationary CI internal combustion engine manufacturers must certify their 2007 through 2010 model year non-emergency stationary CI ICE with a maximum engine power greater than 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder to the emission standards in table 1 to this subpart, for all pollutants, for the same maximum engine power.

(c) Stationary CI internal combustion engine manufacturers must certify their 2011 model year and later non-emergency stationary CI ICE with a maximum engine power greater than 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder to the certification emission standards for new nonroad CI engines in 40 CFR 1039.101, 40 CFR 1039.102, 40 CFR 1039.104, 40 CFR 1039.105, 40 CFR 1039.107, and 40 CFR 1039.115, as applicable, for all pollutants, for the same maximum engine power.

(d) Stationary CI internal combustion engine manufacturers must certify the following non-emergency stationary CI ICE to the certification emission standards for new marine CI engines in 40 CFR 94.8, as applicable, for all pollutants, for the same displacement and maximum engine power:

(1) Their 2007 model year through 2012 non-emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder;

(2) Their 2013 model year non-emergency stationary CI ICE with a maximum engine power greater than or equal to 3,700 KW (4,958 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 15 liters per cylinder; and

(3) Their 2013 model year non-emergency stationary CI ICE with a displacement of greater than or equal to 15 liters per cylinder and less than 30 liters per cylinder.

(e) Stationary CI internal combustion engine manufacturers must certify the following non-emergency stationary CI ICE to the certification emission standards and other requirements for new marine CI engines in 40 CFR 1042.101, 40 CFR 1042.107, 40 CFR 1042.110, 40 CFR 1042.115, 40 CFR 1042.120, and 40 CFR 1042.145, as applicable, for all pollutants, for the same displacement and maximum engine power:

(1) Their 2013 model year non-emergency stationary CI ICE with a maximum engine power less than 3,700 KW (4,958 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 15 liters per cylinder; and

(2) Their 2014 model year and later non-emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder.

(f) Notwithstanding the requirements in paragraphs (a) through (c) of this section, stationary non-emergency CI ICE identified in paragraphs (a) and (c) may be certified to the provisions of 40 CFR part 94 or, if Table 1 to 40 CFR 1042.1 identifies 40 CFR part 1042 as being applicable, 40 CFR part 1042, if the engines will be used solely in either or both of the following locations:

(1) Areas of Alaska not accessible by the Federal Aid Highway System (FAHS); and

(2) Marine offshore installations.

(g) Notwithstanding the requirements in paragraphs (a) through (f) of this section, stationary CI internal combustion engine manufacturers are not required to certify reconstructed engines; however manufacturers may elect to do so. The reconstructed engine must be certified to the emission standards specified in paragraphs (a) through (e) of this section that are applicable to the model year, maximum engine power, and displacement of the reconstructed stationary CI ICE.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37967, June 28, 2011]

§60.4202 What emission standards must I meet for emergency engines if I am a stationary CI internal combustion engine manufacturer?

(a) Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later emergency stationary CI ICE with a maximum engine power less than or equal to 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder that are not fire pump engines to the emission standards specified in paragraphs (a)(1) through (2) of this section.

(1) For engines with a maximum engine power less than 37 KW (50 HP):

(i) The certification emission standards for new nonroad CI engines for the same model year and maximum engine power in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants for model year 2007 engines, and

(ii) The certification emission standards for new nonroad CI engines in 40 CFR 1039.104, 40 CFR 1039.105, 40 CFR 1039.107, 40 CFR 1039.115, and table 2 to this subpart, for 2008 model year and later engines.

(2) For engines with a maximum engine power greater than or equal to 37 KW (50 HP), the certification emission standards for new nonroad CI engines for the same model year and maximum engine power in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants beginning in model year 2007.

(b) Stationary CI internal combustion engine manufacturers must certify their 2007 model year and later emergency stationary CI ICE with a maximum engine power greater than 2,237 KW (3,000 HP) and a displacement of less than 10 liters per cylinder that are not fire pump engines to the emission standards specified in paragraphs (b)(1) through (2) of this section.

(1) For 2007 through 2010 model years, the emission standards in table 1 to this subpart, for all pollutants, for the same maximum engine power.

(2) For 2011 model year and later, the certification emission standards for new nonroad CI engines for engines of the same model year and maximum engine power in 40 CFR 89.112 and 40 CFR 89.113 for all pollutants.

(c) [Reserved]

(d) Beginning with the model years in table 3 to this subpart, stationary CI internal combustion engine manufacturers must certify their fire pump stationary CI ICE to the emission standards in table 4 to this subpart, for all pollutants, for the same model year and NFPA nameplate power.

(e) Stationary CI internal combustion engine manufacturers must certify the following emergency stationary CI ICE that are not fire pump engines to the certification emission standards for new marine CI engines in 40 CFR 94.8, as applicable, for all pollutants, for the same displacement and maximum engine power:

(1) Their 2007 model year through 2012 emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder;

(2) Their 2013 model year and later emergency stationary CI ICE with a maximum engine power greater than or equal to 3,700 KW (4,958 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 15 liters per cylinder;

(3) Their 2013 model year emergency stationary CI ICE with a displacement of greater than or equal to 15 liters per cylinder and less than 30 liters per cylinder; and

(4) Their 2014 model year and later emergency stationary CI ICE with a maximum engine power greater than or equal to 2,000 KW (2,682 HP) and a displacement of greater than or equal to 15 liters per cylinder and less than 30 liters per cylinder.

(f) Stationary CI internal combustion engine manufacturers must certify the following emergency stationary CI ICE to the certification emission standards and other requirements applicable to Tier 3 new marine CI engines in 40 CFR 1042.101, 40 CFR 1042.107, 40 CFR 1042.115, 40 CFR 1042.120, and 40 CFR 1042.145, for all pollutants, for the same displacement and maximum engine power:

(1) Their 2013 model year and later emergency stationary CI ICE with a maximum engine power less than 3,700 KW (4,958 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 15 liters per cylinder; and

(2) Their 2014 model year and later emergency stationary CI ICE with a maximum engine power less than 2,000 KW (2,682 HP) and a displacement of greater than or equal to 15 liters per cylinder and less than 30 liters per cylinder.

(g) Notwithstanding the requirements in paragraphs (a) through (d) of this section, stationary emergency CI internal combustion engines identified in paragraphs (a) and (c) may be certified to the provisions of 40 CFR part 94 or, if Table 2 to 40 CFR 1042.101 identifies Tier 3 standards as being applicable, the requirements applicable to Tier 3 engines in 40 CFR part 1042, if the engines will be used solely in either or both of the following locations:

(1) Areas of Alaska not accessible by the FAHS; and

(2) Marine offshore installations.

(h) Notwithstanding the requirements in paragraphs (a) through (f) of this section, stationary CI internal combustion engine manufacturers are not required to certify reconstructed engines; however manufacturers may elect to do so. The reconstructed engine must be certified to the emission standards specified in paragraphs (a) through (f) of this section that are applicable to the model year, maximum engine power and displacement of the reconstructed emergency stationary CI ICE.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37968, June 28, 2011]

§60.4203 How long must my engines meet the emission standards if I am a manufacturer of stationary CI internal combustion engines?

Engines manufactured by stationary CI internal combustion engine manufacturers must meet the emission standards as required in §§60.4201 and 60.4202 during the certified emissions life of the engines.

[76 FR 37968, June 28, 2011]

EMISSION STANDARDS FOR OWNERS AND OPERATORS

60.4204 What emission standards must I meet for non-emergency engines if I am an owner or operator of a stationary CI internal combustion engine?

(a) Owners and operators of pre-2007 model year non-emergency stationary CI ICE with a displacement of less than 10 liters per cylinder must comply with the emission standards in table 1 to this subpart. Owners and operators of pre-2007 model year non-emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder must comply with the emission standards in 40 CFR 94.8(a)(1).

(b) Owners and operators of 2007 model year and later non-emergency stationary CI ICE with a displacement of less than 30 liters per cylinder must comply with the emission standards for new CI engines in §60.4201 for their 2007 model year and later stationary CI ICE, as applicable.

(c) Owners and operators of non-emergency stationary CI engines with a displacement of greater than or equal to 30 liters per cylinder must meet the following requirements:

(1) For engines installed prior to January 1, 2012, limit the emissions of NO_X in the stationary CI internal combustion engine exhaust to the following:

(i) 17.0 grams per kilowatt-hour (g/KW-hr) (12.7 grams per horsepower-hr (g/HP-hr)) when maximum engine speed is less than 130 revolutions per minute (rpm);

(ii) $45 \cdot n^{-0.2}$ g/KW-hr ($34 \cdot n^{-0.2}$ g/HP-hr) when maximum engine speed is 130 or more but less than 2,000 rpm, where n is maximum engine speed; and

(iii) 9.8 g/KW-hr (7.3 g/HP-hr) when maximum engine speed is 2,000 rpm or more.

(2) For engines installed on or after January 1, 2012 and before January 1, 2016, limit the emissions of NO_X in the stationary CI internal combustion engine exhaust to the following:

(i) 14.4 g/KW-hr (10.7 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) $44 \cdot n^{-0.23}$ g/KW-hr ($33 \cdot n^{-0.23}$ g/HP-hr) when maximum engine speed is greater than or equal to 130 but less than 2,000 rpm and where n is maximum engine speed; and

(iii) 7.7 g/KW-hr (5.7 g/HP-hr) when maximum engine speed is greater than or equal to 2,000 rpm.

(3) For engines installed on or after January 1, 2016, limit the emissions of NO_X in the stationary CI internal combustion engine exhaust to the following:

(i) 3.4 g/KW-hr (2.5 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) $9.0 \cdot n^{-0.20}$ g/KW-hr ($6.7 \cdot n^{-0.20}$ g/HP-hr) where n (maximum engine speed) is 130 or more but less than 2,000 rpm; and

(iii) 2.0 g/KW-hr (1.5 g/HP-hr) where maximum engine speed is greater than or equal to 2,000 rpm.

(4) Reduce particulate matter (PM) emissions by 60 percent or more, or limit the emissions of PM in the stationary CI internal combustion engine exhaust to 0.15 g/KW-hr (0.11 g/HP-hr).

(d) Owners and operators of non-emergency stationary CI ICE with a displacement of less than 30 liters per cylinder who conduct performance tests in-use must meet the not-to-exceed (NTE) standards as indicated in §60.4212.

(e) Owners and operators of any modified or reconstructed non-emergency stationary CI ICE subject to this subpart must meet the emission standards applicable to the model year, maximum engine power, and displacement of the modified or reconstructed non-emergency stationary CI ICE that are specified in paragraphs (a) through (d) of this section.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37968, June 28, 2011]

§60.4205 What emission standards must I meet for emergency engines if I am an owner or operator of a stationary CI internal combustion engine?

(a) Owners and operators of pre-2007 model year emergency stationary CI ICE with a displacement of less than 10 liters per cylinder that are not fire pump engines must comply with the emission standards in Table 1 to this subpart. Owners and operators of pre-2007 model year emergency stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder that are not fire pump engines must comply with the emission standards in 40 CFR 94.8(a)(1).

(b) Owners and operators of 2007 model year and later emergency stationary CI ICE with a displacement of less than 30 liters per cylinder that are not fire pump engines must comply with the emission standards for new nonroad CI engines in §60.4202, for all pollutants, for the same model year and maximum engine power for their 2007 model year and later emergency stationary CI ICE.

(c) Owners and operators of fire pump engines with a displacement of less than 30 liters per cylinder must comply with the emission standards in table 4 to this subpart, for all pollutants.

(d) Owners and operators of emergency stationary CI engines with a displacement of greater than or equal to 30 liters per cylinder must meet the requirements in this section.

(1) For engines installed prior to January 1, 2012, limit the emissions of NO_x in the stationary CI internal combustion engine exhaust to the following:

(i) 17.0 g/KW-hr (12.7 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) $45 \cdot n^{-0.2}$ g/KW-hr ($34 \cdot n^{-0.2}$ g/HP-hr) when maximum engine speed is 130 or more but less than 2,000 rpm, where n is maximum engine speed; and

(iii) 9.8 g/kW-hr (7.3 g/HP-hr) when maximum engine speed is 2,000 rpm or more.

(2) For engines installed on or after January 1, 2012, limit the emissions of NO_x in the stationary CI internal combustion engine exhaust to the following:

(i) 14.4 g/KW-hr (10.7 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) $44 \cdot n^{-0.23}$ g/KW-hr ($33 \cdot n^{-0.23}$ g/HP-hr) when maximum engine speed is greater than or equal to 130 but less than 2,000 rpm and where n is maximum engine speed; and

(iii) 7.7 g/KW-hr (5.7 g/HP-hr) when maximum engine speed is greater than or equal to 2,000 rpm.

(3) Limit the emissions of PM in the stationary CI internal combustion engine exhaust to 0.40 g/KW-hr (0.30 g/HP-hr).

(e) Owners and operators of emergency stationary CI ICE with a displacement of less than 30 liters per cylinder who conduct performance tests in-use must meet the NTE standards as indicated in §60.4212.

(f) Owners and operators of any modified or reconstructed emergency stationary CI ICE subject to this subpart must meet the emission standards applicable to the model year, maximum engine power, and displacement of the modified or reconstructed CI ICE that are specified in paragraphs (a) through (e) of this section.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37969, June 28, 2011]

§60.4206 How long must I meet the emission standards if I am an owner or operator of a stationary CI internal combustion engine?

Owners and operators of stationary CI ICE must operate and maintain stationary CI ICE that achieve the emission standards as required in §§60.4204 and 60.4205 over the entire life of the engine.

[76 FR 37969, June 28, 2011]

FUEL REQUIREMENTS FOR OWNERS AND OPERATORS

§60.4207 What fuel requirements must I meet if I am an owner or operator of a stationary CI internal combustion engine subject to this subpart?

(a) Beginning October 1, 2007, owners and operators of stationary CI ICE subject to this subpart that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 80.510(a).

(b) Beginning October 1, 2010, owners and operators of stationary CI ICE subject to this subpart with a displacement of less than 30 liters per cylinder that use diesel fuel must use diesel fuel that meets the requirements of 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to October 1, 2010, may be used until depleted.

(c) [Reserved]

(d) Beginning June 1, 2012, owners and operators of stationary CI ICE subject to this subpart with a displacement of greater than or equal to 30 liters per cylinder are no longer subject to the requirements of paragraph (a) of this section, and must use fuel that meets a maximum per-gallon sulfur content of 1,000 parts per million (ppm).

(e) Stationary CI ICE that have a national security exemption under §60.4200(d) are also exempt from the fuel requirements in this section.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37969, June 28, 2011; 78 FR 6695, Jan. 30, 2013]

OTHER REQUIREMENTS FOR OWNERS AND OPERATORS

§60.4208 What is the deadline for importing or installing stationary CI ICE produced in previous model years?

(a) After December 31, 2008, owners and operators may not install stationary CI ICE (excluding fire pump engines) that do not meet the applicable requirements for 2007 model year engines.

(b) After December 31, 2009, owners and operators may not install stationary CI ICE with a maximum engine power of less than 19 KW (25 HP) (excluding fire pump engines) that do not meet the applicable requirements for 2008 model year engines.

(c) After December 31, 2014, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 19 KW (25 HP) and less than 56 KW (75 HP) that do not meet the applicable requirements for 2013 model year non-emergency engines.

(d) After December 31, 2013, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 56 KW (75 HP) and less than 130 KW (175 HP) that do not meet the applicable requirements for 2012 model year non-emergency engines.

(e) After December 31, 2012, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 130 KW (175 HP), including those above 560 KW (750 HP), that do not meet the applicable requirements for 2011 model year non-emergency engines.

(f) After December 31, 2016, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power of greater than or equal to 560 KW (750 HP) that do not meet the applicable requirements for 2015 model year non-emergency engines.

(g) After December 31, 2018, owners and operators may not install non-emergency stationary CI ICE with a maximum engine power greater than or equal to 600 KW (804 HP) and less than 2,000 KW (2,680 HP) and a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder that do not meet the applicable requirements for 2017 model year non-emergency engines.

(h) In addition to the requirements specified in §§60.4201, 60.4202, 60.4204, and 60.4205, it is prohibited to import stationary CI ICE with a displacement of less than 30 liters per cylinder that do not meet the applicable requirements specified in paragraphs (a) through (g) of this section after the dates specified in paragraphs (a) through (g) of this section.

(i) The requirements of this section do not apply to owners or operators of stationary CI ICE that have been modified, reconstructed, and do not apply to engines that were removed from one existing location and reinstalled at a new location.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37969, June 28, 2011]

§60.4209 What are the monitoring requirements if I am an owner or operator of a stationary CI internal combustion engine?

If you are an owner or operator, you must meet the monitoring requirements of this section. In addition, you must also meet the monitoring requirements specified in §60.4211.

(a) If you are an owner or operator of an emergency stationary CI internal combustion engine that does not meet the standards applicable to non-emergency engines, you must install a non-resettable hour meter prior to startup of the engine.

(b) If you are an owner or operator of a stationary CI internal combustion engine equipped with a diesel particulate filter to comply with the emission standards in §60.4204, the diesel particulate filter must be installed with a backpressure monitor that notifies the owner or operator when the high backpressure limit of the engine is approached.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37969, June 28, 2011]

COMPLIANCE REQUIREMENTS

§60.4210 What are my compliance requirements if I am a stationary CI internal combustion engine manufacturer?

(a) Stationary CI internal combustion engine manufacturers must certify their stationary CI ICE with a displacement of less than 10 liters per cylinder to the emission standards specified in §60.4201(a) through (c) and §60.4202(a), (b) and (d) using the certification procedures required in 40 CFR part 89, subpart B, or 40 CFR part 1039, subpart C, as applicable, and must test their engines as specified in those parts. For the purposes of this subpart, engines certified to the standards in table 1 to this subpart shall be subject to the same requirements as engines certified to the standards in 40 CFR part 89. For the purposes of this subpart, engines certified to the standards in table 4 to this subpart shall be subject to the same requirements as engines certified to the standards in 40 CFR part 89, except that engines with NFPA nameplate power of less than 37 KW (50 HP) certified to model year 2011 or later standards shall be subject to the same requirements as engines certified to the standards in 40 CFR part 1039.

(b) Stationary CI internal combustion engine manufacturers must certify their stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder to the emission standards specified in §60.4201(d) and (e) and §60.4202(e) and (f) using the certification procedures required in 40 CFR part 94, subpart C, or 40 CFR part 1042, subpart C, as applicable, and must test their engines as specified in 40 CFR part 94 or 1042, as applicable.

(c) Stationary CI internal combustion engine manufacturers must meet the requirements of 40 CFR 1039.120, 1039.125, 1039.130, and 1039.135, and 40 CFR part 1068 for engines that are certified to the emission standards in 40 CFR part 1039. Stationary CI internal combustion engine manufacturers must meet the corresponding provisions of 40 CFR part 89, 40 CFR part 94 or 40 CFR part 1042 for engines that would be covered by that part if they were nonroad (including marine) engines. Labels on such engines must refer to stationary engines, rather than or in addition to nonroad or marine engines, as appropriate. Stationary CI internal combustion engine manufacturers must label their engines according to paragraphs (c)(1) through (3) of this section.

(1) Stationary CI internal combustion engines manufactured from January 1, 2006 to March 31, 2006 (January 1, 2006 to June 30, 2006 for fire pump engines), other than those that are part of certified engine families under the nonroad CI engine regulations, must be labeled according to 40 CFR 1039.20.

(2) Stationary CI internal combustion engines manufactured from April 1, 2006 to December 31, 2006 (or, for fire pump engines, July 1, 2006 to December 31 of the year preceding the year listed in table 3 to this subpart) must be labeled according to paragraphs (c)(2)(i) through (iii) of this section:

(i) Stationary CI internal combustion engines that are part of certified engine families under the nonroad regulations must meet the labeling requirements for nonroad CI engines, but do not have to meet the labeling requirements in 40 CFR 1039.20.

(ii) Stationary CI internal combustion engines that meet Tier 1 requirements (or requirements for fire pumps) under this subpart, but do not meet the requirements applicable to nonroad CI engines must be labeled according to 40 CFR 1039.20. The engine manufacturer may add language to the label clarifying that the engine meets Tier 1 requirements (or requirements for fire pumps) of this subpart.

(iii) Stationary CI internal combustion engines manufactured after April 1, 2006 that do not meet Tier 1 requirements of this subpart, or fire pumps engines manufactured after July 1, 2006 that do not meet the requirements for fire pumps under this subpart, may not be used in the U.S. If any such engines are manufactured in the U.S. after April 1, 2006 (July 1, 2006 for fire pump engines), they must be exported or must be brought into compliance with the appropriate standards prior to initial operation. The export provisions of 40 CFR 1068.230 would apply to engines for export and the manufacturers must label such engines according to 40 CFR 1068.230.

(3) Stationary CI internal combustion engines manufactured after January 1, 2007 (for fire pump engines, after January 1 of the year listed in table 3 to this subpart, as applicable) must be labeled according to paragraphs (c)(3)(i) through (iii) of this section.

(i) Stationary CI internal combustion engines that meet the requirements of this subpart and the corresponding requirements for nonroad (including marine) engines of the same model year and HP must be labeled according to the provisions in 40 CFR parts 89, 94, 1039 or 1042, as appropriate.

(ii) Stationary CI internal combustion engines that meet the requirements of this subpart, but are not certified to the standards applicable to nonroad (including marine) engines of the same model year and HP must be labeled according to the provisions in 40 CFR parts 89, 94, 1039 or 1042, as appropriate, but the words “stationary” must be included instead of “nonroad” or “marine” on the label. In addition, such engines must be labeled according to 40 CFR 1039.20.

(iii) Stationary CI internal combustion engines that do not meet the requirements of this subpart must be labeled according to 40 CFR 1068.230 and must be exported under the provisions of 40 CFR 1068.230.

(d) An engine manufacturer certifying an engine family or families to standards under this subpart that are identical to standards applicable under 40 CFR parts 89, 94, 1039 or 1042 for that model year may certify any such family that contains both nonroad (including marine) and stationary engines as a single engine family and/or may include any such family containing stationary engines in the averaging, banking and trading provisions applicable for such engines under those parts.

(e) Manufacturers of engine families discussed in paragraph (d) of this section may meet the labeling requirements referred to in paragraph (c) of this section for stationary CI ICE by either adding a separate label containing the information required in paragraph (c) of this section or by adding the words “and stationary” after the word “nonroad” or “marine,” as appropriate, to the label.

(f) Starting with the model years shown in table 5 to this subpart, stationary CI internal combustion engine manufacturers must add a permanent label stating that the engine is for stationary emergency use only to each new emergency stationary CI internal combustion engine greater than or equal to 19 KW (25 HP) that meets all the emission standards for emergency engines in §60.4202 but does not meet all the emission standards for non-emergency engines in §60.4201. The label must be added according to the labeling requirements specified in 40 CFR 1039.135(b). Engine manufacturers must specify in the owner's manual that operation of emergency engines is limited to emergency operations and required maintenance and testing.

(g) Manufacturers of fire pump engines may use the test cycle in table 6 to this subpart for testing fire pump engines and may test at the NFPA certified nameplate HP, provided that the engine is labeled as “Fire Pump Applications Only”.

(h) Engine manufacturers, including importers, may introduce into commerce uncertified engines or engines certified to earlier standards that were manufactured before the new or changed standards took effect until inventories are depleted, as long as such engines are part of normal inventory. For example, if the engine manufacturers' normal industry practice is to keep on hand a one-month supply of engines based on its projected sales, and a new tier of standards starts to apply for the 2009 model year, the engine manufacturer may manufacture engines based on the normal inventory requirements late in the 2008 model year, and sell those engines for installation. The engine manufacturer may not circumvent the provisions of §§60.4201 or 60.4202 by stockpiling engines that are built before new or changed standards take effect. Stockpiling of such engines beyond normal industry practice is a violation of this subpart.

(i) The replacement engine provisions of 40 CFR 89.1003(b)(7), 40 CFR 94.1103(b)(3), 40 CFR 94.1103(b)(4) and 40 CFR 1068.240 are applicable to stationary CI engines replacing existing equipment that is less than 15 years old.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37969, June 28, 2011]

§60.4211 What are my compliance requirements if I am an owner or operator of a stationary CI internal combustion engine?

(a) If you are an owner or operator and must comply with the emission standards specified in this subpart, you must do all of the following, except as permitted under paragraph (g) of this section:

(1) Operate and maintain the stationary CI internal combustion engine and control device according to the manufacturer's emission-related written instructions;

(2) Change only those emission-related settings that are permitted by the manufacturer; and

(3) Meet the requirements of 40 CFR parts 89, 94 and/or 1068, as they apply to you.

(b) If you are an owner or operator of a pre-2007 model year stationary CI internal combustion engine and must comply with the emission standards specified in §§60.4204(a) or 60.4205(a), or if you are an owner or operator of a CI fire pump engine that is manufactured prior to the model years in table 3 to this subpart and must comply with the emission standards specified in §60.4205(c), you must demonstrate compliance according to one of the methods specified in paragraphs (b)(1) through (5) of this section.

(1) Purchasing an engine certified according to 40 CFR part 89 or 40 CFR part 94, as applicable, for the same model year and maximum engine power. The engine must be installed and configured according to the manufacturer's specifications.

(2) Keeping records of performance test results for each pollutant for a test conducted on a similar engine. The test must have been conducted using the same methods specified in this subpart and these methods must have been followed correctly.

(3) Keeping records of engine manufacturer data indicating compliance with the standards.

(4) Keeping records of control device vendor data indicating compliance with the standards.

(5) Conducting an initial performance test to demonstrate compliance with the emission standards according to the requirements specified in §60.4212, as applicable.

(c) If you are an owner or operator of a 2007 model year and later stationary CI internal combustion engine and must comply with the emission standards specified in §60.4204(b) or §60.4205(b), or if you are an owner or operator of a CI fire pump engine that is manufactured during or after the model year that applies to your fire pump engine power rating in table 3 to this subpart and must comply with the emission standards specified in §60.4205(c), you must comply by purchasing an engine certified to the emission standards in §60.4204(b), or §60.4205(b) or (c), as applicable, for the same model year and maximum (or in the case of fire pumps, NFPA nameplate) engine power. The engine must be installed and configured according to the manufacturer's emission-related specifications, except as permitted in paragraph (g) of this section.

(d) If you are an owner or operator and must comply with the emission standards specified in §60.4204(c) or §60.4205(d), you must demonstrate compliance according to the requirements specified in paragraphs (d)(1) through (3) of this section.

(1) Conducting an initial performance test to demonstrate initial compliance with the emission standards as specified in §60.4213.

(2) Establishing operating parameters to be monitored continuously to ensure the stationary internal combustion engine continues to meet the emission standards. The owner or operator must petition the Administrator for approval of operating parameters to be monitored continuously. The petition must include the information described in paragraphs (d)(2)(i) through (v) of this section.

(i) Identification of the specific parameters you propose to monitor continuously;

(ii) A discussion of the relationship between these parameters and NO_x and PM emissions, identifying how the emissions of these pollutants change with changes in these parameters, and how limitations on these parameters will serve to limit NO_x and PM emissions;

(iii) A discussion of how you will establish the upper and/or lower values for these parameters which will establish the limits on these parameters in the operating limitations;

(iv) A discussion identifying the methods and the instruments you will use to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments; and

(v) A discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters.

(3) For non-emergency engines with a displacement of greater than or equal to 30 liters per cylinder, conducting annual performance tests to demonstrate continuous compliance with the emission standards as specified in §60.4213.

(e) If you are an owner or operator of a modified or reconstructed stationary CI internal combustion engine and must comply with the emission standards specified in §60.4204(e) or §60.4205(f), you must demonstrate compliance according to one of the methods specified in paragraphs (e)(1) or (2) of this section.

(1) Purchasing, or otherwise owning or operating, an engine certified to the emission standards in §60.4204(e) or §60.4205(f), as applicable.

(2) Conducting a performance test to demonstrate initial compliance with the emission standards according to the requirements specified in §60.4212 or §60.4213, as appropriate. The test must be conducted within 60 days after the engine commences operation after the modification or reconstruction.

(f) If you own or operate an emergency stationary ICE, you must operate the emergency stationary ICE according to the requirements in paragraphs (f)(1) through (3) of this section. In order for the engine to be considered an emergency stationary ICE under this subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1) through (3) of this section, is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1) through (3) of this section, the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines.

(1) There is no time limit on the use of emergency stationary ICE in emergency situations.

(2) You may operate your emergency stationary ICE for any combination of the purposes specified in paragraphs (f)(2)(i) through (iii) of this section for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraph (f)(3) of this section counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2).

(i) Emergency stationary ICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency ICE beyond 100 hours per calendar year.

(ii) Emergency stationary ICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see §60.17), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.

(iii) Emergency stationary ICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.

(3) Emergency stationary ICE may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (f)(2) of this section. Except as provided in paragraph (f)(3)(i) of this section, the 50 hours per calendar year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

(i) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:

(A) The engine is dispatched by the local balancing authority or local transmission and distribution system operator;

(B) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.

(C) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.

(D) The power is provided only to the facility itself or to support the local transmission and distribution system.

(E) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

(ii) [Reserved]

(g) If you do not install, configure, operate, and maintain your engine and control device according to the manufacturer's emission-related written instructions, or you change emission-related settings in a way that is not permitted by the manufacturer, you must demonstrate compliance as follows:

(1) If you are an owner or operator of a stationary CI internal combustion engine with maximum engine power less than 100 HP, you must keep a maintenance plan and records of conducted maintenance to demonstrate compliance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, if you do not install and configure the engine and control device according to the manufacturer's emission-related written

instructions, or you change the emission-related settings in a way that is not permitted by the manufacturer, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of such action.

(2) If you are an owner or operator of a stationary CI internal combustion engine greater than or equal to 100 HP and less than or equal to 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer.

(3) If you are an owner or operator of a stationary CI internal combustion engine greater than 500 HP, you must keep a maintenance plan and records of conducted maintenance and must, to the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions. In addition, you must conduct an initial performance test to demonstrate compliance with the applicable emission standards within 1 year of startup, or within 1 year after an engine and control device is no longer installed, configured, operated, and maintained in accordance with the manufacturer's emission-related written instructions, or within 1 year after you change emission-related settings in a way that is not permitted by the manufacturer. You must conduct subsequent performance testing every 8,760 hours of engine operation or 3 years, whichever comes first, thereafter to demonstrate compliance with the applicable emission standards.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37970, June 28, 2011; 78 FR 6695, Jan. 30, 2013]

TESTING REQUIREMENTS FOR OWNERS AND OPERATORS

§60.4212 What test methods and other procedures must I use if I am an owner or operator of a stationary CI internal combustion engine with a displacement of less than 30 liters per cylinder?

Owners and operators of stationary CI ICE with a displacement of less than 30 liters per cylinder who conduct performance tests pursuant to this subpart must do so according to paragraphs (a) through (e) of this section.

(a) The performance test must be conducted according to the in-use testing procedures in 40 CFR part 1039, subpart F, for stationary CI ICE with a displacement of less than 10 liters per cylinder, and according to 40 CFR part 1042, subpart F, for stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder.

(b) Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR part 1039 must not exceed the not-to-exceed (NTE) standards for the same model year and maximum engine power as required in 40 CFR 1039.101(e) and 40 CFR 1039.102(g)(1), except as specified in 40 CFR 1039.104(d). This requirement starts when NTE requirements take effect for nonroad diesel engines under 40 CFR part 1039.

(c) Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR 89.112 or 40 CFR 94.8, as applicable, must not exceed the NTE numerical requirements, rounded to the same number of decimal places as the applicable standard in 40 CFR 89.112 or 40 CFR 94.8, as applicable, determined from the following equation:

$$\text{NTE requirement for each pollutant} = (1.25) \times (\text{STD}) \qquad \text{(Eq. 1)}$$

Where:

STD = The standard specified for that pollutant in 40 CFR 89.112 or 40 CFR 94.8, as applicable.

Alternatively, stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR 89.112 or 40 CFR 94.8 may follow the testing procedures specified in §60.4213 of this subpart, as appropriate.

(d) Exhaust emissions from stationary CI ICE that are complying with the emission standards for pre-2007 model year engines in §60.4204(a), §60.4205(a), or §60.4205(c) must not exceed the NTE numerical requirements, rounded to the same number of decimal places as the applicable standard in §60.4204(a), §60.4205(a), or §60.4205(c), determined from the equation in paragraph (c) of this section.

Where:

STD = The standard specified for that pollutant in §60.4204(a), §60.4205(a), or §60.4205(c).

Alternatively, stationary CI ICE that are complying with the emission standards for pre-2007 model year engines in §60.4204(a), §60.4205(a), or §60.4205(c) may follow the testing procedures specified in §60.4213, as appropriate.

(e) Exhaust emissions from stationary CI ICE that are complying with the emission standards for new CI engines in 40 CFR part 1042 must not exceed the NTE standards for the same model year and maximum engine power as required in 40 CFR 1042.101(c).

[71 FR 39172, July 11, 2006, as amended at 76 FR 37971, June 28, 2011]

§60.4213 What test methods and other procedures must I use if I am an owner or operator of a stationary CI internal combustion engine with a displacement of greater than or equal to 30 liters per cylinder?

Owners and operators of stationary CI ICE with a displacement of greater than or equal to 30 liters per cylinder must conduct performance tests according to paragraphs (a) through (f) of this section.

(a) Each performance test must be conducted according to the requirements in §60.8 and under the specific conditions that this subpart specifies in table 7. The test must be conducted within 10 percent of 100 percent peak (or the highest achievable) load.

(b) You may not conduct performance tests during periods of startup, shutdown, or malfunction, as specified in §60.8(c).

(c) You must conduct three separate test runs for each performance test required in this section, as specified in §60.8(f). Each test run must last at least 1 hour.

(d) To determine compliance with the percent reduction requirement, you must follow the requirements as specified in paragraphs (d)(1) through (3) of this section.

(1) You must use Equation 2 of this section to determine compliance with the percent reduction requirement:

$$\frac{C_i - C_o}{C_i} \times 100 = R \qquad \text{(Eq. 2)}$$

Where:

C_i = concentration of NO_X or PM at the control device inlet,

C_o = concentration of NO_X or PM at the control device outlet, and

R = percent reduction of NO_X or PM emissions.

(2) You must normalize the NO_X or PM concentrations at the inlet and outlet of the control device to a dry basis and to 15 percent oxygen (O_2) using Equation 3 of this section, or an equivalent percent carbon dioxide (CO_2) using the procedures described in paragraph (d)(3) of this section.

$$C_{adj} = C_d \frac{5.9}{20.9 - \%O_2} \qquad \text{(Eq. 3)}$$

Where:

C_{adj} = Calculated NO_X or PM concentration adjusted to 15 percent O_2.

C_d = Measured concentration of NO_X or PM, uncorrected.

5.9 = 20.9 percent O_2−15 percent O_2, the defined O_2 correction value, percent.

$\%O_2$ = Measured O_2 concentration, dry basis, percent.

(3) If pollutant concentrations are to be corrected to 15 percent O_2 and CO_2 concentration is measured in lieu of O_2 concentration measurement, a CO_2 correction factor is needed. Calculate the CO_2 correction factor as described in paragraphs (d)(3)(i) through (iii) of this section.

(i) Calculate the fuel-specific F_o value for the fuel burned during the test using values obtained from Method 19, Section 5.2, and the following equation:

$$F_o = \frac{0.209 F_d}{F_c} \qquad \text{(Eq. 4)}$$

Where:

F_o = Fuel factor based on the ratio of O_2 volume to the ultimate CO_2 volume produced by the fuel at zero percent excess air.

0.209 = Fraction of air that is O_2, percent/100.

F_d = Ratio of the volume of dry effluent gas to the gross calorific value of the fuel from Method 19, dsm^3/J ($dscf/10^6$ Btu).

F_c = Ratio of the volume of CO_2 produced to the gross calorific value of the fuel from Method 19, dsm^3/J ($dscf/10^6$ Btu).

(ii) Calculate the CO_2 correction factor for correcting measurement data to 15 percent O_2, as follows:

$$X_{CO_2} = \frac{5.9}{F_o} \quad \text{(Eq. 5)}$$

Where:

X_{CO2} = CO_2 correction factor, percent.

5.9 = 20.9 percent O_2−15 percent O_2, the defined O_2 correction value, percent.

(iii) Calculate the NO_X and PM gas concentrations adjusted to 15 percent O_2 using CO_2 as follows:

$$C_{adj} = C_d \frac{X_{CO_2}}{\%CO_2} \quad \text{(Eq. 6)}$$

Where:

C_{adj} = Calculated NO_X or PM concentration adjusted to 15 percent O_2.

C_d = Measured concentration of NO_X or PM, uncorrected.

$\%CO_2$ = Measured CO_2 concentration, dry basis, percent.

(e) To determine compliance with the NO_X mass per unit output emission limitation, convert the concentration of NO_X in the engine exhaust using Equation 7 of this section:

$$ER = \frac{C_d \times 1.912 \times 10^{-3} \times Q \times T}{\text{KW-hour}} \quad \text{(Eq. 7)}$$

Where:

ER = Emission rate in grams per KW-hour.

C_d = Measured NO_X concentration in ppm.

$1.912x10^{-3}$ = Conversion constant for ppm NO_X to grams per standard cubic meter at 25 degrees Celsius.

Q = Stack gas volumetric flow rate, in standard cubic meter per hour.

T = Time of test run, in hours.

KW-hour = Brake work of the engine, in KW-hour.

(f) To determine compliance with the PM mass per unit output emission limitation, convert the concentration of PM in the engine exhaust using Equation 8 of this section:

$$ER = \frac{C_{adj} \times Q \times T}{KW\text{-}hour} \quad (Eq. 8)$$

Where:

ER = Emission rate in grams per KW-hour.

C_{adj} = Calculated PM concentration in grams per standard cubic meter.

Q = Stack gas volumetric flow rate, in standard cubic meter per hour.

T = Time of test run, in hours.

KW-hour = Energy output of the engine, in KW.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37971, June 28, 2011]

NOTIFICATION, REPORTS, AND RECORDS FOR OWNERS AND OPERATORS

§60.4214 What are my notification, reporting, and recordkeeping requirements if I am an owner or operator of a stationary CI internal combustion engine?

(a) Owners and operators of non-emergency stationary CI ICE that are greater than 2,237 KW (3,000 HP), or have a displacement of greater than or equal to 10 liters per cylinder, or are pre-2007 model year engines that are greater than 130 KW (175 HP) and not certified, must meet the requirements of paragraphs (a)(1) and (2) of this section.

(1) Submit an initial notification as required in §60.7(a)(1). The notification must include the information in paragraphs (a)(1)(i) through (v) of this section.

(i) Name and address of the owner or operator;

(ii) The address of the affected source;

(iii) Engine information including make, model, engine family, serial number, model year, maximum engine power, and engine displacement;

(iv) Emission control equipment; and

(v) Fuel used.

(2) Keep records of the information in paragraphs (a)(2)(i) through (iv) of this section.

(i) All notifications submitted to comply with this subpart and all documentation supporting any notification.

(ii) Maintenance conducted on the engine.

(iii) If the stationary CI internal combustion is a certified engine, documentation from the manufacturer that the engine is certified to meet the emission standards.

(iv) If the stationary CI internal combustion is not a certified engine, documentation that the engine meets the emission standards.

(b) If the stationary CI internal combustion engine is an emergency stationary internal combustion engine, the owner or operator is not required to submit an initial notification. Starting with the model years in table 5 to this subpart, if the emergency engine does not meet the standards applicable to non-emergency engines in the applicable model year, the owner or operator must keep records of the operation of the engine in emergency and non-emergency service that are recorded through the non-resettable hour meter. The owner must record the time of operation of the engine and the reason the engine was in operation during that time.

(c) If the stationary CI internal combustion engine is equipped with a diesel particulate filter, the owner or operator must keep records of any corrective action taken after the backpressure monitor has notified the owner or operator that the high backpressure limit of the engine is approached.

(d) If you own or operate an emergency stationary CI ICE with a maximum engine power more than 100 HP that operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §60.4211(f)(2)(ii) and (iii) or that operates for the purposes specified in §60.4211(f)(3)(i), you must submit an annual report according to the requirements in paragraphs (d)(1) through (3) of this section.

(1) The report must contain the following information:

(i) Company name and address where the engine is located.

(ii) Date of the report and beginning and ending dates of the reporting period.

(iii) Engine site rating and model year.

(iv) Latitude and longitude of the engine in decimal degrees reported to the fifth decimal place.

(v) Hours operated for the purposes specified in §60.4211(f)(2)(ii) and (iii), including the date, start time, and end time for engine operation for the purposes specified in §60.4211(f)(2)(ii) and (iii).

(vi) Number of hours the engine is contractually obligated to be available for the purposes specified in §60.4211(f)(2)(ii) and (iii).

(vii) Hours spent for operation for the purposes specified in §60.4211(f)(3)(i), including the date, start time, and end time for engine operation for the purposes specified in §60.4211(f)(3)(i). The report must also identify the entity that dispatched the engine and the situation that necessitated the dispatch of the engine.

(2) The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent annual reports for each calendar year must be submitted no later than March 31 of the following calendar year.

(3) The annual report must be submitted electronically using the subpart specific reporting form in the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (*www.epa.gov/cdx*). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the written report must be submitted to the Administrator at the appropriate address listed in §60.4.

[71 FR 39172, July 11, 2006, as amended at 78 FR 6696, Jan. 30, 2013]

SPECIAL REQUIREMENTS

§60.4215 What requirements must I meet for engines used in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands?

(a) Stationary CI ICE with a displacement of less than 30 liters per cylinder that are used in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands are required to meet the applicable emission standards in §§60.4202 and 60.4205.

(b) Stationary CI ICE that are used in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands are not required to meet the fuel requirements in §60.4207.

(c) Stationary CI ICE with a displacement of greater than or equal to 30 liters per cylinder that are used in Guam, American Samoa, or the Commonwealth of the Northern Mariana Islands are required to meet the following emission standards:

(1) For engines installed prior to January 1, 2012, limit the emissions of NO_X in the stationary CI internal combustion engine exhaust to the following:

(i) 17.0 g/KW-hr (12.7 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) $45 \cdot n^{-0.2}$ g/KW-hr ($34 \cdot n^{-0.2}$ g/HP-hr) when maximum engine speed is 130 or more but less than 2,000 rpm, where n is maximum engine speed; and

(iii) 9.8 g/KW-hr (7.3 g/HP-hr) when maximum engine speed is 2,000 rpm or more.

(2) For engines installed on or after January 1, 2012, limit the emissions of NO_X in the stationary CI internal combustion engine exhaust to the following:

(i) 14.4 g/KW-hr (10.7 g/HP-hr) when maximum engine speed is less than 130 rpm;

(ii) $44 \cdot n^{-0.23}$ g/KW-hr ($33 \cdot n^{-0.23}$ g/HP-hr) when maximum engine speed is greater than or equal to 130 but less than 2,000 rpm and where n is maximum engine speed; and

(iii) 7.7 g/KW-hr (5.7 g/HP-hr) when maximum engine speed is greater than or equal to 2,000 rpm.

(3) Limit the emissions of PM in the stationary CI internal combustion engine exhaust to 0.40 g/KW-hr (0.30 g/HP-hr).

[71 FR 39172, July 11, 2006, as amended at 76 FR 37971, June 28, 2011]

§60.4216 What requirements must I meet for engines used in Alaska?

(a) Prior to December 1, 2010, owners and operators of stationary CI ICE with a displacement of less than 30 liters per cylinder located in areas of Alaska not accessible by the FAHS should refer to 40 CFR part 69 to determine the diesel fuel requirements applicable to such engines.

(b) Except as indicated in paragraph (c) of this section, manufacturers, owners and operators of stationary CI ICE with a displacement of less than 10 liters per cylinder located in areas of Alaska not accessible by the FAHS may meet the requirements of this subpart by manufacturing and installing engines meeting the requirements of 40 CFR parts 94 or 1042, as appropriate, rather than the otherwise applicable requirements of 40 CFR parts 89 and 1039, as indicated in sections §§60.4201(f) and 60.4202(g) of this subpart.

(c) Manufacturers, owners and operators of stationary CI ICE that are located in areas of Alaska not accessible by the FAHS may choose to meet the applicable emission standards for emergency engines in §60.4202 and §60.4205, and not those for non-emergency engines in §60.4201 and §60.4204, except that for 2014 model year and later non-emergency CI ICE, the owner or operator of any such engine that was not certified as meeting Tier 4 PM standards, must meet the applicable requirements for PM in §60.4201 and §60.4204 or install a PM emission control device that achieves PM emission reductions of 85 percent, or 60 percent for engines with a displacement of greater than or equal to 30 liters per cylinder, compared to engine-out emissions.

(d) The provisions of §60.4207 do not apply to owners and operators of pre-2014 model year stationary CI ICE subject to this subpart that are located in areas of Alaska not accessible by the FAHS.

(e) The provisions of §60.4208(a) do not apply to owners and operators of stationary CI ICE subject to this subpart that are located in areas of Alaska not accessible by the FAHS until after December 31, 2009.

(f) The provisions of this section and §60.4207 do not prevent owners and operators of stationary CI ICE subject to this subpart that are located in areas of Alaska not accessible by the FAHS from using fuels mixed with used lubricating oil, in volumes of up to 1.75 percent of the total fuel. The sulfur content of the used lubricating oil must be less than 200 parts per million. The used lubricating oil must meet the on-specification levels and properties for used oil in 40 CFR 279.11.

[76 FR 37971, June 28, 2011]

§60.4217 What emission standards must I meet if I am an owner or operator of a stationary internal combustion engine using special fuels?

Owners and operators of stationary CI ICE that do not use diesel fuel may petition the Administrator for approval of alternative emission standards, if they can demonstrate that they use a fuel that is not the fuel on which the manufacturer of the engine certified the engine and that the engine cannot meet the applicable standards required in §60.4204 or §60.4205 using such fuels and that use of such fuel is appropriate and reasonably necessary, considering cost, energy, technical feasibility, human health and environmental, and other factors, for the operation of the engine.

[76 FR 37972, June 28, 2011]

GENERAL PROVISIONS

§60.4218 What parts of the General Provisions apply to me?

Table 8 to this subpart shows which parts of the General Provisions in §§60.1 through 60.19 apply to you.

DEFINITIONS

§60.4219 What definitions apply to this subpart?

As used in this subpart, all terms not defined herein shall have the meaning given them in the CAA and in subpart A of this part.

Certified emissions life means the period during which the engine is designed to properly function in terms of reliability and fuel consumption, without being remanufactured, specified as a number of hours of operation or calendar years, whichever comes first. The values for certified emissions life for stationary CI ICE with a displacement of less than 10 liters per cylinder are given in 40 CFR 1039.101(g). The values for certified emissions life for stationary CI ICE with a displacement of greater than or equal to 10 liters per cylinder and less than 30 liters per cylinder are given in 40 CFR 94.9(a).

Combustion turbine means all equipment, including but not limited to the turbine, the fuel, air, lubrication and exhaust gas systems, control systems (except emissions control equipment), and any ancillary components and sub-components comprising any simple cycle combustion turbine, any regenerative/recuperative cycle combustion turbine, the combustion turbine portion of any cogeneration cycle combustion system, or the combustion turbine portion of any combined cycle steam/electric generating system.

Compression ignition means relating to a type of stationary internal combustion engine that is not a spark ignition engine.

Date of manufacture means one of the following things:

(1) For freshly manufactured engines and modified engines, date of manufacture means the date the engine is originally produced.

(2) For reconstructed engines, date of manufacture means the date the engine was originally produced, except as specified in paragraph (3) of this definition.

(3) Reconstructed engines are assigned a new date of manufacture if the fixed capital cost of the new and refurbished components exceeds 75 percent of the fixed capital cost of a comparable entirely new facility. An engine that is produced from a previously used engine block does not retain the date of manufacture of the engine in which the engine block was previously used if the engine is produced using all new components except for the engine block. In these cases, the date of manufacture is the date of reconstruction or the date the new engine is produced.

Diesel fuel means any liquid obtained from the distillation of petroleum with a boiling point of approximately 150 to 360 degrees Celsius. One commonly used form is number 2 distillate oil.

Diesel particulate filter means an emission control technology that reduces PM emissions by trapping the particles in a flow filter substrate and periodically removes the collected particles by either physical action or by oxidizing (burning off) the particles in a process called regeneration.

Emergency stationary internal combustion engine means any stationary reciprocating internal combustion engine that meets all of the criteria in paragraphs (1) through (3) of this definition. All emergency stationary ICE must comply with the requirements specified in §60.4211(f) in order to be considered emergency stationary ICE. If the engine does not comply with the requirements specified in §60.4211(f), then it is not considered to be an emergency stationary ICE under this subpart.

(1) The stationary ICE is operated to provide electrical power or mechanical work during an emergency situation. Examples include stationary ICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary ICE used to pump water in the case of fire or flood, etc.

(2) The stationary ICE is operated under limited circumstances for situations not included in paragraph (1) of this definition, as specified in §60.4211(f).

(3) The stationary ICE operates as part of a financial arrangement with another entity in situations not included in paragraph (1) of this definition only as allowed in §60.4211(f)(2)(ii) or (iii) and §60.4211(f)(3)(i).

Engine manufacturer means the manufacturer of the engine. See the definition of "manufacturer" in this section.

Fire pump engine means an emergency stationary internal combustion engine certified to NFPA requirements that is used to provide power to pump water for fire suppression or protection.

Freshly manufactured engine means an engine that has not been placed into service. An engine becomes freshly manufactured when it is originally produced.

Installed means the engine is placed and secured at the location where it is intended to be operated.

Manufacturer has the meaning given in section 216(1) of the Act. In general, this term includes any person who manufactures a stationary engine for sale in the United States or otherwise introduces a new stationary engine into commerce in the United States. This includes importers who import stationary engines for sale or resale.

Maximum engine power means maximum engine power as defined in 40 CFR 1039.801.

Model year means the calendar year in which an engine is manufactured (see "date of manufacture"), except as follows:

(1) Model year means the annual new model production period of the engine manufacturer in which an engine is manufactured (see "date of manufacture"), if the annual new model production period is different than the calendar year and includes January 1 of the calendar year for which the model year is named. It may not begin before January 2 of the previous calendar year and it must end by December 31 of the named calendar year.

(2) For an engine that is converted to a stationary engine after being placed into service as a nonroad or other non-stationary engine, model year means the calendar year or new model production period in which the engine was manufactured (see "date of manufacture").

Other internal combustion engine means any internal combustion engine, except combustion turbines, which is not a reciprocating internal combustion engine or rotary internal combustion engine.

Reciprocating internal combustion engine means any internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work.

Rotary internal combustion engine means any internal combustion engine which uses rotary motion to convert heat energy into mechanical work.

Spark ignition means relating to a gasoline, natural gas, or liquefied petroleum gas fueled engine or any other type of engine with a spark plug (or other sparking device) and with operating characteristics significantly similar to the theoretical Otto combustion cycle. Spark ignition engines usually use a throttle to regulate intake air flow to control power during normal operation. Dual-fuel engines in which a liquid fuel (typically diesel fuel) is used for CI and gaseous fuel (typically natural gas) is used as the primary fuel at an annual average ratio of less than 2 parts diesel fuel to 100 parts total fuel on an energy equivalent basis are spark ignition engines.

Stationary internal combustion engine means any internal combustion engine, except combustion turbines, that converts heat energy into mechanical work and is not mobile. Stationary ICE differ from mobile ICE in that a stationary internal combustion engine is not a nonroad engine as defined at 40 CFR 1068.30 (excluding paragraph (2)(ii) of that definition), and is not used to propel a motor vehicle, aircraft, or a vehicle used solely for competition. Stationary ICE include reciprocating ICE, rotary ICE, and other ICE, except combustion turbines.

Subpart means 40 CFR part 60, subpart IIII.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37972, June 28, 2011; 78 FR 6696, Jan. 30, 2013]

Table 1 to Subpart IIII of Part 60—Emission Standards for Stationary Pre-2007 Model Year Engines With a Displacement of <10 Liters per Cylinder and 2007-2010 Model Year Engines >2,237 KW (3,000 HP) and With a Displacement of <10 Liters per Cylinder

[As stated in §§60.4201(b), 60.4202(b), 60.4204(a), and 60.4205(a), you must comply with the following emission standards]

Maximum engine power	Emission standards for stationary pre-2007 model year engines with a displacement of <10 liters per cylinder and 2007-2010 model year engines >2,237 KW (3,000 HP) and with a displacement of <10 liters per cylinder in g/KW-hr (g/HP-hr)				
	NMHC + NO_X	HC	NO_X	CO	PM
KW<8 (HP<11)	10.5 (7.8)			8.0 (6.0)	1.0 (0.75)
8≤KW<19 (11≤HP<25)	9.5 (7.1)			6.6 (4.9)	0.80 (0.60)
19≤KW<37 (25≤HP<50)	9.5 (7.1)			5.5 (4.1)	0.80 (0.60)
37≤KW<56 (50≤HP<75)			9.2 (6.9)		
56≤KW<75 (75≤HP<100)			9.2 (6.9)		
75≤KW<130 (100≤HP<175)			9.2 (6.9)		
130≤KW<225 (175≤HP<300)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)
225≤KW<450 (300≤HP<600)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)
450≤KW≤560 (600≤HP≤750)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)
KW>560 (HP>750)		1.3 (1.0)	9.2 (6.9)	11.4 (8.5)	0.54 (0.40)

Table 2 to Subpart IIII of Part 60—Emission Standards for 2008 Model Year and Later Emergency Stationary CI ICE <37 KW (50 HP) With a Displacement of <10 Liters per Cylinder

[As stated in §60.4202(a)(1), you must comply with the following emission standards]

Engine power	Emission standards for 2008 model year and later emergency stationary CI ICE <37 KW (50 HP) with a displacement of <10 liters per cylinder in g/KW-hr (g/HP-hr)			
	Model year(s)	NO_X + NMHC	CO	PM
KW<8 (HP<11)	2008+	7.5 (5.6)	8.0 (6.0)	0.40 (0.30)
8≤KW<19 (11≤HP<25)	2008+	7.5 (5.6)	6.6 (4.9)	0.40 (0.30)
19≤KW<37 (25≤HP<50)	2008+	7.5 (5.6)	5.5 (4.1)	0.30 (0.22)

Table 3 to Subpart IIII of Part 60—Certification Requirements for Stationary Fire Pump Engines

As stated in §60.4202(d), you must certify new stationary fire pump engines beginning with the following model years:

Engine power	Starting model year engine manufacturers must certify new stationary fire pump engines according to §60.4202(d)[1]
KW<75 (HP<100)	2011
75≤KW<130 (100≤HP<175)	2010
130≤KW≤560 (175≤HP≤750)	2009
KW>560 (HP>750)	2008

[1]Manufacturers of fire pump stationary CI ICE with a maximum engine power greater than or equal to 37 kW (50 HP) and less than 450 KW (600 HP) and a rated speed of greater than 2,650 revolutions per minute (rpm) are not required to certify such engines until three model years following the model year indicated in this Table 3 for engines in the applicable engine power category.

[71 FR 39172, July 11, 2006, as amended at 76 FR 37972, June 28, 2011]

Table 4 to Subpart IIII of Part 60—Emission Standards for Stationary Fire Pump Engines

[As stated in §§60.4202(d) and 60.4205(c), you must comply with the following emission standards for stationary fire pump engines]

Maximum engine power	Model year(s)	NMHC + NO_X	CO	PM
KW<8 (HP<11)	2010 and earlier	10.5 (7.8)	8.0 (6.0)	1.0 (0.75)
	2011+	7.5 (5.6)		0.40 (0.30)
8≤KW<19 (11≤HP<25)	2010 and earlier	9.5 (7.1)	6.6 (4.9)	0.80 (0.60)
	2011+	7.5 (5.6)		0.40 (0.30)
19≤KW<37 (25≤HP<50)	2010 and earlier	9.5 (7.1)	5.5 (4.1)	0.80 (0.60)
	2011+	7.5 (5.6)		0.30 (0.22)
37≤KW<56 (50≤HP<75)	2010 and earlier	10.5 (7.8)	5.0 (3.7)	0.80 (0.60)
	2011+[1]	4.7 (3.5)		0.40 (0.30)
56≤KW<75 (75≤HP<100)	2010 and earlier	10.5 (7.8)	5.0 (3.7)	0.80 (0.60)
	2011+[1]	4.7 (3.5)		0.40 (0.30)
75≤KW<130 (100≤HP<175)	2009 and earlier	10.5 (7.8)	5.0 (3.7)	0.80 (0.60)
	2010+[2]	4.0 (3.0)		0.30 (0.22)
130≤KW<225 (175≤HP<300)	2008 and earlier	10.5 (7.8)	3.5 (2.6)	0.54 (0.40)
	2009+[3]	4.0 (3.0)		0.20 (0.15)
225≤KW<450 (300≤HP<600)	2008 and earlier	10.5 (7.8)	3.5 (2.6)	0.54 (0.40)
	2009+[3]	4.0 (3.0)		0.20 (0.15)
450≤KW≤560 (600≤HP≤750)	2008 and earlier	10.5 (7.8)	3.5 (2.6)	0.54 (0.40)
	2009+	4.0 (3.0)		0.20 (0.15)
KW>560 (HP>750)	2007 and earlier	10.5 (7.8)	3.5 (2.6)	0.54 (0.40)
	2008+	6.4 (4.8)		0.20 (0.15)

[1]For model years 2011-2013, manufacturers, owners and operators of fire pump stationary CI ICE in this engine power category with a rated speed of greater than 2,650 revolutions per minute (rpm) may comply with the emission limitations for 2010 model year engines.

[2]For model years 2010-2012, manufacturers, owners and operators of fire pump stationary CI ICE in this engine power category with a rated speed of greater than 2,650 rpm may comply with the emission limitations for 2009 model year engines.

[3]In model years 2009-2011, manufacturers of fire pump stationary CI ICE in this engine power category with a rated speed of greater than 2,650 rpm may comply with the emission limitations for 2008 model year engines.

Table 5 to Subpart IIII of Part 60—Labeling and Recordkeeping Requirements for New Stationary Emergency Engines

[You must comply with the labeling requirements in §60.4210(f) and the recordkeeping requirements in §60.4214(b) for new emergency stationary CI ICE beginning in the following model years:]

Engine power	Starting model year
19≤KW<56 (25≤HP<75)	2013
56≤KW<130 (75≤HP<175)	2012
KW≥130 (HP≥175)	2011

Table 6 to Subpart IIII of Part 60—Optional 3-Mode Test Cycle for Stationary Fire Pump Engines

[As stated in §60.4210(g), manufacturers of fire pump engines may use the following test cycle for testing fire pump engines:]

Mode No.	Engine speed[1]	Torque (percent)[2]	Weighting factors
1	Rated	100	0.30
2	Rated	75	0.50
3	Rated	50	0.20

[1]Engine speed: ±2 percent of point.

[2]Torque: NFPA certified nameplate HP for 100 percent point. All points should be ±2 percent of engine percent load value.

Table 7 to Subpart IIII of Part 60—Requirements for Performance Tests for Stationary CI ICE With a Displacement of ≥30 Liters per Cylinder

Each	Complying with the requirement to	You must	Using	According to the following requirements
1. Stationary CI internal combustion engine with a	a. Reduce NO_X emissions by 90 percent or more;	i. Select the sampling port location and number/location of traverse points at the inlet and outlet of the		(a) For NO_X, O_2, and moisture measurement, ducts ≤6 inches in diameter may be sampled at a single point located at the duct centroid and ducts >6 and ≤12 inches in diameter may be

displacement of ≥ 30 liters per cylinder		control device;		sampled at 3 traverse points located at 16.7, 50.0, and 83.3% of the measurement line (`3-point long line'). If the duct is >12 inches in diameter *and* the sampling port location meets the two and half-diameter criterion of Section 11.1.1 of Method 1 of 40 CFR part 60, appendix A-1, the duct may be sampled at `3-point long line'; otherwise, conduct the stratification testing and select sampling points according to Section 8.1.2 of Method 7E of 40 CFR part 60, appendix A-4.
		ii. Measure O_2 at the inlet and outlet of the control device;	(1) Method 3, 3A, or 3B of 40 CFR part 60, appendix A-2	(b) Measurements to determine O_2 concentration must be made at the same time as the measurements for NO_X concentration.
		iii. If necessary, measure moisture content at the inlet and outlet of the control device; and	(2) Method 4 of 40 CFR part 60, appendix A-3, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03 (incorporated by reference, see §60.17)	(c) Measurements to determine moisture content must be made at the same time as the measurements for NO_X concentration.
		iv. Measure NO_X at the inlet and outlet of the control device.	(3) Method 7E of 40 CFR part 60, appendix A-4, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03 (incorporated by reference, see §60.17)	(d) NO_X concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
	b. Limit the concentration of NO_X in the stationary CI internal combustion engine exhaust.	i. Select the sampling port location and number/location of traverse points at the exhaust of the stationary internal combustion engine;		(a) For NO_X, O_2, and moisture measurement, ducts ≤6 inches in diameter may be sampled at a single point located at the duct centroid and ducts >6 and ≤12 inches in diameter may be sampled at 3 traverse points located at 16.7, 50.0, and 83.3% of the measurement line (`3-point long line'). If the duct is >12 inches in diameter *and* the sampling port location meets the two and half-diameter criterion of Section 11.1.1 of Method 1 of 40 CFR part 60, appendix A-1, the duct may be sampled at `3-point long line'; otherwise, conduct the stratification testing and select sampling points according to Section 8.1.2 of Method 7E of 40 CFR part 60, appendix A-4.
		ii. Determine the O_2 concentration of the stationary internal combustion engine exhaust at the sampling port location;	(1) Method 3, 3A, or 3B of 40 CFR part 60, appendix A-2	(b) Measurements to determine O_2 concentration must be made at the same time as the measurement for NO_X concentration.
		iii. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the	(2) Method 4 of 40 CFR part 60, appendix A-3, Method 320 of 40 CFR part 63, appendix A,	(c) Measurements to determine moisture content must be made at the same time as the measurement for NO_X concentration.

		sampling port location; and	or ASTM D 6348-03 (incorporated by reference, see §60.17)	
		iv. Measure NO_X at the exhaust of the stationary internal combustion engine; if using a control device, the sampling site must be located at the outlet of the control device.	(3) Method 7E of 40 CFR part 60, Appendix A-4, Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03 (incorporated by reference, see §60.17)	(d) NO_X concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
	c. Reduce PM emissions by 60 percent or more	i. Select the sampling port location and the number of traverse points;	(1) Method 1 or 1A of 40 CFR part 60, appendix A-1	(a) Sampling sites must be located at the inlet and outlet of the control device.
		ii. Measure O_2 at the inlet and outlet of the control device;	(2) Method 3, 3A, or 3B of 40 CFR part 60, appendix A-2	(b) Measurements to determine O_2 concentration must be made at the same time as the measurements for PM concentration.
		iii. If necessary, measure moisture content at the inlet and outlet of the control device; and	(3) Method 4 of 40 CFR part 60, appendix A-3	(c) Measurements to determine and moisture content must be made at the same time as the measurements for PM concentration.
		iv. Measure PM at the inlet and outlet of the control device.	(4) Method 5 of 40 CFR part 60, appendix A-3	(d) PM concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
	d. Limit the concentration of PM in the stationary CI internal combustion engine exhaust	i. Select the sampling port location and the number of traverse points;	(1) Method 1 or 1A of 40 CFR part 60, appendix A-1	(a) If using a control device, the sampling site must be located at the outlet of the control device.
		ii. Determine the O_2 concentration of the stationary internal combustion engine exhaust at the sampling port location;	(2) Method 3, 3A, or 3B of 40 CFR part 60, appendix A-2	(b) Measurements to determine O_2 concentration must be made at the same time as the measurements for PM concentration.
		iii. If necessary, measure moisture content of the stationary internal combustion engine exhaust at the sampling port location; and	(3) Method 4 of 40 CFR part 60, appendix A-3	(c) Measurements to determine moisture content must be made at the same time as the measurements for PM concentration.
		iv. Measure PM at the exhaust of the stationary internal combustion engine.	(4) Method 5 of 40 CFR part 60, appendix A-3.	(d) PM concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.

[79 FR 11251, Feb. 27, 2014]

Table 8 to Subpart IIII of Part 60—Applicability of General Provisions to Subpart IIII

[As stated in §60.4218, you must comply with the following applicable General Provisions:]

General Provisions citation	Subject of citation	Applies to subpart	Explanation
§60.1	General applicability of the General Provisions	Yes	
§60.2	Definitions	Yes	Additional terms defined in §60.4219.
§60.3	Units and abbreviations	Yes	
§60.4	Address	Yes	
§60.5	Determination of construction or modification	Yes	
§60.6	Review of plans	Yes	
§60.7	Notification and Recordkeeping	Yes	Except that §60.7 only applies as specified in §60.4214(a).
§60.8	Performance tests	Yes	Except that §60.8 only applies to stationary CI ICE with a displacement of (≥30 liters per cylinder and engines that are not certified.
§60.9	Availability of information	Yes	
§60.10	State Authority	Yes	
§60.11	Compliance with standards and maintenance requirements	No	Requirements are specified in subpart IIII.
§60.12	Circumvention	Yes	
§60.13	Monitoring requirements	Yes	Except that §60.13 only applies to stationary CI ICE with a displacement of (≥30 liters per cylinder.
§60.14	Modification	Yes	
§60.15	Reconstruction	Yes	
§60.16	Priority list	Yes	
§60.17	Incorporations by reference	Yes	
§60.18	General control device requirements	No	
§60.19	General notification and reporting requirements	Yes	

PART II
General Permit Conditions
For Direct Stationary Sources

A. Scope.

This permit is valid only for the structure, building, facility, equipment or operation specifically identified herein. All emissions authorized hereby shall be in compliance with the terms and conditions of Parts I and II of this permit. [s. 285.60(7), Wis. Stats.]

B. Emissions Prohibited.

Unless the Department has approved an exception under s. NR 436.03(2), no person may cause, allow, or permit emissions of any air contaminant into the ambient air in excess of the limits set in chs. NR 400 to 499, Wis. Adm. Code. [s. NR 436.03(1), Wis. Adm. Code]

C. General Emission Limits.

C.1. Applicable to Insignificant Emissions Units.

The following general emission limitations may apply to one or more of the insignificant emission units identified in the preamble of this permit. It is the permittee's responsibility to comply with these requirements, if they do apply. Insignificant emission units typically are associated with inconsequential environmental impacts and present little potential for violations of these generally applicable requirements. If there were no observed, documented or known instances of noncompliance, certification of compliance is appropriate. Testing or monitoring to assure compliance is not required by this permit.

C.1.a. Section NR 415.05, Wis. Adm. Code - Particulate emission limits for processes;

C.1.b. Section NR 415.06, Wis. Adm. Code - Particulate emission limits for fuel burning installations;

C.1.c. Section NR 415.07, Wis. Adm. Code - Particulate emission limits for incinerators;

C.1.d. Section NR 423.03, Wis. Adm. Code - Solvent metal cleaning;

C.1.e. Section NR 485.05, Wis. Adm. Code - Visible emission limits for motor vehicles, internal combustion engines and mobile sources; and

C.1.f. Section NR 485.055, Wis. Adm. Code - Particulate emission limit for gasoline and diesel internal combustion engines.

C.2. Applicable to Significant and Insignificant Emissions Units.

The following general emission limitations may apply to both significant and insignificant emission units. It is the permittee's responsibility to comply with these requirements, if they apply. Testing or monitoring to assure compliance with these general emission limits is not required by this permit.

For each significant emission unit, if a more specific emission limit is included in Part I of this permit for any of the pollutants listed below, then compliance with that more specific limit will constitute compliance with the general emission limit.

For insignificant emission units, if there were no observed, documented or known instances of non-compliance, certification of compliance is appropriate.

C.2.a. No person may cause, allow, or permit particulate matter to be emitted into the ambient air which substantially contributes to exceeding of an air standard, or creates air pollution. [s. NR 415.03, Wis. Adm. Code]

C.2.b. No person may cause, allow, or permit any materials to be handled, transported, or stored without taking precautions to prevent particulate matter from becoming airborne. Nor may a person allow a structure, a parking lot, or a road to be used, constructed, altered, repaired, sand blasted or demolished without taking such precautions. Such precautions shall include, but not be limited to the following [s. NR 415.04, Wis. Adm. Code]:

C.2.b.(1) Use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, or construction operations.

C.2.b.(2) Application of asphalt, oil, water, suitable chemicals, or plastic covering on dirt roads, material stockpiles, and other surfaces which can create airborne dust, provided such application does not create a hydrocarbon, odor, or water pollution problem.

C.2.b.(3) Installation and use of hoods, fans and air cleaning devices to enclose and vent the areas where dusty materials are handled.

C.2.b.(4) Covering or securing of materials likely to become airborne while being moved on public roads, railroads, or navigable waters.

C.2.b.(5) Conduct of agricultural practices such as tilling of land or application of fertilizers in such manner as not to create air pollution.

C.2.b.(6) The paving or maintenance of roadway areas so as not to create air pollution.

C.2.c. No person may cause, allow or permit emission of sulfur or sulfur compounds into the ambient air which substantially contribute to the exceeding of an air standard or cause air pollution. [s. NR 417.03, Wis. Adm. Code]

C.2.d. No person may cause, allow or permit organic compound emissions into the ambient air which substantially contribute to the exceeding of an air standard or cause air pollution. No person may cause, allow or permit organic compounds to be used or handled without using good operating practices and taking reasonable precautions to prevent the spillage, escape or emission of organic compounds, solvents or mixtures. [s. NR 419.03, Wis. Adm. Code]

C.2.e. No person may cause, allow or permit the disposal of more than 5.7 liters (1.5 gallons) of any liquid Volatile Organic Compound (VOC) waste, or of any liquid, semisolid or solid waste materials containing more than 5.7 liters (1.5 gallons) of any VOC, in any one day from a facility in a manner that would permit their evaporation into the ambient air during the ozone season. This includes, but is not limited to, the disposal of VOC which must be removed from VOC control devices so as to maintain the control devices at their required operating efficiency. Disposal during the ozone season shall be by methods approved by the Department, such as incineration, recovery for reuse, or transfer in closed containers to an acceptable disposal facility, such that the quantity of VOC which evaporates into the ambient air does not exceed 15% (by weight) or 5.7 liters (1.5 gallons) in any one day, whichever is larger. [s. NR 419.04, Wis. Adm. Code]

C.2.f. No person may cause, allow or permit emissions of carbon monoxide to the ambient air which substantially contribute to the exceeding of an air standard or cause air pollution. [s. NR 426.03, Wis. Adm. Code).

C.2.g. No person may cause, allow or permit emissions into the ambient air of lead or lead compounds which substantially contribute to the exceeding of an air standard or air increment, or which create

air pollution. [s. NR 427.025, Wis. Adm. Code]

C.2.h. No person may cause, allow, or permit nitrogen oxides or nitrogen compounds to be emitted to the ambient air which substantially contribute to the exceeding of an air standard or cause air pollution. [s. NR 428.03, Wis. Adm. Code]

C.2.i. No person may cause, allow or permit emission into the ambient air of any substance or combination of substances in such quantities that an objectionable odor is determined to result unless preventive measures satisfactory to the Department are taken to abate or control such emission. [s. NR 429.03(1), Wis. Adm. Code]

C.2.j. Open burning is prohibited except as provided in s. NR 429.04, Wis. Adm. Code. [s. NR 429.04, Wis. Adm. Code]

C.2.k. [Note: Under the Wisconsin Recycling Law, small businesses, commercial enterprises, and industries may not use burn barrels or engage in other kinds of open burning and may not be granted burning permits by municipalities. However, the prohibition on burn barrels does not apply to small businesses in which the owners reside at the same location and cannot separate their business waste from their household waste.]

C.2.l. No person may cause, allow or permit emissions into the ambient air from any direct or portable source in excess of one of the limits specified in ch. NR 431, Wis. Adm. Code. Where the presence of uncombined water is the only reason for failure to meet the requirements of ch. NR 431, Wis. Adm. Code, such failure is not a violation of the chapter. [s. NR 431.03, Wis. Adm. Code]

C.2.m. When the Department requires instrumentation to monitor the operation of air pollution control equipment, or to monitor source performance, the instrument shall measure operational variables with the following accuracy: [ss. NR 439.055(3) and NR 407.09(1)(c)1.c., Wis. Adm. Code]

C.2.m.(1) The temperature monitoring device shall have an accuracy of 0.5% of the temperature being measured in degrees Fahrenheit or ±5°F of the temperature being measured, or the equivalent in degrees Celsius (centigrade), whichever is greater.

C.2.m.(2) The pressure drop monitoring device shall be accurate to within 5% of the pressure drop being measured or within ±1 inch of water column, whichever is greater.

C.2.m.(3) The current, voltage, flow or pH monitoring device shall be accurate to within 5% of the specific variable being measured.

C.2.n. All instruments used for measuring source or air pollution control equipment operational variables shall be calibrated yearly or at a frequency based on good engineering practice as established by operational history, whichever is more frequent. [ss. NR 439.055(4) and NR 407.09(1)(c)1.c., Wis. Adm. Code]

C.2.o. No person may cause, allow, or permit emissions into the ambient air of any hazardous substance in such quantity, concentration, or duration as to be injurious to human health, plant or animal life unless the purpose of that emission is for the control of plant or animal life. Hazardous substances include, but are not limited to, hazardous air contaminants listed in Tables A to C of s. NR 445.07, Wis. Adm. Code. [s. NR 445.03, Wis. Adm. Code]

C.2.p. Chapter NR 447, Wis. Adm. Code, applies to all air contaminant sources which may emit asbestos, to their owners and operators and to any person whose action causes the emission of asbestos to the ambient air, including demolition and renovation activities. Chapter NR 447, Wis. Adm. Code, establishes emission limitations for asbestos air contaminant sources, establishes procedures to be followed when working with asbestos materials and contains additional reporting and record keeping requirements for owners or operators of asbestos air contaminant sources in order to protect air quality. [ch. NR 447, Wis. Adm. Code]

C.2.q. Accidental Release Prevention Requirements.

C.2.r. An owner or operator of a stationary source that has more than a threshold quantity of a regulated substance in a process, as determined under 40 CFR 68.115, shall comply with the requirements of 40 CFR Part 68, no later than the latest of the following dates:

C.2.r.(1) June 21, 1999;

C.2.r.(2) Three years after the date on which a regulated substance is first listed under 40 CFR 68.130; or

C.2.r.(3) The date on which a regulated substance is first present above a threshold quantity in a process.

[40 CFR Part 68.10]

D. Reporting Requirements.

D.1. The Department shall be notified of the events in Table 1.:

Table D1.

Event	Timing
D.1.a. Hazardous substance air spill.	Immediate call: 1-800-943-0003
D.1.b. Malfunction or other unscheduled event which causes or may cause any emission limitation to be exceeded (except certain visible emissions limit exceedences detected by a continuous emission monitor, see s. NR 439.03(4)(a)2., Wis. Adm. Code.).	Notification by next business day of any such event at the source which is not reported in advance to the Department. Report the cause and duration of the exceedence, the period of time considered necessary for correction, and measures taken to minimize emissions during the period.
D.1.c. Deviation from any other condition specified in this permit.	Notification by next business day identifying the deviation, cause, duration and steps taken to prevent recurrence.

[ss. 285.65(10) and 292.11(2), Wis. Stats., and s. NR 439.03(4), Wis. Adm. Code]

D.2. Persons possessing or controlling a hazardous substance shall immediately notify the Department of any hazardous emission not in conformity with a permit or allowed by the Department under chs. NR 400 to 499. Notice shall be given as required by s. 292.11, Stats., and ch. NR 706.

Table D2.

Event	Timing
D.2.a. Hazardous substance air spill	Immediate call: 1-800-943-0003

[s. 292.11(2), Wis. Stats., and s. NR 445.16, Wis. Adm. Code]

D.3. The permittee shall report to the Department, in advance, schedules for planned shutdown and startup of air pollution control equipment and the measures to be taken to minimize the down time of the control equipment while the source is operating. Scheduled maintenance or any other scheduled event, including startup, shutdown or soot blowing procedures which have been approved by the Department under s. NR 436.03(2)(b), which causes an emission limit to be exceeded shall also be reported in advance to the Department. Advance reporting pursuant to this permit condition does not relieve any person from the duty to comply with any applicable emission limitations. Emissions in excess of the limits set in chs. NR 400-499, Wis. Adm. Code, may be allowed when the emissions are temporary and due to scheduled maintenance, startup or shutdown of operations carried out in accord with a plan and schedule approved by the Department. [s. NR 436.03(2)(b) and NR 439.03(6), Wis. Adm. Code]

D.4. The permittee shall furnish to the Department, within a reasonable time specified by the Department, any information that the Department may request in writing to determine whether cause exists to revise, revoke or suspend this permit or to determine compliance with this permit. Upon request, the permittee shall also furnish to the Department copies of records required to be kept pursuant to this permit. [s. NR 407.09(1)(f)5., Wis. Adm. Code]

D.5. The permittee shall submit the results of monitoring required by the permit to the Department according to the schedule established in Part I of this permit. Any such report shall clearly identify all instances of deviations from permit requirements. All such reports shall be signed by the responsible official for the source. [s. 285.17(2), Wis. Stats., and s. NR 439.03(1)(b), Wis. Adm. Code]

D.6. Each report required under s. NR 439.03, Wis. Adm. Code, shall be certified by a responsible official as to its truth, accuracy and completeness. This certification and any other certification required under ch. NR 439 shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete. [s. NR 439.03(10), Wis. Adm. Code]

D.7. Except for information determined to be confidential under s. 285.70(2), Wis. Stats., any information or reports obtained by the Department in the administration of ss. 285.01 to 285.87 and 299.15, Wis. Stats., will be available for public inspection at the offices of the Department. [s. 285.70(1), Wis. Stats.]

D.8. All certifications made under s. NR 439.03, Wis. Adm. Code, and all material statements and representations made in any report or notice required by this operation permit shall be truthful. [s. NR 439.03(11), Wis. Adm. Code]

D.9. Any document required under this permit and submitted to the Department, including reports, shall contain a certification by a responsible official that meets the requirements of s. NR 407.05(4)(j), Wis. Adm. Code. [s. NR 407.09(4)(a)1., Wis. Adm. Code]

D.10. For ch. NR 408, Wis. Adm. Code, (non-attainment area) major sources, the records required under s. NR 408.10(5)(a), Wis. Adm. Code.

D.11. Copies of all records and reports required under this permit shall be retained by the permittee for a period of 5 years except for records required to be maintained or reports required to be submitted under ss. NR 405.16(3) or NR 408.10(5), Wis. Adm. Code. Records and reports required under ss. NR 405.16(3) or NR 408.10(5), Wis. Adm. Code, shall be maintained for a minimum of 10 years. [s. NR 439.04(2), Wis. Adm. Code]

D.12. For ch. NR 405, Wis. Adm. Code, (PSD) major sources, the records required under s. NR 405.16(3)(a), Wis. Adm. Code.

E. Right of Entry and Inspection.

The permittee shall allow authorized representatives of the Department to enter upon the permittee's premises, to have access to and examine any record relating to emissions or required to be kept, and to make any inspection necessary to ascertain compliance with air pollution control laws and the terms of this permit. The Department may, for the purpose of determining a source's compliance with applicable requirements, sample or monitor at reasonable times production materials or other substances or operational parameters. [ss. 285.13 and 285.19, Wis. Stats., and s. NR 439.05, Wis. Adm. Code]

F. Malfunction Prevention and Abatement Plans.

The owner or operator of any direct or portable source which may emit hazardous substances or emits more than 15 pounds in any day or 3 pounds in any hour of any air contaminant for which emission limits have been adopted shall prepare a written malfunction prevention and abatement plan to prevent, detect, and correct malfunctions or equipment failures which may cause any applicable emission limitation to be violated or which may cause air pollution. Any such plan shall be carried out by the owner or operator. The plan shall be updated at least every 5 years. The Department may require the plan to be submitted for review and approval. [s. NR 439.11, Wis. Adm. Code]

G. Emission Control Action Plan.

For source(s) covered by this permit which emit 0.25 tons or more per day of any air contaminant for which air standards have been adopted, the permittee shall prepare an emission control action program, consistent with good industrial practice and safe operating procedures, for reducing the emission of air contaminants into the outdoor atmosphere during periods of an air pollution alert, air pollution warning or air pollution emergency declared under s. NR 493.03(2), Wis. Adm. Code. The emission control action program shall be in writing, available on the premises and is subject to review and approval by the Department on request. [s. NR 493.04, Wis. Adm. Code]

H. Change in Ownership or Control.

In the event of a change in ownership or operational control of a source, the permittee shall file a written request for an administrative permit revision in accordance with s. NR 407.11, Wis. Adm. Code. The request should include a written agreement between the current and new owner or operator which sets forth a specific date for transfer of permit responsibility, coverage and liability. If the Department determines that no other change in this permit is necessary, this permit may be revised according to the administrative revision procedures in s. NR 407.11, Wis. Adm. Code. [s. NR 407.11(3)(a), Wis. Adm. Code]

I. Permit Flexibility, Revision, Suspension, and Revocation.

I.1. Changes to the source which are not modifications and changes in permit content are regulated under the permit flexibility provisions of s. 285.60(4), Wis. Stats., and s. NR 407.025, Wis. Adm. Code, and the permit revision provisions in ss. NR 407.11, NR 407.12, NR 407.13, NR 407.14, and NR 407.16, Wis. Adm. Code.

I.2. An operation permit may be suspended or revoked, in whole or in part, for cause. [ss. NR 407.09(1)(f)3. and NR 407.15, Wis. Adm. Code.]

J. Construction, Reconstruction, Replacement, Relocation or Modification.

J.1. Unless the replacement is authorized by a permit or is exempt under

s. NR 406.04, Wis. Adm. Code, replacement of the source(s) covered by this permit is prohibited. [s. 285.60(1)(a), Wis. Stats.]

J.2. No person may commence construction, reconstruction, replacement, relocation or modification of a stationary source unless the person has a construction permit for the source or unless the source is exempt from the requirement to obtain a permit under s. 285.60(5), Wis. Stats., or under ch. NR 406, Wis. Adm. Code. Applications for the construction permit shall be submitted on forms which are available from the Department at its Madison headquarters and district offices. [s. 285.60(1)(a), Wis. Stats.]

Note: The address of the Madison headquarters is: Wisconsin Department of Natural Resources, Bureau of Air Management, PO Box 7921, Madison, WI 53707. Attention: Permit Application Forms.

J.3. For new or modified sources for which no construction permit is required, the application for an operation permit shall be filed before the source commences construction or modification. [s. NR 407.04, Wis. Adm. Code]

K. Circumvention.

K.1. The installation or use of any article, machine, equipment, process, or method which conceals an emission which would otherwise constitute a violation of an applicable rule is prohibited unless written approval has been obtained from the Department. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance and the unnecessary separation of an operation into parts to avoid coverage by a rule that applies only to operations larger than a specified size. [s. NR 439.10, Wis. Adm. Code]

K.2. No one may render inaccurate any monitoring device or method required under ch. NR 439, Wis. Adm. Code, or in this permit. [s. NR 439.03(12), Wis. Adm. Code]

K.3. No person may knowingly falsify, tamper with, render inaccurate or fail to install any monitoring device or method required to be maintained or followed under the Clean Air Act. [Clean Air Act s. 113(c)(2)(C); 42 USC 7413(c)(2)(C), s. 285.65(13), Wis. Stats.]

L. Civil/Criminal Liability.

L.1. Nothing in this permit shall be construed to relieve the permit holder from civil and/or criminal penalties under ss. 285.87 and 299.15, Wis. Stats., for violation of the terms or conditions of this permit, or for violation of ss. 285.01 to 285.87, 292.11(2) and 299.15, Wis. Stats., or of any rule or any special order issued under those sections except where the operation permit shield provisions of s. 285.62(10)(b), Wis. Stats., are applicable. [s. 285.62(10)(b), Wis. Stats.]

L.2. The permittee has the duty to comply with all conditions of the permit. Any noncompliance with this permit constitutes a violation of the Wisconsin statutes, the federal clean air act, or both, and is grounds for enforcement action; for permit suspension, revocation or revision; or, if allowed under s. 285.62(6), Wis. Stats., for denial of a permit renewal application. [ss. NR 407.14, NR 407.15, and NR 407.09(1)(f)1., Wis. Adm. Code, s. 285.60(7), Wis. Stats. and 42 USC 7661a]

L.3. The following items are provided per s. NR 407.09(1)(d) and (f), Wis. Adm. Code:

L.3.a. It is not a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with this permit. [s. NR 407.09(1)(f)2., Wis. Adm. Code]

L.3.b. The filing of a request by the permittee for a permit revision or revocation, or the filing of a notification of planned changes under s. NR 407.025, Wis. Adm. Code, or of anticipated noncompliance, does not stay any permit condition. [s. NR 407.09(1)(f)3., Wis. Adm. Code]

L.3.c. The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege, nor does it authorize any injury to private property or any invasion of personal rights. [s. NR 407.09(1)(f)4., Wis. Adm. Code]

L.3.d. The provisions of this permit are severable. In the event of a successful challenge to any portion of the permit, all other portions of the permit remain valid and effective. [s. NR 407.09(1)(d), Wis. Adm. Code]

M. Recordkeeping Requirements.

M.1. The permittee shall maintain the following records, per s. NR 439.04, Wis. Adm. Code:

M.1.a. Records of all sampling, testing and monitoring conducted or required under chs. NR 400 to 499 or under this permit. Records of sampling, testing or monitoring shall include the following:

M.1.a.(1) The date, monitoring site and time and duration of sampling, testing, monitoring or measurements.

M.1.a.(2) The dates the analyses were performed.

M.1.a.(3) The company or entity that performed the analysis.

M.1.a.(4) The analytical techniques or methods used, including supporting information such as calibration and maintenance records of all original recording charts for continuous monitoring instrumentation including emissions or equipment monitors.

M.1.a.(5) The results of the analyses.

M.1.a.(6) The relevant operating conditions that existed at the time of sampling, testing, monitoring or measurement.

M.1.b. Records detailing all malfunctions which cause any applicable emission limitation to be exceeded, including logs to document the implementation of the plan required under s. NR 439.11, Wis. Adm. Code;

M.1.c. Records detailing all activities specified in any compliance schedule approved by the Department under chs. NR 400 to 499, Wis. Adm. Code; and

M.1.d. Any other records relating to the emission of air contaminants which may be requested in writing by the Department.

M.2. The owner or operator of a source constructed or last modified prior to July 1, 2004, with non-exempt, potential to emit emissions of a hazardous air contaminant less than or equal to the applicable threshold in column (c), (d), (e), or (f) of Table A, B or C of s. NR 445.07 shall maintain records in accordance with s. NR 439.04(1) and (2) starting no later than June 30, 2007. [s. NR 445.08(6)(b), Wis. Adm. Code]

M.2.a. The records shall list the hazardous air contaminants in Tables A, B, and C of s. NR 445.07 the source is capable of emitting. In addition to meeting the recordkeeping requirements of s. NR 439.04(1) and (2), an owner or operator shall:

M.2.a.(1) Keep records of maintenance performed on any particulate matter emission control device used to comply with s. NR 445.09(3).

M.2.a.(2) For any engine that stays or that is intended to stay in a single location for any 12 consecutive month period, keep the following records:

M.2.a.(2)1. The amount fuel oil combusted on a monthly basis for any engine not using a certified control device.

M.2.a.(2)2. The power rating and days of operation of any CI engine

used to substitute power under s. NR 445.09(1)(d).

M.2.a.(2)3. The cost of rebuilding any CI engine on a monthly basis. [s. NR 445.09(6), Wis. Adm. Code]

M.2.b. Keep records of actions taken to control outdoor fugitive coal dust emissions in accordance with s. NR 439.04(2). [s. NR 445.10(2)(c), Wis. Adm. Code]

M.2.c. Keep a copy of the plan and records of all actions taken at the facility for inspection upon request. [s. NR 445.10(2)(c), Wis. Adm. Code]

M.3. Owners and operators of facilities required to file emission inventory reports shall keep accurate and reliable records sufficient to enable verification of the reports by the Department. [s. NR 438.03(4), Wis. Adm. Code]

M.4. Copies of all records and reports required under this permit shall be retained by the permittee for a period of 5 years. [s. NR 439.04(2), Wis. Adm. Code]

M.5. For ch. NR 405, Wis. Adm. Code, (PSD) major sources, the permittee shall report to the Department as required under s. NR 405.16(3), Wis. Adm. Code.

M.6. For ch. NR 408, Wis. Adm. Code, (non-attainment area) major sources, the permittee shall report to the Department as required under s. NR 408.10(5), Wis. Adm. Code.

M.7. Except for information determined to be confidential under s. 285.70(2), Wis. Stats., any information or reports obtained by the Department in the administration of ss. 285.01 to 285.87 and 299.15, Wis. Stats., will be available for public inspection at the offices of the Department. [s. 285.70(1), Wis. Stats.]

N. Compliance Certification.

N.1. The permittee shall submit compliance certifications to the Department, and part 70 sources shall also submit this compliance certification to the United States Environmental Protection Agency. [s. NR 439.03(1)(c) and (9), Wis. Adm. Code]

N.2. The certification shall be submitted according to the schedule established in Part I of the permit. [s. NR 439.03(1)(c), Wis. Adm. Code]

N.3. The certification shall include the following:

N.3.a. Identification of each permit term or condition that is the basis of the certification;

N.3.b. The compliance status of the source with respect to each term or condition identified in N.1.b.(1);

N.3.c. Whether compliance was continuous or intermittent;

N.3.d. Method(s) used for determining the compliance status, currently and over the previous 12 month period;

N.3.e. Compliance status with respect to 40 CFR 68 (Accidental Release Prevention) including registration and submission of the risk management plan, as specified in 40 CFR 68.160 and 68.150, respectively, if applicable;

N.3.f. Other information required to determine the compliance status of the source, as specified in this permit. [s. NR 439.03(8), Wis. Adm. Code]

N.4. Compliance certifications shall be signed by a responsible official of the source. The responsible official shall certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. [s. NR 439.03(10), Wis. Adm. Code]

O. Required Air Emission Inventory Reports.

The permittee shall annually submit to the Department an emission inventory report of annual, actual emissions or throughput information in accordance with ch. NR 438, Wis. Adm. Code. [s. NR 438.03, Wis. Adm. Code]

P. Annual Emission Fees.

The permittee shall pay an annual emissions fee to the Department at the rate specified in s. 285.69(2), Wis. Stats. [ss. NR 410.04 and NR 407.09(1)(e), Wis. Adm. Code]

Q. General Provisions for Hazardous Air Pollutant MACT Standards.

The general provisions in ch. NR 460, Wis. Adm. Code, apply to any permittee that is affected or becomes affected by a standard promulgated by EPA under section 112 of the act (42 USC 7412). [s. NR 460.01, Wis. Adm. Code]

R. Stratospheric Ozone Protection.

R.1. Federal Requirements. (Call 1-800-296-1996 for information)

R.1.a. The permittee shall comply with the standards for labeling of products using ozone-depleting substances pursuant to 40 CFR Part 82, Subpart E:

R.1.a.(1) All containers in which a class I or class II substance is stored or transported, all products containing a class I substance and all products directly manufactured with a class I substance must bear the required warning statement if it is being introduced into interstate commerce pursuant to section 82.106.

R.1.a.(2) The placement of the required warning statement must comply with the requirements pursuant to section 82.108.

R.1.a.(3) The form of the label bearing the required warning statement must comply with the requirements pursuant to section 82.110.

R.1.a.(4) No person may modify, remove or interfere with the required warning statement except as described in section 82.112.

R.1.b. The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F, except as provided for Motor Vehicle Air Conditioners (MVACs) in 40 CFR Part 82, Subpart B:

R.1.b.(1) Persons opening appliances for maintenance, service, repair or disposal must comply with the required practices pursuant to section 82.156.

R.1.b.(2) Equipment used during the maintenance, service, repair or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to section 82.158.

R.1.b.(3) Persons performing maintenance, service, repair or disposal of appliances must be certified by an approved technician certification program pursuant to section 82.161.

R.1.b.(4) Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with recordkeeping requirements pursuant to section 82.166 (the term, "MVAC-like appliance", is defined in section 82.152).

R.1.b.(5) Persons owning commercial or industrial process refrigeration equipment must comply with the leak repair requirements pursuant to section 82.156.

R.1.b.(6) Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to section 82.166.

R.1.c. If the permittee manufactures, transforms, imports or exports a class I or class II substance, the permittee is subject to all the requirements as specified in 40 CFR part 82, Subpart A, Production and Consumption Controls.

R.1.d. If the permittee performs a service on motor (fleet) vehicles when

this service involves ozone-depleting substance refrigerant in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements as specified in 40 CFR part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners. The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term "MVAC" as used in Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo or system used on passenger buses using HCFC-22 refrigerant.

R.1.e. The permittee may be allowed to switch from any ozone-depleting substance to any alternative that is listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 CFR part 82, Subpart G, Significant New Alternatives Policy Program.

[s. 285.65(12), Wis. Stats.]

R.2. State Requirements. (Call 1-608-264-6049 for information)

R.2.a. During the salvaging, dismantling or transporting of refrigeration equipment, no person may knowingly or negligently release ozone-depleting refrigerant to the environment, except for minimal releases that occur as a result of efforts to transfer ozone-depleting refrigerant into storage tanks. [s. 285.59(4)(a), Wis. Stats.]

R.2.b. No person may knowingly or negligently release from a storage tank to the environment ozone-depleting refrigerant that was removed during the salvaging, dismantling or transporting of refrigeration equipment, except for minimal releases that occur as a result of efforts to transfer ozone-depleting refrigerant into refrigeration equipment or other storage tanks. [s. 285.59(4)(am), Wis. Stats.]

R.2.c. No person may salvage or dismantle any refrigeration equipment unless:

R.2.c.(1) That person holds and prominently displays an annual registration of certification obtained from the Department under s. NR 488.04, Wis. Adm. Code;

R.2.c.(2) That person uses refrigerant recovery equipment approved by the Department under s. NR 488.07, Wis. Adm. Code, to transfer remaining ozone-depleting refrigerant from each piece of refrigeration equipment into storage tanks; and

R.2.c.(3) Individuals who use the approved refrigerant recovery equipment have, or are working under the direct supervision of individuals who have, the qualifications required under s. NR 488.08, Wis. Adm. Code. [s. NR 488.03(3), Wis. Adm. Code]

R.2.d. Any person who sells, gives or transports refrigeration equipment to a scrap metal processor shall:

R.2.d.(1) Transfer ozone-depleting refrigerant from the refrigeration equipment into a storage tank using approved refrigerant recovery equipment or obtain and possess documentation that another person performed the transfer; and

R.2.d.(2) Provide documentation to the scrap metal processor that he or she has complied with R.2.d.(1).

Note: Sample forms for the documentation of compliance with R.2.d.(1) are available from the Bureau of Air Management CFC Program.

Exemption: R.2.d.(1) and R.2.d.(2) do not apply to a person who sells, gives or transports refrigeration equipment to a scrap metal processor when that processor has agreed in writing to transfer the ozone-depleting refrigerant into a storage tank using approved refrigerant recovery equipment and that the processor is registered with the Department under s. NR 488.04. [s. NR 488.05, Wis. Adm. Code]

R.2.e. Any person who transports, for the purposes of salvaging or dismantling, refrigeration equipment that contains ozone-depleting refrigerant shall certify to the Department that person will not knowingly or negligently release ozone-depleting refrigerant to the environment, except for minimal releases that occur as a result of refrigerant recovery efforts. This certification shall be submitted annually, along with a description of the safe transport methods to be used, and the fees required under s. NR 488.11, Wis. Adm. Code. [s. NR 488.10, Wis. Adm. Code]

F

Legal Description

city of
Port Washington

100 W. Grand Avenue
Port Washington, WI 53074

Administrative Office (414) 284-5585
Public Works (414) 284-2600

February 25, 1987

Mr. David Opitz
Aqua Tech
140 S. Park Street
Port Washington, WI 53074

RE: Proposed property acquisition
Port Washington Industrial Park

Dear Dave:

Review of the enclosed FEMA flood plain maps indicates that the following described property is not located within the designated floodplain.

Legal Description
Opitz Offer To Purchase

That part of the SE¼ Of Section 32, T 11 N, R 22 E, City of Port Washington, Ozaukee County, Wisconsin, described as follows:

Commencing at the East ¼ corner of Section 32, thence West, 1890.80 feet, thence S 00° 16' 50" E, 792.05 feet to the point of beginning, thence continuing S 00° 16' 50" E, 1132.44 feet, thence S 89° 47' 49" W, 440.00 feet, thence N 00° 16' 50" W, 1134.00 feet, thence East 440.00 feet to the point of beginning, containing 11.45 acres.

Sincerely,

Robert R. Dreblow

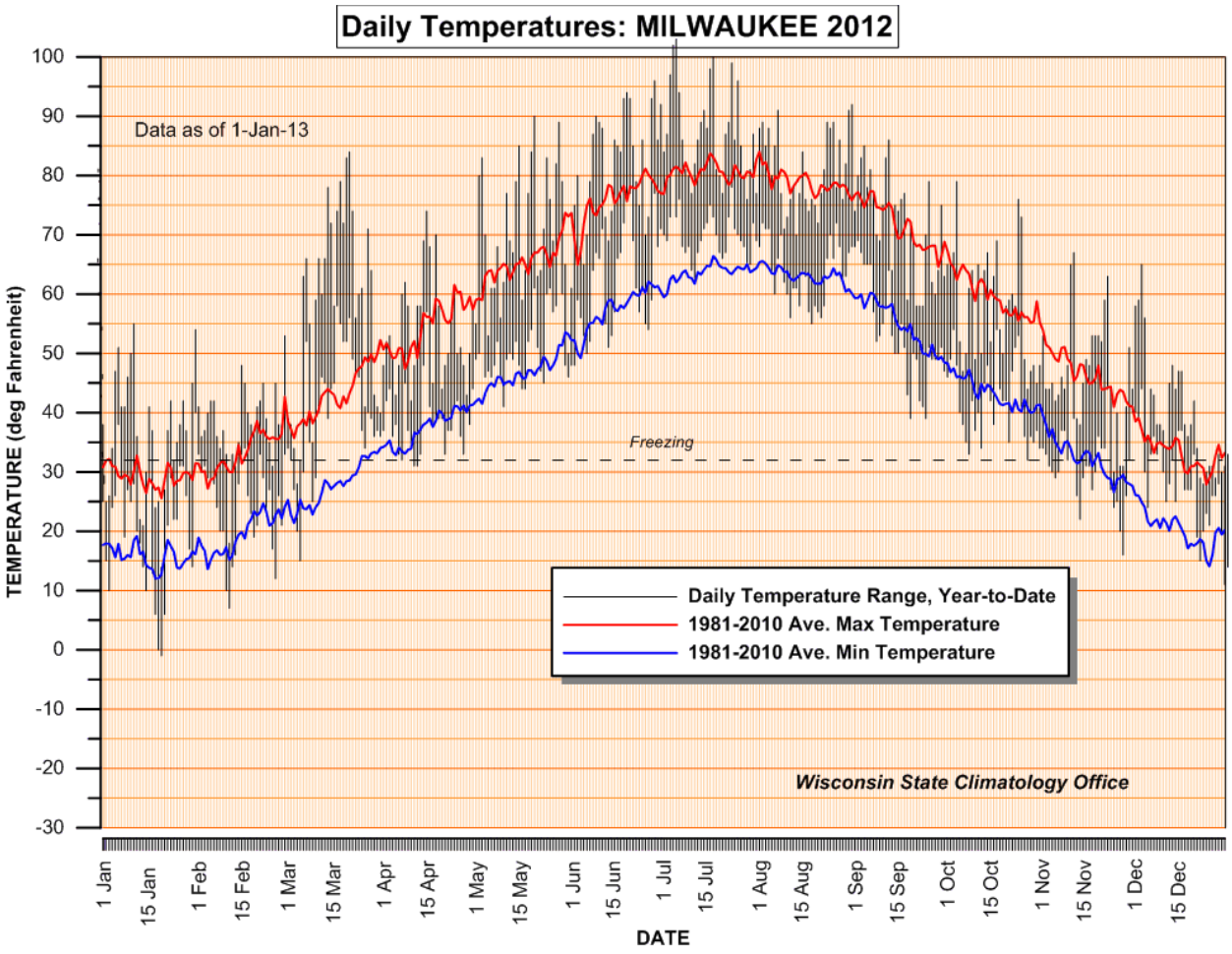
Robert R. Dreblow, P.E.
Director of Public Works

RRD/bjb

Enclosure

G

Climatology Data


Daily Temperatures: MILWAUKEE 2012
Data as of 1-Jan-13
TEMPERATURE (deg Fahrenheit)
100
90
80
70
60
50
40
30
20
10
0
-10
-20
-30
Freezing
Daily Temperature Range, Year-to-Date
1981-2010 Ave. Max Temperature
1981-2010 Ave. Min Temperature
Wisconsin State Climatology Office
1 Jan
15 Jan
1 Feb
15 Feb
1 Mar
15 Mar
1 Apr
15 Apr
1 May
15 May
1 Jun
15 Jun
1 Jul
15 Jul
1 Aug
15 Aug
1 Sep
15 Sep
1 Oct
15 Oct
1 Nov
15 Nov
1 Dec
15 Dec
DATE

Historical Climate Data

Temperature Summary
Station: 475479 MILWAUKEE WSO, WI

1971-2000 NCDC Normals

Select a different Station | Select a different County

Element	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
Max °F	28.0	32.5	42.6	53.9	66.0	76.3	81.1	79.1	71.9	60.2	45.7	33.1	55.9
Min °F	13.4	18.3	27.3	36.4	46.2	56.3	62.9	62.1	54.1	42.6	31.0	19.4	39.2
Mean °F	20.7	25.4	34.9	45.2	56.1	66.3	72.0	70.6	63.0	51.4	38.4	26.2	47.5
HDD base 65	1384	1124	948	611	318	86	13	18	134	443	808	1200	7087
CDD base 65	0	0	0	5	27	114	222	180	63	5	0	0	616

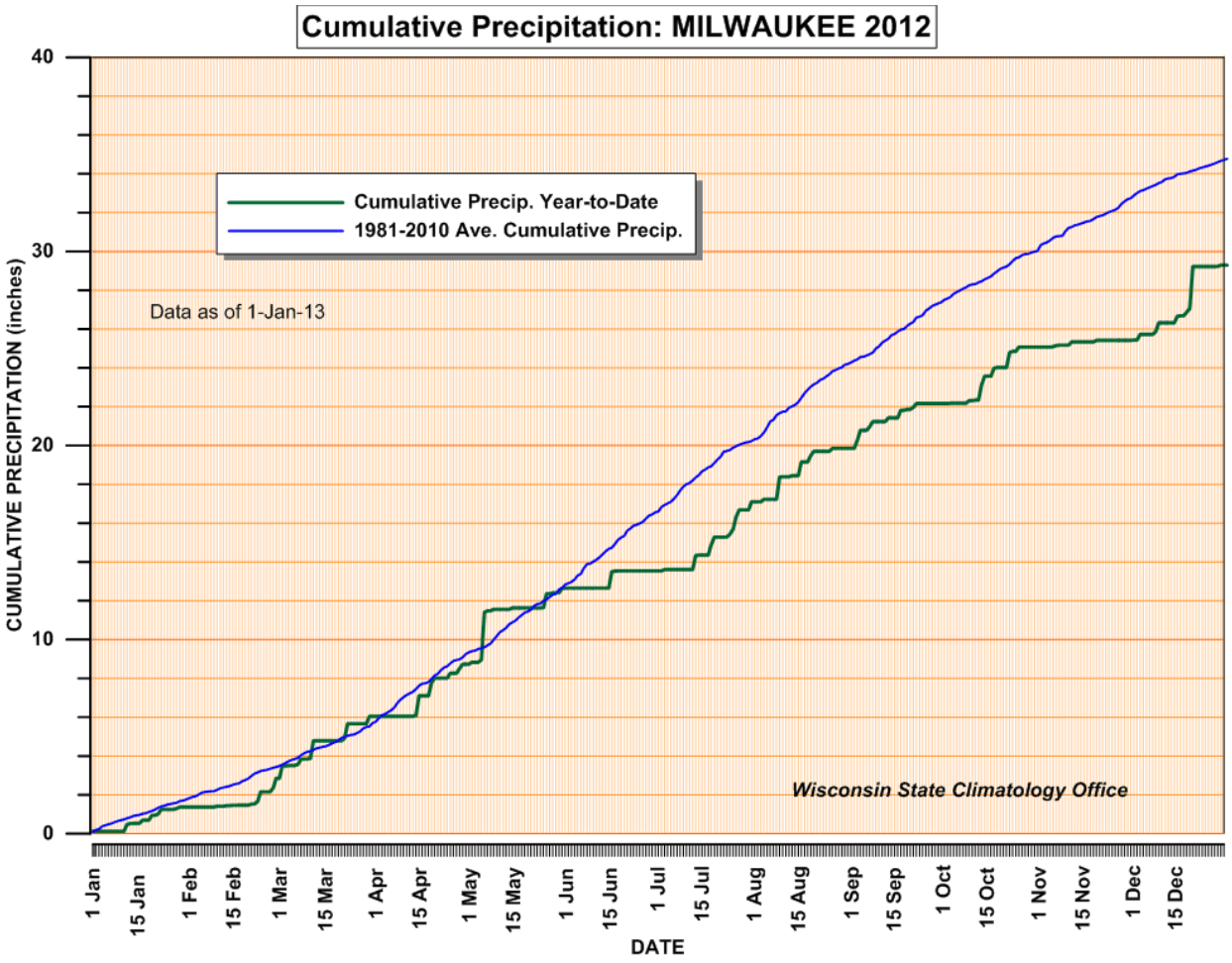
Temperature Extremes
Period of Record: 1942-2001

Month	High Mean°F	Year	Low Mean°F	Year	1-Day Max°F	Date	1-Day Min°F	Date
JAN	31.1	1990	8.3	1977	62	01-26-1944	-26	01-17-1982
FEB	34.6	1998	15.1	1979	68	02-11-1999	-26	02-03-1996
MAR	44.4	1945	21.5	1960	82	03-29-1986	-10	03-01-1962
APR	50.8	1985	37.7	1975	91	04-22-1980	12	04-07-1982
MAY	63.2	1991	49.6	1966	93	05-28-1991	21	05-10-1966
JUN	72.2	1987	58.9	1969	101	06-14-1987	33	06-04-1945
JUL	76.7	1955	66.7	1962	103	07-13-1995	40	07-01-1965
AUG	76.4	1955	65.7	1950	103	08-01-1988	44	08-20-1950
SEP	67.5	1994	58.0	1962	98	09-01-1953	28	09-28-1942
OCT	59.4	1947	45.7	1980	89	10-06-1963	18	10-24-1981
NOV	47.5	2001	29.5	1959	77	11-01-1944	-5	11-24-1950
DEC	34.5	1994	13.2	1963	68	12-05-2001	-20	12-24-1983
Annual	51.0	1998	43.7	1972	103	07-13-1995	-26	01-17-1982
Winter	30.5	1998	15.3	1963	68	12-05-1901	-26	01-17-1982
Spring	50.4	1991	40.2	1971	93	05-28-1991	-10	03-01-1962
Summer	73.9	1995	65.4	1960	103	07-13-1995	33	06-04-1945
Fall	55.7	1994	46.0	1976	98	09-01-1953	-5	11-24-1950

Temperature Threshold Climatology
Derived from 1971-2000 Averages

*Annual/seasonal totals may differ from the sum of the monthly totals due to rounding.

Month	# Days Max ≥ 90°F	# Days Max ≤ 32°F	# Days Min ≤ 32°F	# Days Min ≤ 0°F
JAN	0.0	19.6	29.2	5.9
FEB	0.0	13.9	25.2	2.7
MAR	0.0	5.5	22.2	0.2
APR	0.0	0.6	8.2	0.0
MAY	0.2	0.0	0.5	0.0
JUN	2.0	0.0	0.0	0.0
JUL	4.0	0.0	0.0	0.0
AUG	2.3	0.0	0.0	0.0
SEP	0.6	0.0	0.1	0.0
OCT	0.0	0.0	3.1	0.0
NOV	0.0	2.8	17.1	0.1
DEC	0.0	13.8	27.3	2.8
Annual	9.2	56.2	133.0	11.6
Winter	0.0	47.2	81.7	11.3
Spring	0.3	6.1	30.9	0.2
Summer	8.3	0.0	0.0	0.0
Fall	0.6	2.8	20.4	0.1


Cumulative Precipitation: MILWAUKEE 2012
Cumulative Precip. Year-to-Date
1981-2010 Ave. Cumulative Precip.
Data as of 1-Jan-13
Wisconsin State Climatology Office
CUMULATIVE PRECIPITATION (inches)
0
10
20
30
40
1 Jan
15 Jan
1 Feb
15 Feb
1 Mar
15 Mar
1 Apr
15 Apr
1 May
15 May
1 Jun
15 Jun
1 Jul
15 Jul
1 Aug
15 Aug
1 Sep
15 Sep
1 Oct
15 Oct
1 Nov
15 Nov
1 Dec
15 Dec
DATE

Historical Climate Data

Precipitation Summary
Station: 475479 MILWAUKEE WSO, WI

1971-2000 NCDC Normals

Select a different Station | Select a different County

Element	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
Precip (in)	1.85	1.65	2.59	3.78	3.06	3.56	3.58	4.03	3.30	2.49	2.70	2.22	34.81

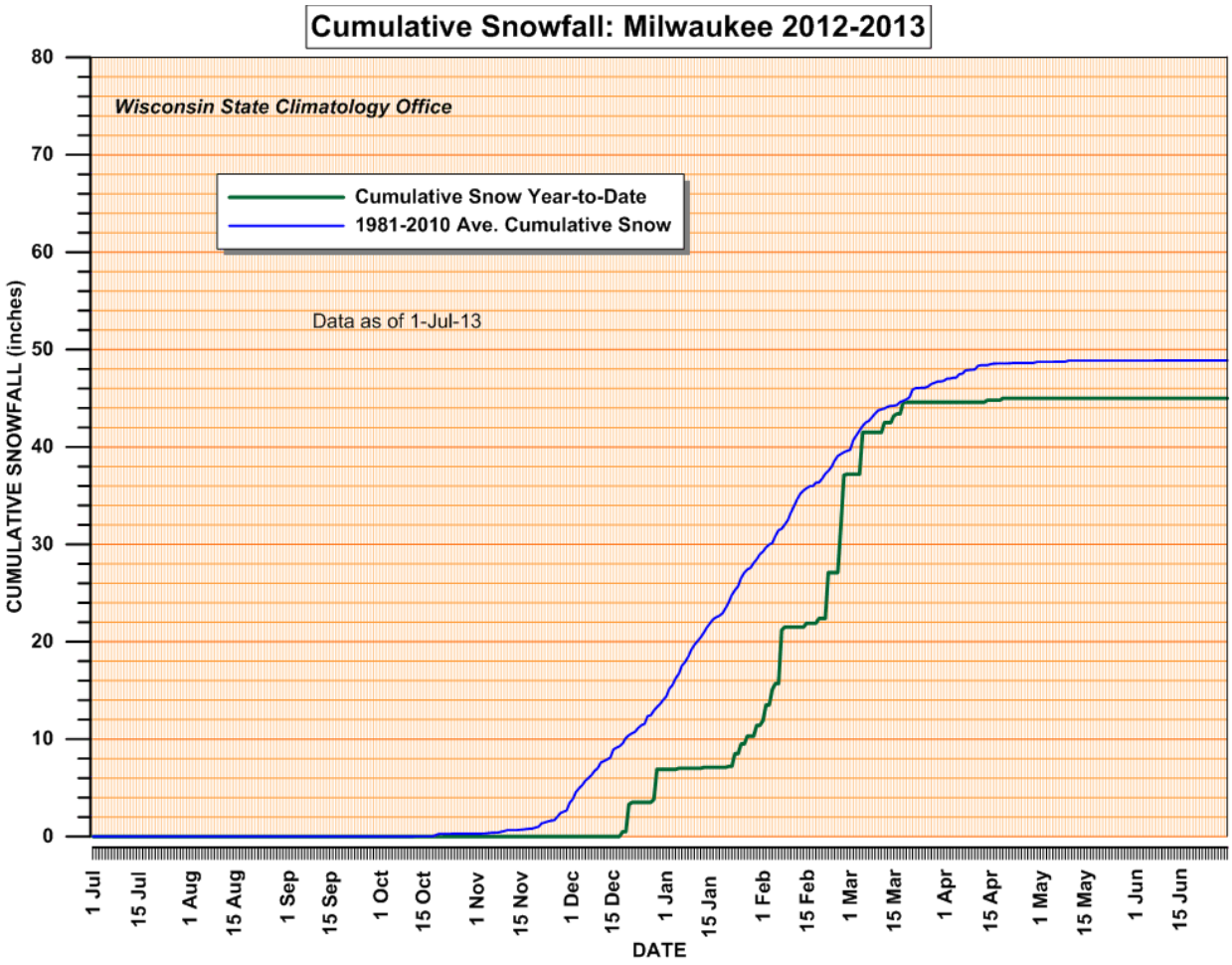
Precipitation Extremes
Period of Record: 1927-2001

Month	High (in)	Year	Low (in)	Year	1-Day Max (in)	Date
JAN	4.38	1999	0.31	1945	2.42	01-24-1938
FEB	3.94	1986	0.05	1969	1.67	02-10-1960
MAR	6.93	1976	0.18	1936	2.31	03-04-1976
APR	7.31	1973	0.68	1932	3.01	04-24-1976
MAY	9.68	1933	0.50	1988	2.80	05-21-1934
JUN	9.98	1997	0.70	1988	5.29	06-22-1940
JUL	7.66	1964	0.18	1936	4.42	07-02-2000
AUG	9.05	1987	0.46	1948	6.81	08-06-1986
SEP	9.87	1941	0.02	1979	4.32	09-08-1941
OCT	7.03	1991	0.15	1956	2.33	10-24-1991
NOV	7.11	1985	0.14	1936	2.22	11-10-1998
DEC	5.42	1987	0.29	1976	2.24	12-02-1982
Annual	44.37	2000	19.10	1963	6.81	08-06-1986
Winter	10.51	1974	1.63	1963	2.42	01-24-1938
Spring	15.71	1976	3.11	1936	3.01	04-24-1976
Summer	19.48	1986	3.19	1934	6.81	08-06-1986
Fall	15.94	1985	2.07	1956	4.32	09-08-1941

Precipitation Threshold Climatology
Derived from 1971-2000 Averages

*Annual/seasonal totals may differ from the sum of the monthly totals due to rounding.

Month	# Days Total ≥ 0.01"	# Days Total ≥ 0.10"	# Days Total ≥ 0.50"	# Days Total ≥ 1.00"
JAN	12.3	5.1	0.8	0.2
FEB	10.1	4.1	1.0	0.2
MAR	11.9	5.7	1.7	0.3
APR	12.8	7.0	2.6	0.9
MAY	10.9	6.3	2.0	0.7
JUN	10.7	6.2	2.6	0.8
JUL	10.2	6.2	2.4	0.9
AUG	9.9	7.0	2.5	0.8
SEP	9.1	5.6	2.2	1.0
OCT	9.6	5.1	1.6	0.4
NOV	11.4	5.8	1.5	0.5
DEC	11.7	5.5	1.2	0.4
Annual	130.6	69.7	22.1	7.1
Winter	34.1	14.7	3.0	0.8
Spring	35.6	19.1	6.3	1.9
Summer	30.8	19.5	7.5	2.5
Fall	30.1	16.5	5.3	1.9


Cumulative Snowfall: Milwaukee 2012-2013
Wisconsin State Climatology Office
Cumulative Snow Year-to-Date
1981-2010 Ave. Cumulative Snow
Data as of 1-Jul-13
CUMULATIVE SNOWFALL (inches)
0
10
20
30
40
50
60
70
80
1 Jul
15 Jul
1 Aug
15 Aug
1 Sep
15 Sep
1 Oct
15 Oct
1 Nov
15 Nov
1 Dec
15 Dec
1 Jan
15 Jan
1 Feb
15 Feb
1 Mar
15 Mar
1 Apr
15 Apr
1 May
15 May
1 Jun
15 Jun
DATE

Historical Climate Data

Snowfall Summary
Station: 475479 MILWAUKEE WSO, WI

1971-2000 Averages

Select a different Station | Select a different County

Element	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	ANN
Snow(in)	15.3	11.3	7.4	2.6	0.1	0.0	0.0	0.0	0.0	0.4	3.7	11.8	52.6

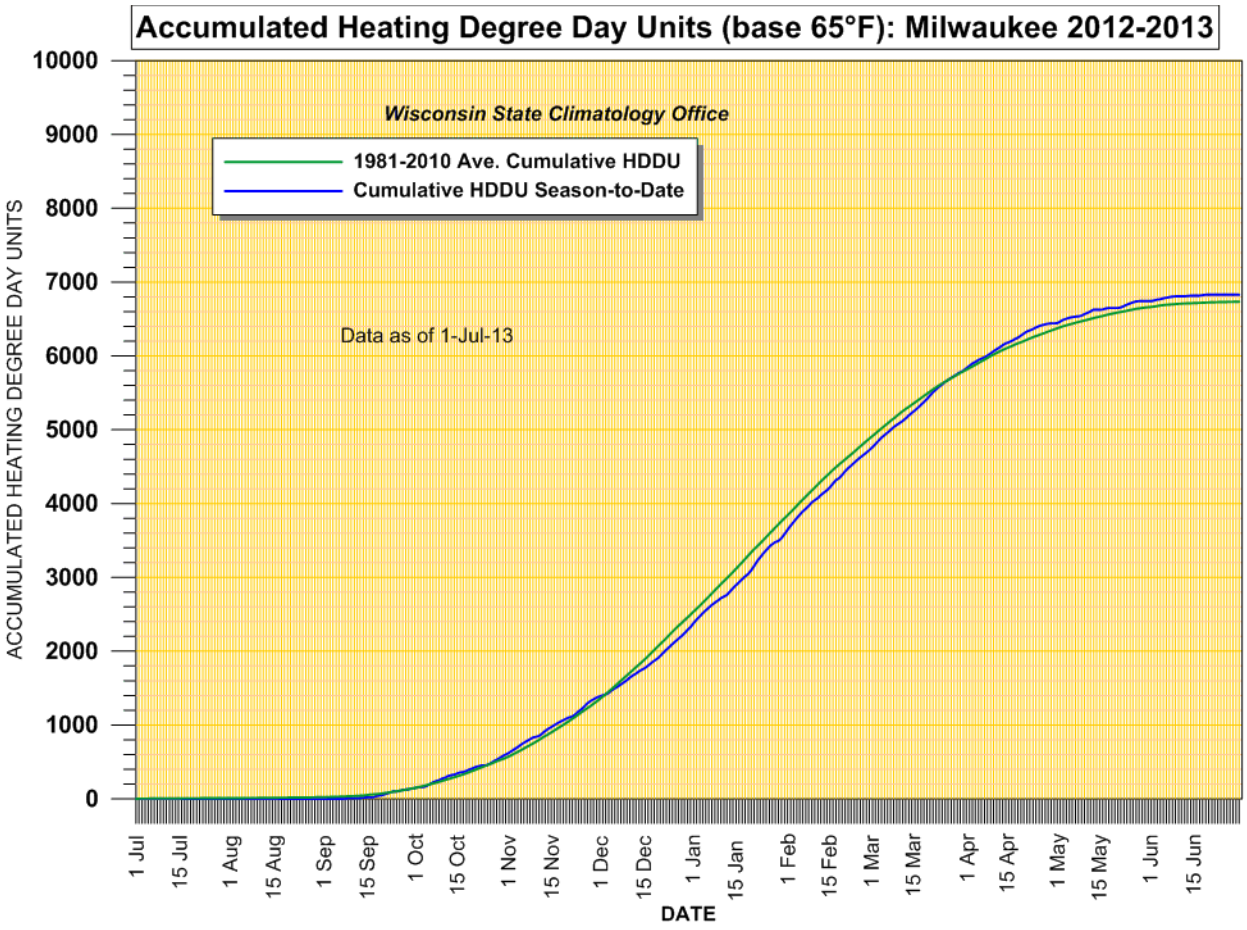
Snowfall Extremes
Period of Record: 1927-2001

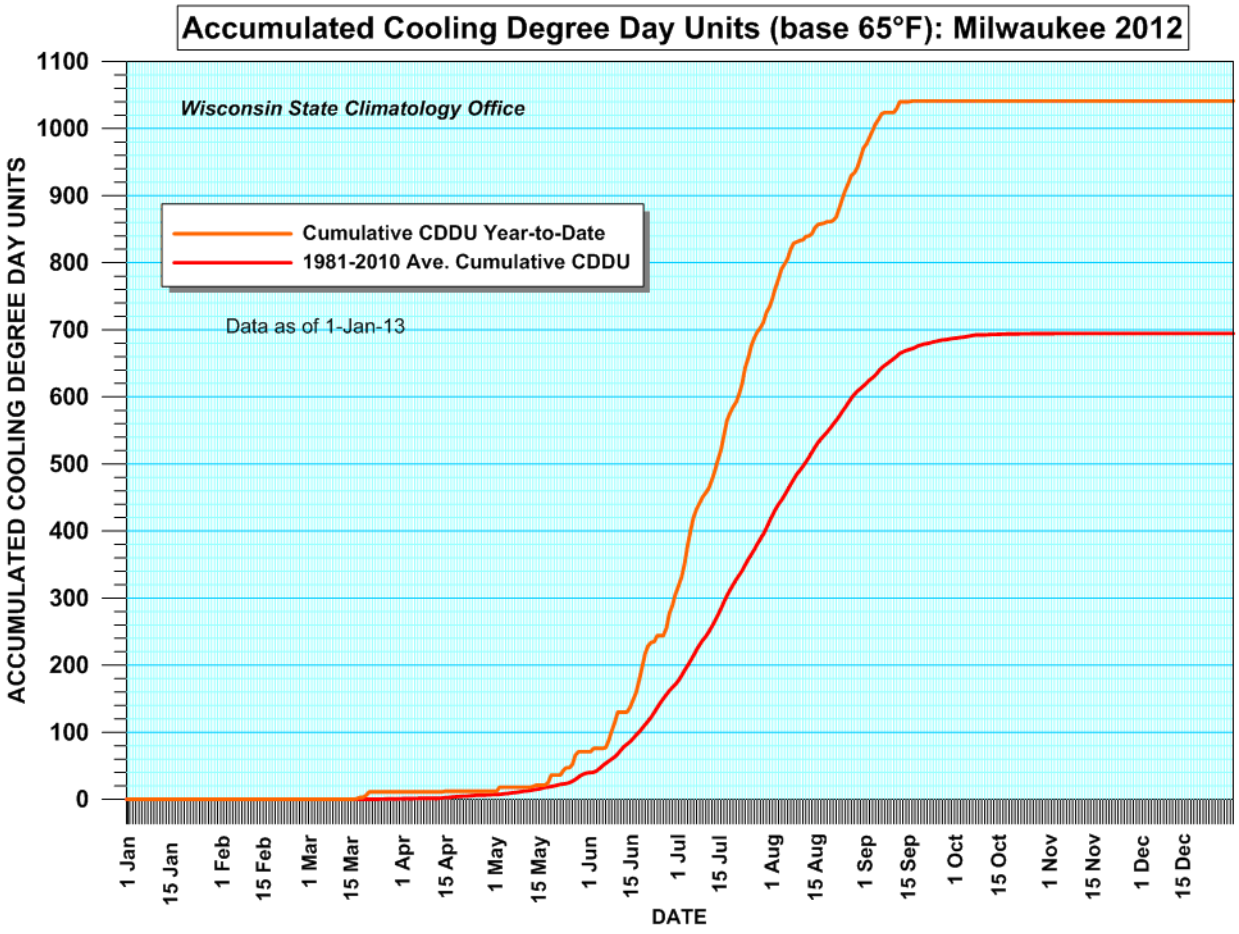
Month	High (in)	Year	1-Day Max (in)	Date
JAN	39.0	1999	13.8	01-25-1990
FEB	42.0	1974	16.7	02-10-1960
MAR	30.3	1965	11.2	03-08-1961
APR	15.8	1973	11.6	04-09-1973
MAY	3.2	1990	3.2	05-10-1990
JUN	0.0	-	-	-
JUL	0.0	-	-	-
AUG	0.0	-	-	-
SEP	0.0	-	-	-
OCT	6.3	1989	3.7	10-19-1989
NOV	16.1	1977	9.8	11-25-1977
DEC	49.5	2000	13.6	12-11-2000
Season (Jul-Jun)	93.3	1959-1960	16.7	02-10-1960

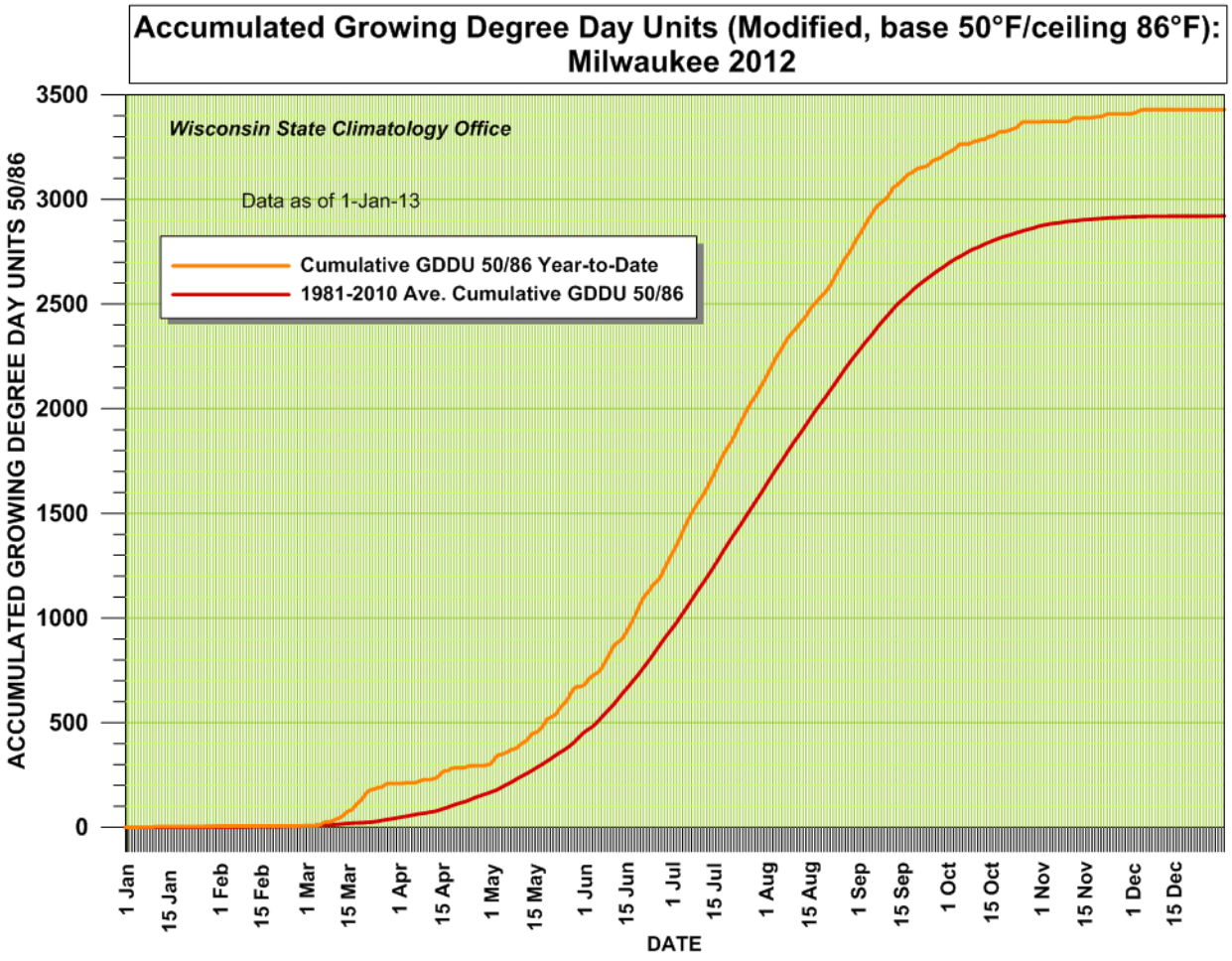
Snowfall Threshold Climatology
Derived from 1971-2000 Averages

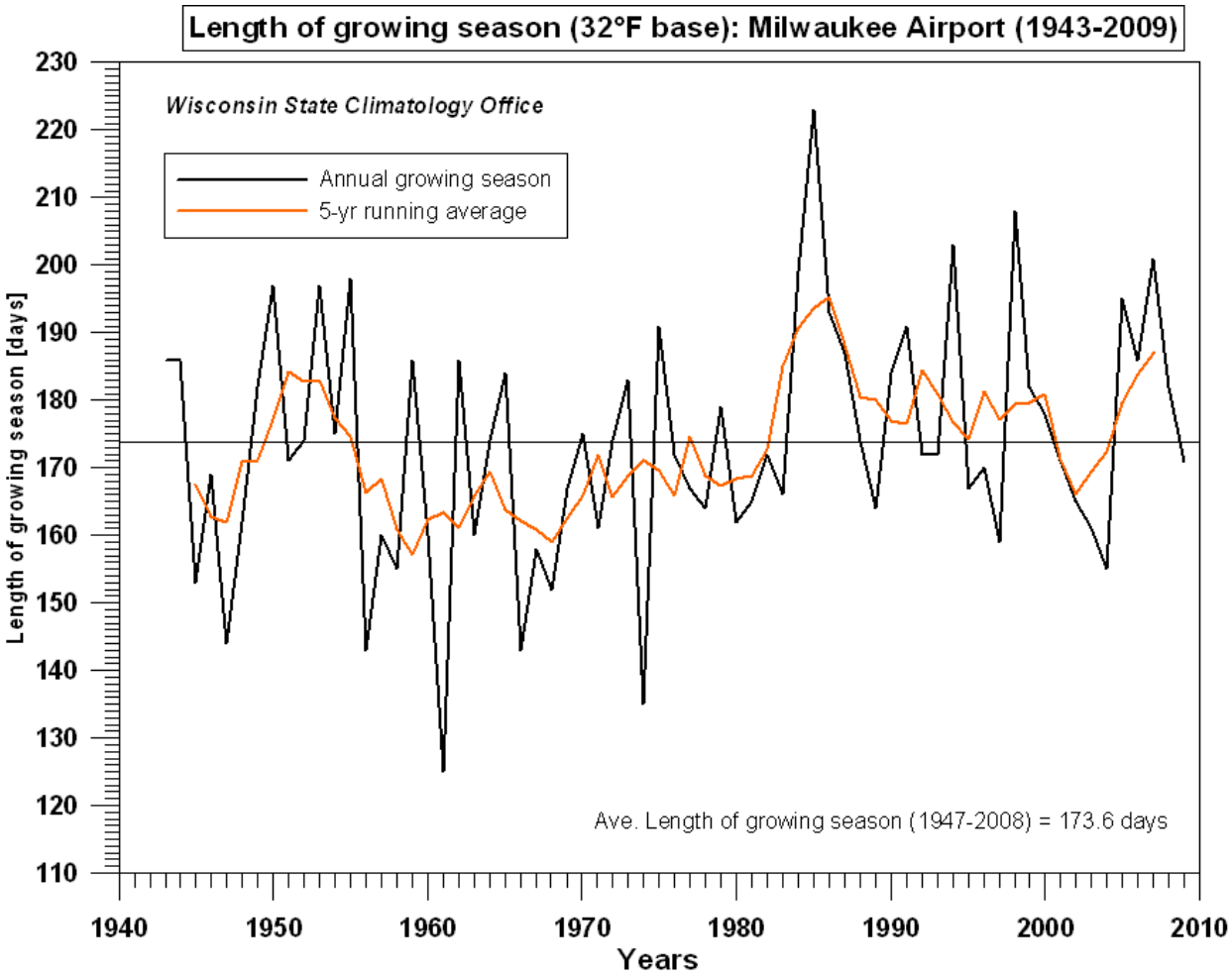
*Annual/seasonal totals may differ from the sum of the monthly totals due to rounding.

Month	# Days Total ≥ 0.1"	# Days Total ≥ 1.0"	# Days Total ≥ 2.0"	# Days Total ≥ 5.0"
JAN	10.4	4.7	2.7	0.4
FEB	7.7	2.9	1.7	0.6
MAR	6.1	2.1	1.3	0.3
APR	2.0	0.5	0.4	0.1
MAY	0.1	0.0	0.0	0.0
JUN	0.0	0.0	0.0	0.0
JUL	0.0	0.0	0.0	0.0
AUG	0.0	0.0	0.0	0.0
SEP	0.0	0.0	0.0	0.0
OCT	0.3	0.1	0.1	0.0
NOV	3.4	0.9	0.5	0.1
DEC	8.4	3.3	1.9	0.5
Annual	38.5	14.5	8.7	2.1


Accumulated Heating Degree Day Units (base 65°F): Milwaukee 2012-2013
Wisconsin State Climatology Office
1981-2010 Ave. Cumulative HDDU
Cumulative HDDU Season-to-Date
Data as of 1-Jul-13
ACCUMULATED HEATING DEGREE DAY UNITS
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
1 Jul
15 Jul
1 Aug
15 Aug
1 Sep
15 Sep
1 Oct
15 Oct
1 Nov
15 Nov
1 Dec
15 Dec
1 Jan
15 Jan
1 Feb
15 Feb
1 Mar
15 Mar
1 Apr
15 Apr
1 May
15 May
1 Jun
15 Jun
DATE


Accumulated Cooling Degree Day Units (base 65°F): Milwaukee 2012
Wisconsin State Climatology Office
Cumulative CDDU Year-to-Date
1981-2010 Ave. Cumulative CDDU
Data as of 1-Jan-13
ACCUMULATED COOLING DEGREE DAY UNITS
1100
1000
900
800
700
600
500
400
300
200
100
0
1 Jan
15 Jan
1 Feb
15 Feb
1 Mar
15 Mar
1 Apr
15 Apr
1 May
15 May
1 Jun
15 Jun
1 Jul
15 Jul
1 Aug
15 Aug
1 Sep
15 Sep
1 Oct
15 Oct
1 Nov
15 Nov
1 Dec
15 Dec
DATE


Accumulated Growing Degree Day Units (Modified, base 50°F/ceiling 86°F):
Milwaukee 2012
Wisconsin State Climatology Office
Data as of 1-Jan-13
Cumulative GDDU 50/86 Year-to-Date
1981-2010 Ave. Cumulative GDDU 50/86
ACCUMULATED GROWING DEGREE DAY UNITS 50/86
3500
3000
2500
2000
1500
1000
500
0
1 Jan
15 Jan
1 Feb
15 Feb
1 Mar
15 Mar
1 Apr
15 Apr
1 May
15 May
1 Jun
15 Jun
1 Jul
15 Jul
1 Aug
15 Aug
1 Sep
15 Sep
1 Oct
15 Oct
1 Nov
15 Nov
1 Dec
15 Dec
DATE

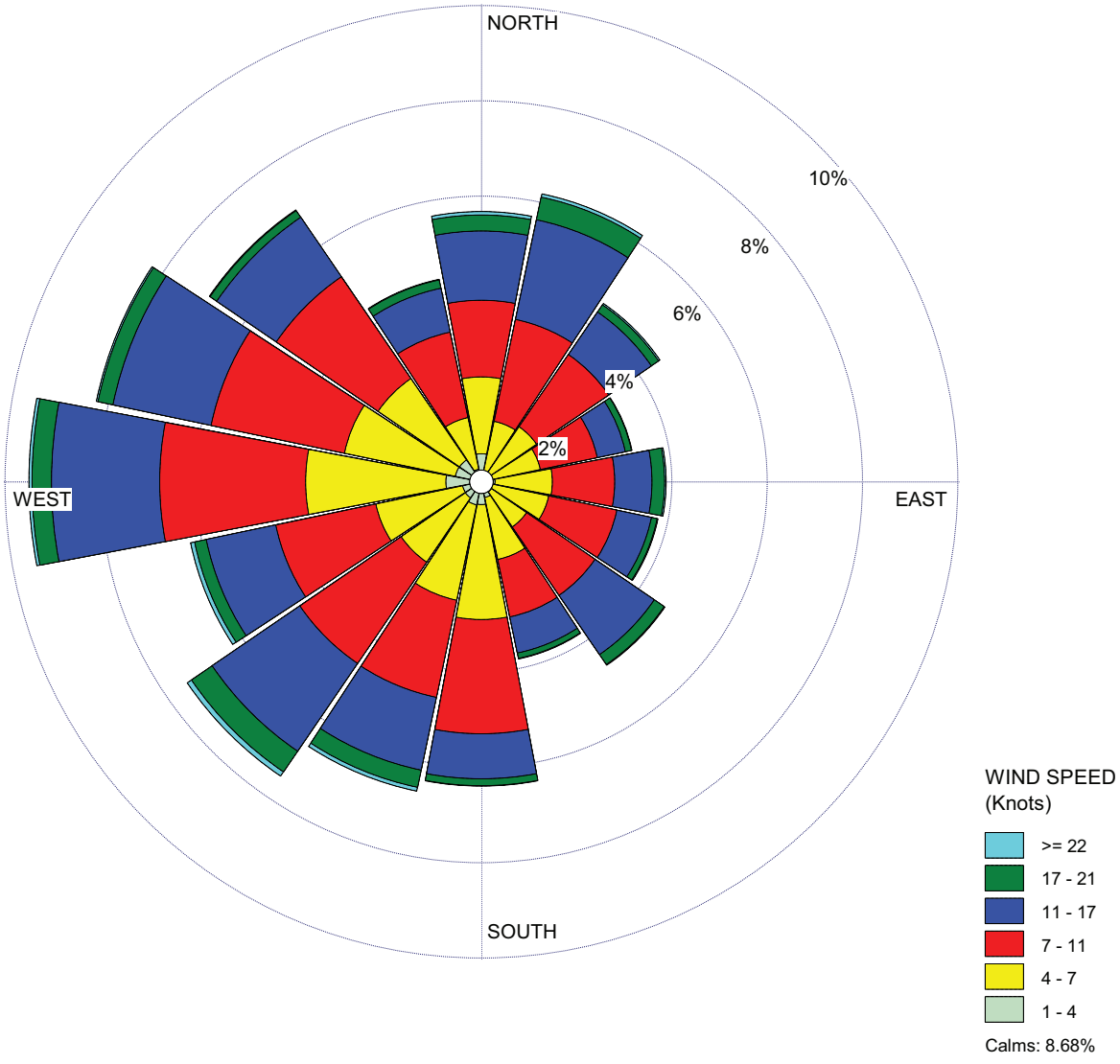

Length of growing season (32°F base): Milwaukee Airport (1943-2009)
Wisconsin State Climatology Office
Annual growing season
5-yr running average
Ave. Length of growing season (1947-2008) = 173.6 days
Length of growing season [days]
Years
230
220
210
200
190
180
170
160
150
140
130
120
110
1940
1950
1960
1970
1980
1990
2000
2010

WIND ROSE PLOT:

General Mitchell International AP (14839/MKE) - 2008-2012
Milwaukee, WI

DISPLAY:

Wind Speed
Direction (blowing from)



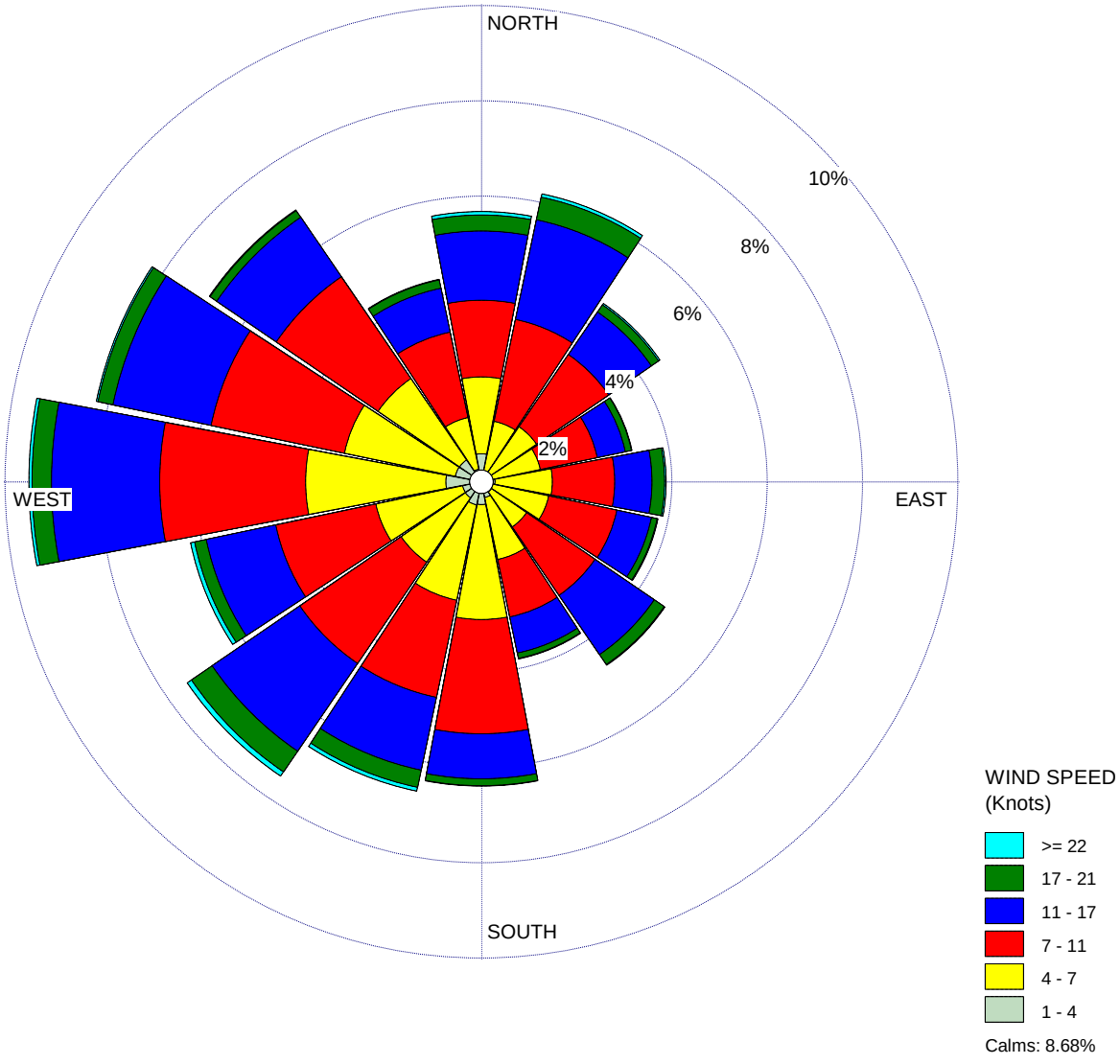
COMMENTS:	DATA PERIOD: **Start Date: 1/1/2008 - 00:00** **End Date: 12/31/2012 - 23:00**	COMPANY NAME: **Midwestern Regional Climate Center**	
		MODELER: **Allan Curtis**	
	CALM WINDS: **8.68%**	TOTAL COUNT: **43824 hrs.**	
	AVG. WIND SPEED: **7.93 Knots**	DATE: **7/30/2013**	PROJECT NO.:

WIND ROSE PLOT:

General Mitchell International AP (14839/MKE) - 2008-2012
Milwaukee, WI

DISPLAY:

Wind Speed
Direction (blowing from)



COMMENTS:	DATA PERIOD: **Start Date: 1/1/2008 - 00:00** **End Date: 12/31/2012 - 23:00**	COMPANY NAME: **Midwestern Regional Climate Center**	
		MODELER: **Allan Curtis**	
	CALM WINDS: **8.68%**	TOTAL COUNT: **43824 hrs.**	
	AVG. WIND SPEED: **7.93 Knots**	DATE: **7/30/2013**	PROJECT NO.:

Station ID: 14839
Start Date: 1/1/2008 - 00:00
End Date: 12/31/2012 - 23:00

Run ID: MILWAUKEE/GENERAL MITCHELL FI

Frequency Distribution
(Count)

Wind Direction (Blowing From) / Wind Speed (Knots)

	1 - 4	4 - 7	7 - 11	11 - 17	17 - 21	>= 22	Total
348.75-11.25	259	705	704	635	147	31	**2481**
11.25-33.75	105	464	955	935	212	31	**2702**
33.75-56.25	106	508	802	473	80	15	**1984**
56.25-78.75	96	457	534	263	58	4	**1412**
78.75-101.25	126	526	572	342	116	14	**1696**
101.25-123.75	108	524	639	324	54	7	**1656**
123.75-146.25	113	390	760	659	110	8	**2040**
146.25-168.75	149	581	539	338	51	5	**1663**
168.75-191.25	210	1055	1049	413	63	4	**2794**
191.25-213.75	218	894	910	683	161	36	**2902**
213.75-236.25	180	714	1125	975	230	48	**3272**
236.25-258.75	177	814	938	652	110	37	**2728**
258.75-281.25	328	1286	1339	992	179	28	**4152**
281.25-303.75	247	1038	1250	920	141	15	**3611**
303.75-326.25	244	905	1131	662	73	8	**3023**
326.25-348.75	121	483	801	412	77	6	**1900**
Total	2787	11344	14048	9678	1862	297	43824

Frequency of Calm Winds: 3808
Average Wind Speed: 7.93 Knots

Station ID: 14839
Start Date: 1/1/2008 - 00:00
End Date: 12/31/2012 - 23:00

Run ID: MILWAUKEE/GENERAL MITCHELL FI

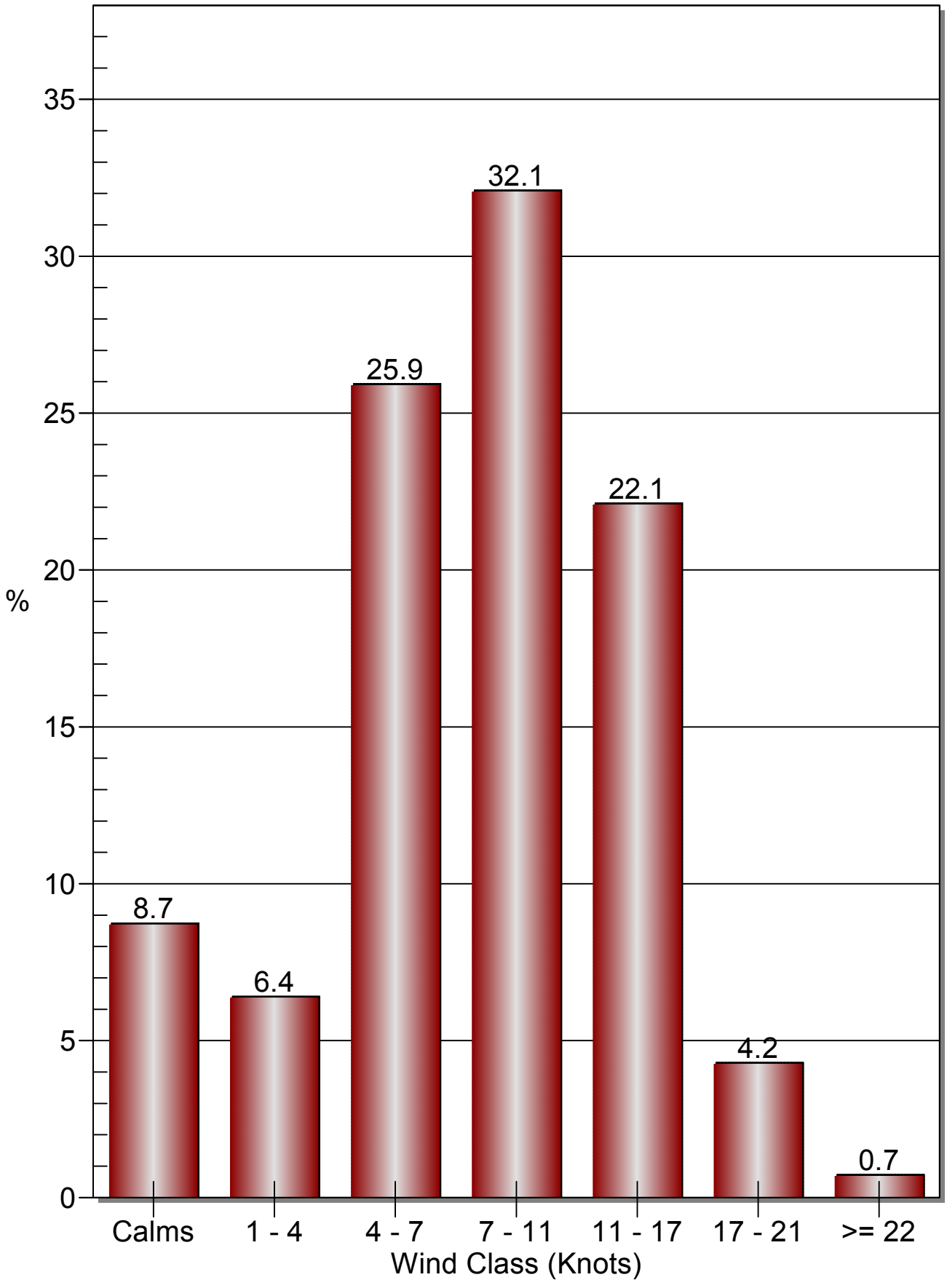
Frequency Distribution
(Normalized)

Wind Direction (Blowing From) / Wind Speed (Knots)

	1 - 4	4 - 7	7 - 11	11 - 17	17 - 21	>= 22	Total
348.75-11.25	0.005910	0.016087	0.016064	0.014490	0.003354	0.000707	**0.056613**
11.25-33.75	0.002396	0.010588	0.021792	0.021335	0.004838	0.000707	**0.061656**
33.75-56.25	0.002419	0.011592	0.018300	0.010793	0.001825	0.000342	**0.045272**
56.25-78.75	0.002191	0.010428	0.012185	0.006001	0.001323	0.000091	**0.032220**
78.75-101.25	0.002875	0.012003	0.013052	0.007804	0.002647	0.000319	**0.038700**
101.25-123.75	0.002464	0.011957	0.014581	0.007393	0.001232	0.000160	**0.037788**
123.75-146.25	0.002578	0.008899	0.017342	0.015037	0.002510	0.000183	**0.046550**
146.25-168.75	0.003400	0.013258	0.012299	0.007713	0.001164	0.000114	**0.037947**
168.75-191.25	0.004792	0.024074	0.023937	0.009424	0.001438	0.000091	**0.063755**
191.25-213.75	0.004974	0.020400	0.020765	0.015585	0.003674	0.000821	**0.066219**
213.75-236.25	0.004107	0.016292	0.025671	0.022248	0.005248	0.001095	**0.074662**
236.25-258.75	0.004039	0.018574	0.021404	0.014878	0.002510	0.000844	**0.062249**
258.75-281.25	0.007484	0.029345	0.030554	0.022636	0.004085	0.000639	**0.094743**
281.25-303.75	0.005636	0.023686	0.028523	0.020993	0.003217	0.000342	**0.082398**
303.75-326.25	0.005568	0.020651	0.025808	0.015106	0.001666	0.000183	**0.068980**
326.25-348.75	0.002761	0.011021	0.018278	0.009401	0.001757	0.000137	**0.043355**
Total	0.063595	0.258854	0.320555	0.220838	0.042488	0.006777	0.913107

Frequency of Calm Winds: 8.69%
Average Wind Speed: 7.93 Knots

Wind Class Frequency Distribution



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Emergency Egress Gate

CENTURY FENCE COMPANY
SINCE 1917 THE MARK OF PERMANENCE

P0 BOX 727, PEWAUKEE, WI 53072-0727

Office (262) 547-3331
Toll Free (800) 558-0507
Fax (262) 691-3463
Cellular (262) 993-5502
gsonnenburg@centuryfence.com

8/2/2013

Phone: 262-243-8904 ***Fax:*** 262-284-3775

Proposal To:

Veolia Environmental Services
Dave Braun
1275 Mineral Springs Drive
Port Washington, WI 53074

Ship To:

1275 Mineral Springs Drive
Port Washington, WI 53074

[x] Installed [ ] Material Only [x] Prepaid Freight [ ] Freight Collect **F.O.B.** Job Site **Delivery Schedule:** As Required

Description

Furnish (1) Single swing gate 4' wide by 7' high into existing fence line. Gate fabric shall consist of 3/4" galvanized expanded metal including 2' either side of gate posts. Frame shall be constructed of 2" steel pipe welded at all corners to form a rigid panel. Includes standard hinges and emergency push bar.

2 - 3" O.D. S.S. 30 steel pipe Gate posts, 7' high.

Posts shall be set in concrete foundations.

Material and Labor: $2,695.00

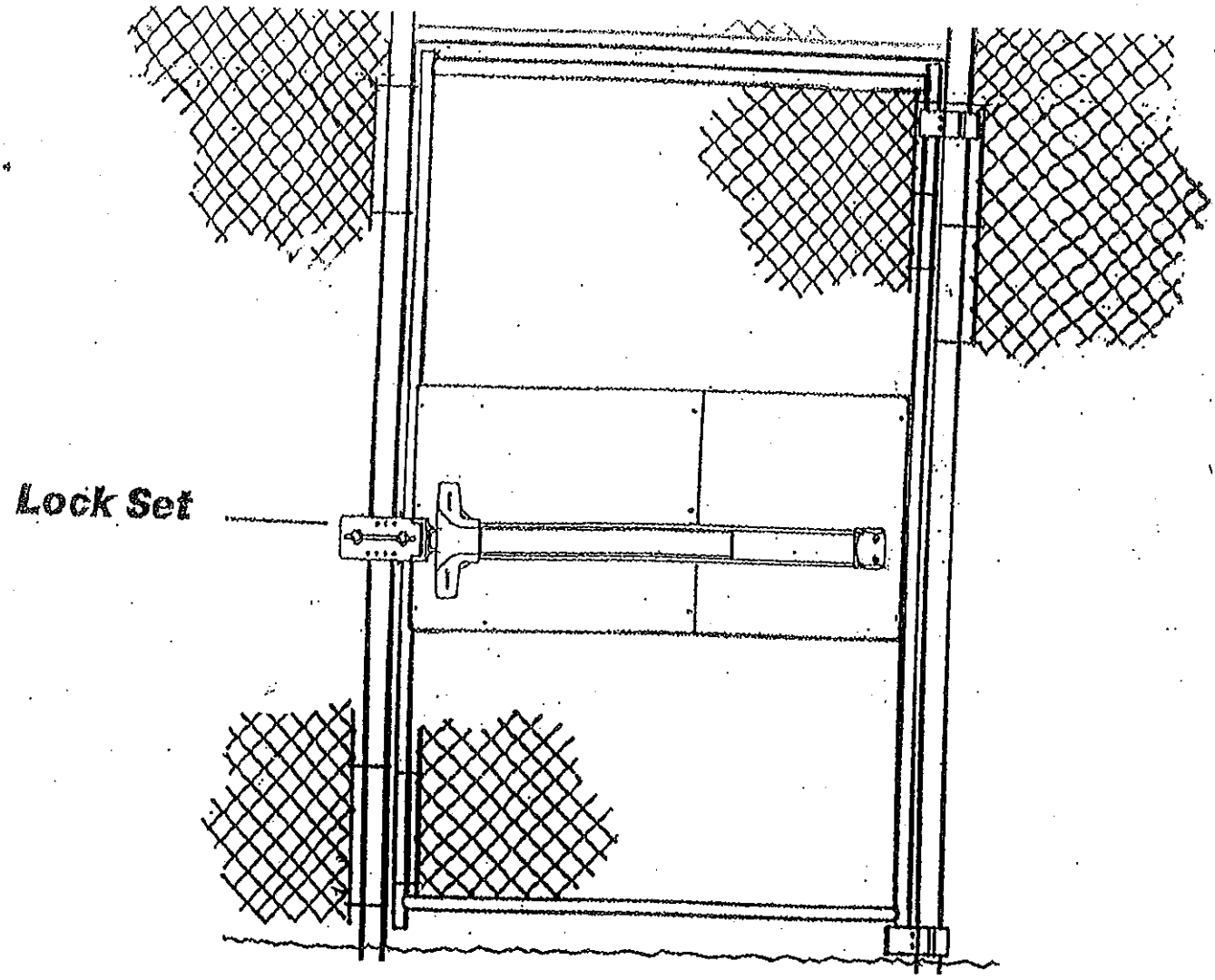
Option #1: Furnish and install a second gate as specified in base bid. Add: $1,655.00

Option #2: Furnish and install (1) LCN auto-closer on gate. Add: $385.00 (Per gate)

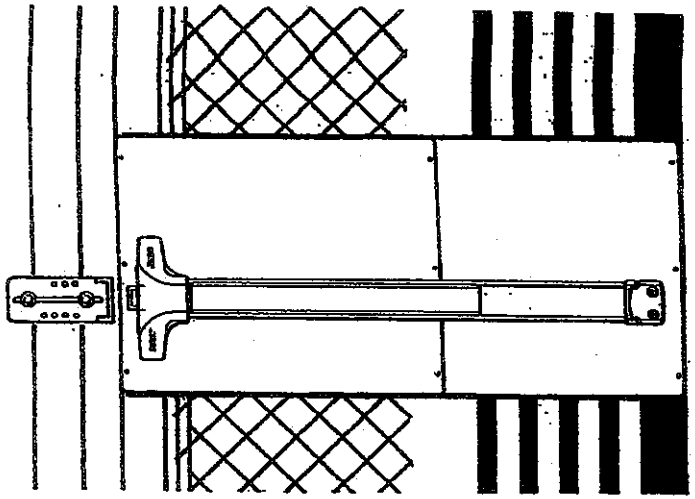
Excludes: Locating of private underground utilities.
Permits. (If required)

Acceptance: This proposal when accepted in writing by purchaser and by Century Fence Company's Main Office becomes a contract between two parties. The conditions on the attached "Terms and Conditions" sheet are made a part of this contract.
Terms of Payment: Net Cash upon receipt of invoice.

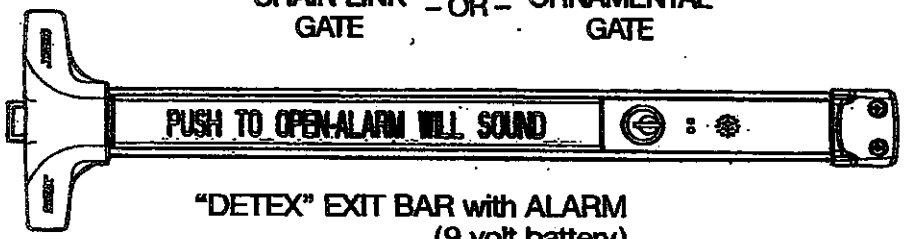
Buyer's signature _____ Date _____ Submitted by _____
Greg Sonnenburg


Lock Set

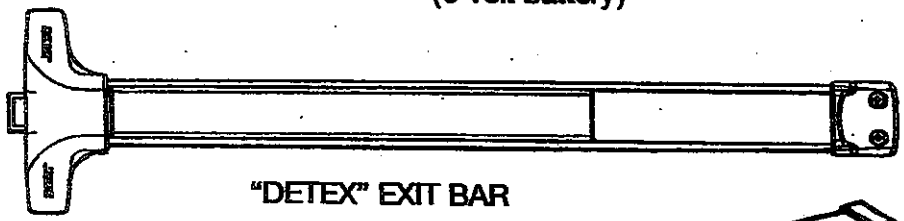
EXIT DOOR HARDWARE



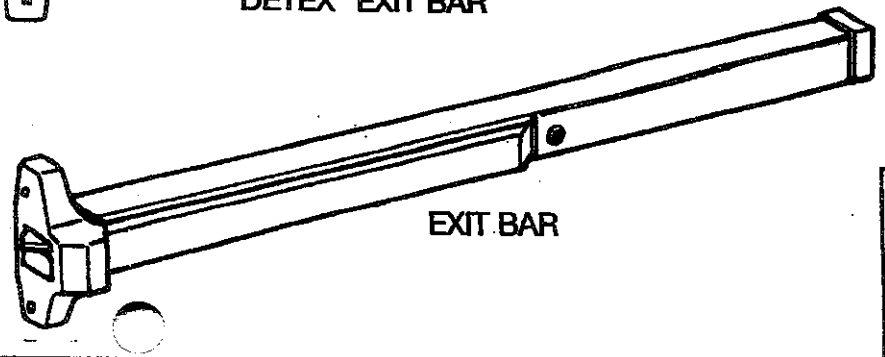
CHAIN LINK GATE – OR – ORNAMENTAL GATE



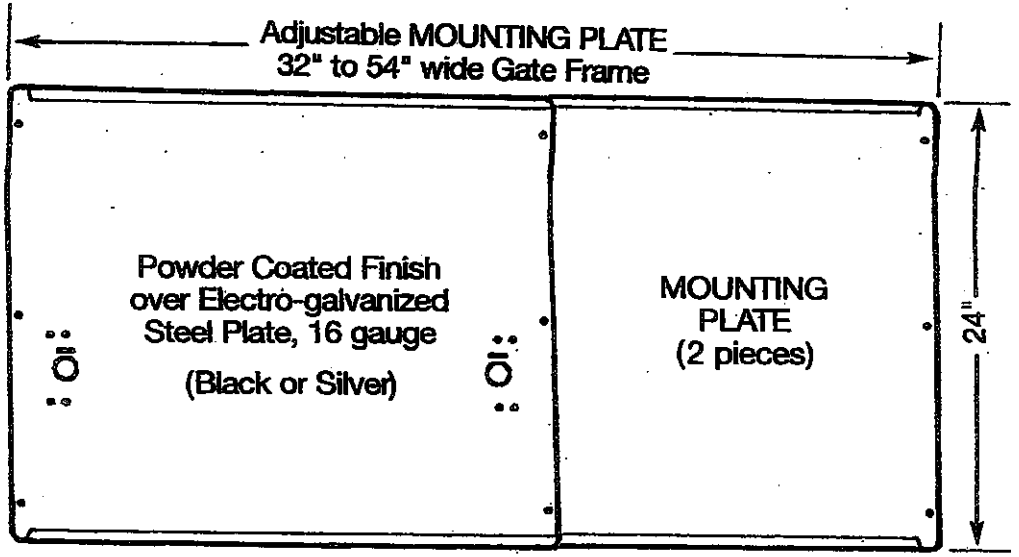
"DETEX" EXIT BAR with ALARM
(9 volt battery)

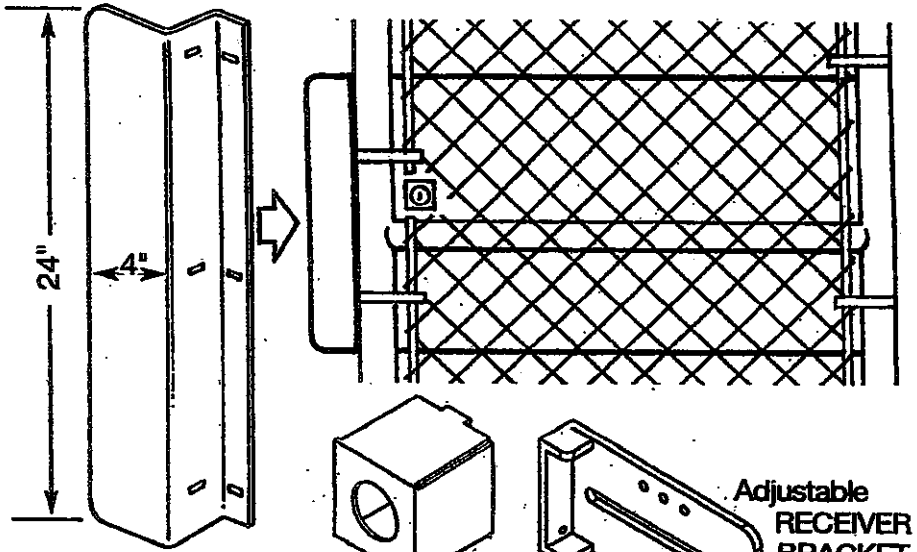


"DETEX" EXIT BAR

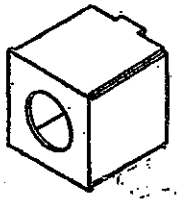


EXIT BAR

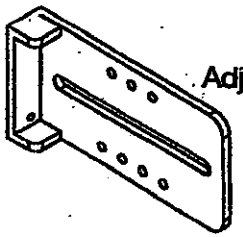




GUARD
(optional)
Black or Silver



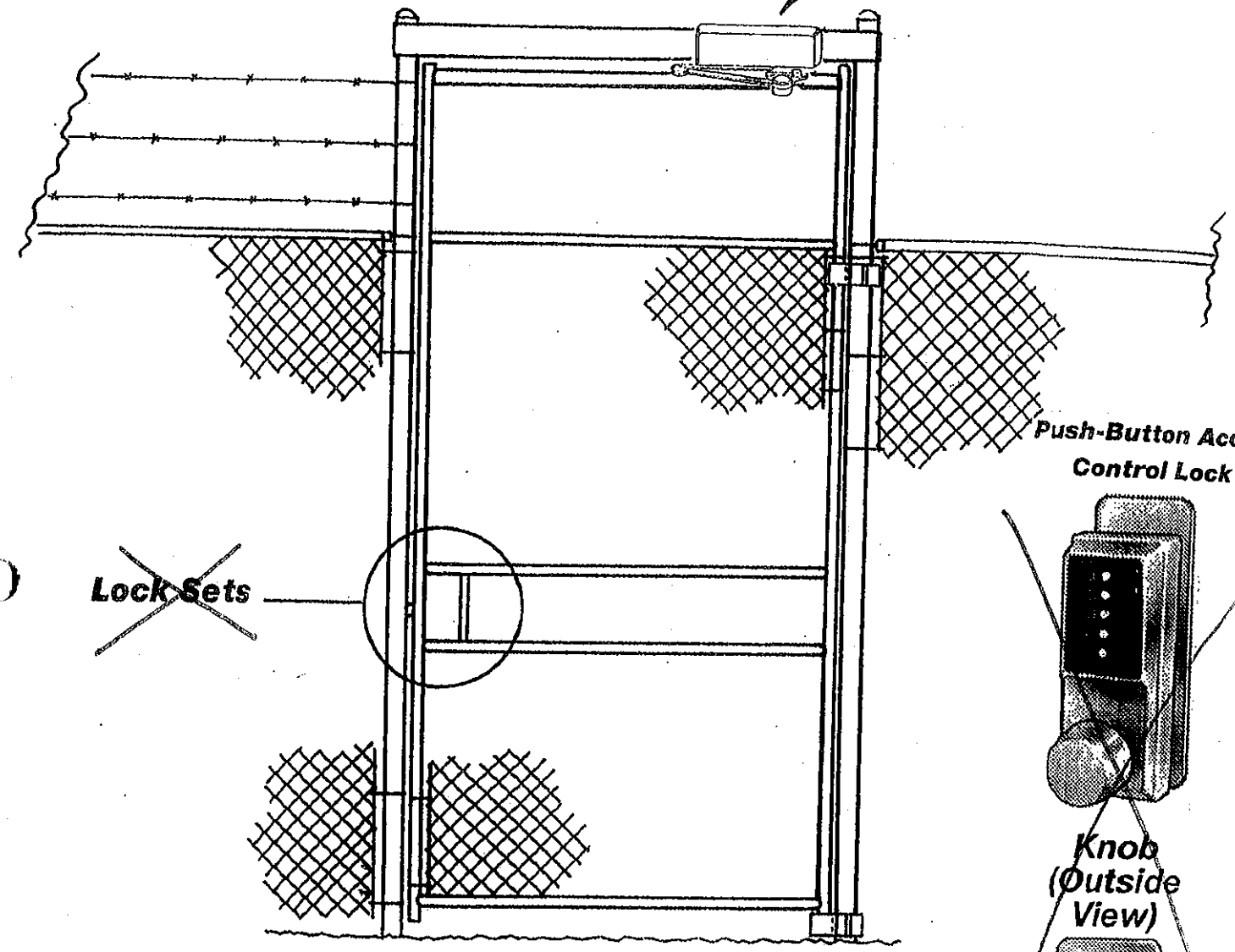
LOCK BOX
(Black or Silver)



Adjustable
RECEIVER
BRACKET
(Black or
Silver)

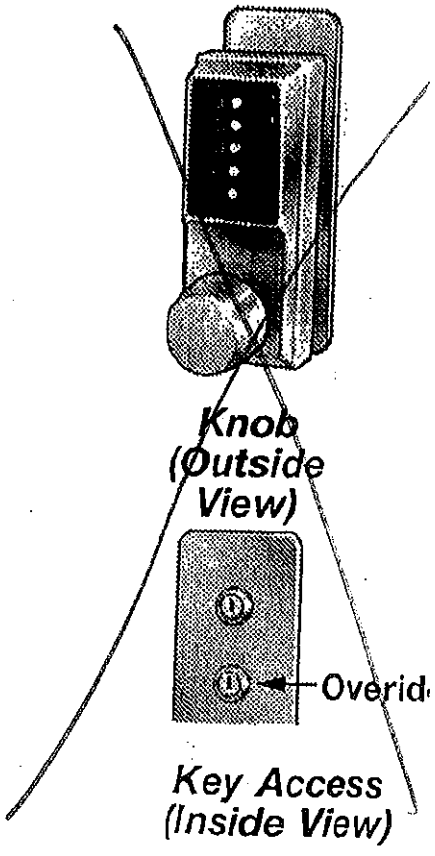
EXIT DOOR HARDWARE	
JOB / PROJECT	DATE

LCN CLOSER



Lock Sets

Push-Button Access Control Lock Set



PROJECT:		
SUBMITTED BY: CENTURY FENCE CO.		
Date:	By:	Sht. of

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WDNR July 3, 2003 RCRA Facility Assessment (RFA) Report

RCRA FACILITY ASESSMENT

ONYX SPECIAL SERVICES, INC.

Port Washington, Wisconsin
EPA ID #WID 988566543
FID #246076050

July 3, 2003

TABLE OF CONTENTS

July 03, 2003

RCRA FACILITY ASESSMENT
ONYX SPECIAL SERVICES, INC.
Port Washington, Wisconsin
EPA ID #WID 988566543
FID #246076050

INTRODUCTION

As part of the Resource Conservation and Recovery Act (RCRA), the U.S. Environmental Protection Agency (USEPA) or the State of Wisconsin Department of Natural Resources (WDNR) is required to conduct a RCRA Facility Assessment (RFA) at facilities requesting to obtain a RCRA operating permit. The Goal of the RCRA Corrective Action process is to identify and correct any releases to the environment at facilities which manage hazardous waste. An RFA is the first step in the overall corrective action process, and is intended to identify known or potential releases to the environment, and to recommend whether additional investigations are necessary. The Onyx Special Services, Inc. (Onyx) Port.Washington facility is up for license renewal and expansion. Therefore, this RFA for Onyx Special Services, Inc. (Onyx) examines the waste streams at the plant, identifies Solid Waste Management Units (SWMU's), documents releases which have occurred at the facility, identifies Areas of Concern (AOC's), evaluates all relevant data, and makes recommendations for future actions. This RFA was written in accordance with the US EPA RFA guidance and WDNR Waste Management Program Corrective Action Action Guidance.

The original hazardous waste facility was constructed by Aqua Tech in 1989. The only non-agricultural use of the property previous to that was as a lawnmower test area for the neighboring Bolens/Garden Way lawn tractor factory. The original hazardous waste storage and treatment license was issued in January of 1990, when Onyx began operating.

WDNR Staff conducted an inspection of the facility on April 25, 2002 to evaluate the site for corrective action issues. No samples were taken. Some spills have occurred at the facility. Based on this inspection, and information contained in WDNR files, WDNR has sufficient information to determine that Onyx Special Services, Inc. should now be required to conduct some limited sampling.

FACILITY OVERVIEW

Location, Land Use and Environmental Setting

Location

Onyx Special Services, Inc. is located in an industrial park on the outskirts of the City of Port Washington on an approximately eleven-acre site. The site is in Ozaukee County in the NW ¼ of the SE ¼ of Section 32, Township 11 North, Range 22 East. The street location and mailing address is 1275 Mineral Springs Drive, Port Washington, WI, 53074. Onyx Special Services, Inc.

is about 1500 feet south of West Sunset Road, and about 1800 feet east of Highway 32, South Spring Street.

Surrounding Land Use

Onyx Special Services, Inc. is located in a rural industrial park setting bounded on the north and east by industrial properties. Land to the west and south is agricultural, undeveloped, or under development. The site is zoned industrial.

Surface Water

A pond lies immediately north of the facility within a short distance from the paved area of the facility. The roof drains and paved parking area drain through separate storm sewers to this pond. Two north-south running intermittent creeks that eventually drain into Lake Michigan at the Port Washington power plant lie about 500 feet east and west of the site.

Geology/Hydrogeology

Three aquifers, the deep sandstone, the dolomite, and the saturated part of the unconsolidated glacial deposits underlie the site. Ground water flow in the dolomite and sandstone aquifers is generally thought to be east, towards Lake Michigan. The near-surface groundwater flow at the site may be towards the pond.

Nearby private water supply wells on Lakeshore Road document about 160 feet of clay soil over bedrock. Well logs taken at the neighboring Bolens Corporation, 1,000 feet northeast, note a stiff brown silty clay to the bottom of the borings at about 20 feet. Several of the boring logs note a sand seam at nine to eleven feet, where the groundwater table occurs.

The industrial park is served by municipal water. The nearest water supply wells are located about 1,900 feet east and 1,800 feet northeast of the site.

FACILITY MANUFACTURING PROCESSES AND WASTE MANAGEMENT OPERATIONS

Hazardous Waste Storage

Onyx's current main operations are hazardous waste storage and, starting in 1993, operating a lamp crusher and retort furnace for recovering mercury from fluorescent light tubes. Onyx stores and consolidates hazardous waste from generators in Wisconsin, Minnesota, Illinois, Indiana, Michigan, Ohio, and Indiana. This waste is then shipped to off-site treatment or disposal facilities when enough accumulates for economical shipment. Onyx Special Services, Inc., is one of only a few facilities in Southeast Wisconsin that can accept a wide range of hazardous waste for storage. Onyx can accept the following:

mercury-contaminated debris	mercury containing lamps and phosphor powder
mercury-containing solutions	mercury compounds
spent solvents and solvent mixtures	used oil
spent organic acids	spent alkaline solutions and solids
cyanide and sulfide bearing wastes	halogenated mixtures

flammable and combustible wastes	water reactive wastes
poison/toxic wastes	oxidizers
certain pesticides and herbicides.	

Onyx does not accept radioactive materials, explosive materials, pyrophoric materials or infectious materials. The current hazardous waste container storage area consists of three storage rooms divided into pods. The combined storage area of the rooms is 2,430 square-feet.

Mercury Reclamation

Mercury containing wastes such as batteries, lamps, and mercury contaminated debris are treated at Onyx to reclaim the mercury. Fluorescent lamps are crushed, the glass and aluminum end caps are collected, and the phosphor powder is captured in drums. The powder and other mercury contaminated waste is retorted at Onyx to reclaim the mercury. Reclaiming mercury by retorting waste is considered a hazardous waste recycling activity and is exempt from hazardous waste licensing requirements. Onyx has provided a one-time notice to the US EPA stating the retorting operation is exempt from the Boiler and Industrial Furnace rules stated in Subpart H of 40 CFR Part 266. A WDNR air discharge-permit covers emissions from the retort furnace and lamp recycling machines. Emissions from the roof stacks are scrubbed with a filter device and activated carbon.

Onyx operates a ten-day transfer facility to facilitate economical shipment of waste by temporarily storing hazardous waste during transport on semi-trailers in their secured parking lot. Onyx also operates a TSCA storage facility by temporarily storing TSCA regulated PCB materials, such as flourescent light tube ballasts, on semi-trailers in their secured parking lot.

Solid Waste Solidification

Onyx operates a small-scale non-hazardous solid waste solidification operation. Although Onyx still maintains a reduced capacity for this operation, it was mainly active from 1993 to 2001.

HAZARDOUS WASTE REGULATORY HISTORY

July 22, 1987	Aqua-Tech, Inc. notifies the Department that they are proposing to construct a small hazardous waste storage facility.
October 9, 1987	Date of a Part A application submitted by Aqua-Tech, Inc. for the storage of containers in a small storage facility.
October 12, 1987	Aqua-Tech submits a Feasibility and Plan of Operation (FPOR) for a small hazardous waste storage facility at 1275 South Port Drive in Port Washington.
October 22, 1987	Aqua-Tech submits a copy of the written agreement between the local siting committee and Aqua-Tech, Inc. relating to their proposed small hazardous waste storage facility.
December 10, 1987	The Department issues a notice of incompleteness for the small storage facility FPOR.
January 11, 1988	Aqua-Tech, Inc. responds to the Department's December 10, 1987 notice of incompleteness.
March 9, 1988	The Department issues a second notice of incompleteness for the FPOR.

April 12, 1988	Aqua-Tech, Inc. responds to the Department's March 9, 1988 notice of incompleteness.
June 30, 1988	The Department issues a public notice stating that Aqua-Tech has filed a complete FPOR. The Department also intends to issue a preliminary determination to conditionally approve the report.
August 14, 1988	Close of the public comment period. No comments were received.
August 22, 1988	Aqua-Tech, Inc. submits a modification request for the FPOR. The modification request includes: the City of Port Washington renaming South Port Drive to Mineral Springs Drive; changing the fire suppression system for the storage rooms from a water sprinkler system to a Halon 1301 system; modifying the construction of the berms from 4" high concrete berms to 6" wide and 2 feet high impervious concrete walls; modifying the construction of the building to incorporate an enclosed segregated transfer facility; information on the storage of dioxin derived wastes as stipulated in a Part A application revised on January 11, 1988; and, the repackaging of labpacks into larger sized containers.
September 6, 1988	Aqua-Tech, Inc. submits an updated Notification of Hazardous Waste Activity form in order to obtain an EPA ID number. Aqua-Tech intends to generate hazardous waste, operate as a transporter and transfer facility and as a storage facility at 1275 Mineral Springs Drive in Port Washington.
September 27, 1988	The Department sends a letter to Aqua-Tech requesting clarification and changes to the August 22, 1988 modification.
October 7, 1988	Aqua-Tech submits a response to the Department's September 27, 1988 letter.
October 17, 1988	The Department issues a second draft FPOR determination to Aqua-Tech due to significant changes from the first draft.
October 19, 1988	Aqua-Tech provides comments on the second draft by telephone.
October 25, 1988	The Department issues Onyx a FPOR approval for a small storage facility.
May 1, 1989	The Department mails a copy of a certification form used to satisfy corrective action requirements under the Hazardous and Solid Waste Amendments (HSWA) of 1984. The Department recommends that Aqua-Tech fill out the form even though this is a new facility and include information regarding the previous land usage. The information is necessary for US EPA to complete their HSWA permit for the facility.
May 9, 1989	Aqua-Tech submits the completed HSWA certification form. Aqua-Tech certifies that there are no solid waste management units at the facility and that the property was previously used by a lawn mower manufacturer as a testing ground. Prior to that, the property was used as farmland.
May 31, 1989	The Department prepares a RCRA Facility Assessment and recommends that Aqua-Tech, Inc. is not environmentally significant. No further action is recommended.
June 6, 1989	The Department sends a license application form to Aqua-Tech, Inc.
August 24, 1989	Aqua-Tech submits the license application form. Aqua-Tech indicates that documentation of adequate liability insurance and a Letter of Credit for closure will be submitted as it becomes available. Aqua-Tech also submits an updated FPOR. The updated FPOR includes minor changes to the contingency plan, an updated closure cost estimate and the

	replacement of aluminum grating with steel grating for the spill containment system.
September 6, 1989	Aqua-Tech submits an operating license application form since the operating license is due to expire on September 30, 1989. A copy of a certification of liability insurance is included.
September 28, 1989	The Department public notices their intent to issue a hazardous waste operating license to Aqua-Tech jointly with the EPA. A radio announcement is also made.
November 28, 1989	Aqua-Tech submits construction documentation for the small storage facility.
December 6, 1989	The Department conducts a pre-licensing and site construction inspection of the new Aqua-Tech facility.
December 11, 1989	Aqua-Tech submits a copy of a Letter of Credit for closure financial responsibility. The Letter of Credit is effective on January 1, 1990.
December 12, 1989	The Department issues a Site Construction Report Plan Approval.
December 22, 1989	Aqua-Tech requests a modification to eliminate specific condition #6 prohibiting the movement of waste from the small storage facility to the transfer facility.
December 27, 1989	The Department issues a hazardous waste storage license to Aqua-Tech for a maximum capacity of 10,000 gallons.
March 13, 1990	The Department conducts a hazardous waste inspection. The facility is found to be in compliance.
May 1, 1990	The Department issues a modification eliminating condition #6 from the October 25, 1988 FPOR approval.
September 5, 1990	The Department conducts a hazardous waste inspection. A notice of noncompliance is issued on September 17, 1990 for contingency plan and aisle space requirements. Aqua-Tech submits information regarding actions taken to correct the areas of noncompliance on October 16, 1990 and December 6, 1990.
January 30, 1991	Aqua-Tech, Inc. states their intention to modify their approval to bulk chemically compatible wastes into 55-gallon containers and expand their storage operations to 20,000 gallons.
February 6, 1991	The Department issues a letter to Aqua-Tech informing them that their proposed bulking operations is not considered a minor modification of their license.
March 21, 1991	The Department conducts a hazardous waste inspection. A notice of noncompliance is issued on April 2, 1991 for container standards, aisle space and inspection requirements. Aqua-Tech submits information regarding actions taken to correct the areas of noncompliance on April 21, 1991 and June 27, 1991.
July 1991	Onyx submits a revised FPOR for a hazardous waste storage facility.
August 15, 1991	Mineral Springs Corporation notifies the Department that they intend to purchase the storage and transfer facility operated by Aqua-Tech.
May 1, 1991	The Department receives copies of a revised FPOR for a proposed expansion of the Aqua-Tech storage facility from 10,000 gallons to 20,000 gallons.
June 27, 1991	The Department issues a Notice of Incompleteness for the FPOR.
August 27, 1991	Aqua-Tech submits a response to the June 27, 1991 Notice of Incompleteness.
September 23, 1991	The Department issues a minor modification to transfer ownership from Aqua-Tech, Inc. to Mineral Springs Corporation.

September 26, 1991	The Department conducts a hazardous waste inspection. A notice of noncompliance is issued on October 15, 1991 for storing waste for more than one year, shipping waste to a non-approved TSD, and not keeping an inspection schedule. Mineral Springs Corporation submits information regarding actions taken to correct the areas of noncompliance on October 25, 1991 and March 27, 1992.
October 31, 1991	The Department issues a second Notice of Incompleteness for the FPOR.
December 12, 1991	Mineral Springs Corporation submits a response to the October 31, 1991 Notice of Incompleteness.
March 25, 1992	The Department finds the FPOR to be complete. The determination is conditional, provided additional information is submitted within 30 days.
March 26, 1992	The Department issues a public notice for filing a complete FPOR and preliminary environmental impact decision.
March 30, 1992	The Department conducts a hazardous waste inspection. A notice of noncompliance is issued on May 14, 1992 to Mineral Springs Corporation for storing waste for longer than one year and not complying with manifest requirements. Mineral Springs submits information regarding the actions taken to correct the areas of noncompliance on April 3, 1992 and May 28, 1992.
April 15, 1992	Mineral Springs Corporation submits the additional information as required by a condition in the March 25, 1992 completeness determination
May 21, 1992	Mineral Springs Corporation submits a license application.
May 27, 1992	The Department issues a FPOR approval for the expansion of the licensed storage capacity from 10,000 gallons to 20,000 gallons.
May 28, 1992	The Department issues a public notice and radio announcement of their intent to issue a hazardous waste storage license to Mineral Springs Corporation. The environmental analysis and decision on the need for an environmental impact statement is also made.
July 1, 1992	Mineral Springs Corporation states their intention to compact hazardous wastes using a drum crusher.
July 21, 1992	The Department issues a license allowing 20,000-gallon container storage at the Mineral Springs Corporation.
September 29, 1992	The Department conducts a hazardous waste inspection. A notice of noncompliance is issued on October 23, 1992 for an incorrectly identified waste type. The facility submits information regarding the actions taken to correct the area of noncompliance on February 24, 1993.
December 1, 1992	The Department concludes that the recontainerization of hazardous waste and the bulking of waste oil do not require a plan modification. The Department clarifies that the activities should be done in compliance with condition 18 and 19 of the FPOR approval dated May 27, 1992.
March 30, 1993	The Department conducts a hazardous waste inspection. A notice of noncompliance is issued on May 11, 1993 for waste analysis violations, not complying with a plan approval condition and deficiencies in the closure plan. The facility submits information regarding the actions taken to correct the areas of noncompliance on September 22, 1993.
April 27, 1993	The Department is notified that the ownership of the Mineral Springs facility will transfer to the Superior Special Services Hazardous Waste Group, Inc. (Superior)on April 26, 1993.
September 22, 1993	The Department conducts a hazardous waste inspection. Superior is in compliance at the time of the inspection.

September 30, 1993	The Department issues a minor modification approval to transfer ownership from Mineral Springs Corporation to Superior Special Services.
February 18, 1994	The Department conducts a hazardous waste inspection. A notice of noncompliance is issued on April 11, 1994 because a subsequent notification was not submitted for the name change. The facility submitted information regarding the actions taken to correct the area of noncompliance on March 24, 1994.
March 2, 1994	The Department issues a notice of violation alleging that Superior did not comply with the conditions of their approval. The violations regarded accepting picric acid, a shock sensitive explosive, into the storage facility on or about January 14, 1993.
March 28, 1994	Superior Special Services submits a letter asking for clarification on the regulation of phosphor powder generated by lamp crushing operations.
March 31, 1994	Superior submits information in response to the March 2, 1994 notice of violation stating that the picric acid in question was hydrated and may not have been a shock sensitive explosive.
April 14, 1994	The Department issues a letter to Superior stating that mercury phosphor powder exceeding the TCLP limit is subject to hazardous waste regulation and is not exempted as a scrap metal or precious metal.
June 7, 1994	The Department conducts a hazardous waste inspection. A notice of noncompliance is issued on August 5, 1994 for employee training requirements. Information regarding the actions taken to correct the area of noncompliance is submitted on September 28, 1995.
December 2, 1994	Superior submits a proposed plan of operation for the mercury retort operation.
March 3, 1995	The Department determines that the mercury retort operation qualifies for the legitimate recovery and reclamation recycling exemption in NR 625.06, Wis. Admin. Code.
March 10, 1995	The Department conducts a hazardous waste inspection. The notice of noncompliance was not received by Superior and was reissued on May 30, 1996, for waste analysis requirements, recordkeeping requirements and marking containers. Superior submits information regarding the actions taken to correct the areas of noncompliance on May 30, 1996 and June 30, 1996.
June 26, 1995	The Department is notified that Superior Hazardous Waste Group, Inc. will be changing its name to Superior Special Services, Inc. effective July 1, 1995.
September 28, 1995	The Department conducts a hazardous waste inspection. The facility is in compliance at the time of the inspection.
December 7, 1995	Superior requests a Class 2 modification to add newly listed waste codes. The waste codes were published as a final rule in the February 9, 1995 Federal Register and include certain K, U, and P listed wastes. Superior also requests the Department to make a determination on whether the hazardous waste license needs to be modified to operate an used oil transfer facility in the licensed hazardous waste storage area.
January 3, 1996	Superior submits a letter to the Department requesting the ability to store mercury wastes, such as mercury batteries and mercury-containing thermostats in DOT approved shipping containers, placed in a semi-trailer, until retorting can occur. Superior proposes to store the semi-trailer in their parking lot.

March 7, 1996	The Department determines that a plan modification is not necessary to operate a used oil transfer facility in the hazardous waste storage facility.
March 21, 1996	The Department conducts a hazardous waste inspection. A notice of noncompliance is issued on April 3, 1996 for waste being stored for more than one year and security requirements. The facility submits information regarding the actions taken to correct the areas of noncompliance on July 30, 1996.
July 25, 1996	Superior provides written documents regarding an expansion that was constructed to perform solidification of nonhazardous waste. The expansion includes new loading docks and a new office area. The submittal includes a request to receive hazardous waste at the north dock.
September 4, 1996	The Department conducts a hazardous waste inspection. A notice of noncompliance is issued on September 26, 1996 for incomplete inspection records, incomplete employee training records, not maintaining aisle space and not meeting a condition of their approval. Superior submits information regarding the actions taken to correct the areas of noncompliance on October 24, 1996.
November 14, 1996	The Department notifies Superior that accepting waste at the north dock would be considered a class 1 modification.
November 15, 1996	The Department notifies Superior that mercury wastes brought to the facility for retorting can only be stored in licensed storage areas.
January 24, 1997	The Department issues a Class 2 plan modification approval to add newly listed waste codes published as a final rule in the February 9, 1995 federal register.
March 19, 1997	The Department conducts a hazardous waste inspection. Superior is in compliance at the time of the inspection.
August 25, 1997	The Department issues a close-out letter for the notice of violation issued on March 2, 1994.
September 16, 1997	The Department and US EPA conduct a hazardous waste inspection. The facility is in compliance at the time of the inspection.
January 30, 1998	The Department and US EPA conduct a hazardous waste inspection. Superior is in compliance at the time of the inspection.
June 10, 1998	The Department conducts a hazardous waste inspection. A notice of noncompliance is issued on July 20, 1998 for inadequate employee training requirements. Superior submits information regarding the actions taken to correct the area of noncompliance on July 12, 1998.
June 18, 1998	The Department issues a Class 1 plan modification approval to add new wastes that are encountered at household collection sites or are similar to other chemicals that are already accepted. These wastes included U and P listed wastes.
November 13, 1998	The Department issues a call-in letter requesting Superior to submit a revised FPOR by May 11, 1999. The 10-year license expires on December 27, 1999.
December 10, 1998	The Department conducts a hazardous waste inspection. A notice of noncompliance is issued on January 5, 1999 for incomplete inspection logs, inadequate employee training and inconsistent markings on a drum. Superior submits information regarding the actions taken to correct the areas of noncompliance on January 29, 1999.
May 27, 1999	Montgomery Watson, on behalf of Superior Special Services, submits copies of a revised FPOR in response to the Department's call-in letter

	dated November 13, 1998. The submittal proposes an expansion of the hazardous waste storage areas at the facility.
June 10, 1999	The Department conducts a hazardous waste inspection. A notice of noncompliance is issued on August 3 1999 for inadequate emergency procedures. Superior submits information regarding the actions taken to correct the area of noncompliance on August 19, 1999.
December 17, 1999	The Department conducts a hazardous waste inspection. The facility is in compliance at the time of the inspection.
January 6, 2000	A public notice is published for Superior's intent to re-license an expanded facility.
June 15, 2000	The Department conducts a hazardous waste inspection. The facility is in compliance at the time of the inspection.
December 12, 2000	The US EPA and the Department conduct a hazardous waste inspection. EPA issues a notice of violation dated March 12, 2001 for failure to comply with manifest requirements, file a manifest exception report, complete weekly inspections and transporter record keeping and operating requirements. Superior submitted information regarding actions taken to correct the violations on December 15, 2000 and March 29, 2001.
May 17, 2001	The Department issues a notice of incompleteness for the May 27, 1999 FPOR. The notice requests a response from Superior within 60 days.
May 24, 2001	The Department conducts a hazardous waste inspection. A notice of noncompliance and close-out letter is issued on August 2, 2001for failure to close containers of hazardous waste while they are in storage. Superior corrected the violation during the inspection.
June 25, 2001	Superior requests an extension for submitting their response to the May 17, 2001 notice of incompleteness. The request is made because Superior had not yet received US EPA's comments on their submittal. Superior requests that the submittal date be extended to 45 days after receiving EPA's comments.
July 18, 2001	The Department grants Superior a 45-day extension to September 2, 2001.
August 17, 2001	EPA issues a Notice of Deficiency to Superior.
September 10, 2001	Superior submits a response to the Department's Notice of Incompleteness.
November 16, 2001	Superior submits two letters requesting a determination on the regulatory status of a proposed batch recovery system for mercury-bearing compounds and solutions and proposed shredding and crushing operations.
December 6, 2001	The Department conducts a hazardous waste inspection. A notice of noncompliance is issued on December 26, 2001 for failure to meet security requirements and failure to maintain adequate operating records for the mercury retort unit. Superior submits documentation stating the actions taken to correct the violations on January 18, 2002.
January 15, 2002	The Department e-mails a second notice of incompleteness to Superior. A response is requested within 30 days.
February 14, 2002	Superior submits a response to the US EPA notice of deficiency dated August 17, 2001.
March 25, 2002	The Department issues a second notice of incompleteness letter to Superior. The information requested in the letter is similar to the information requested in the January 15, 2002 e-mail.
April 25, 2002	Department personnel conduct a corrective action evaluation inspection.

May 14, 2002	Superior submits a response to the Department's March 25, 2002 notice of incompleteness.
May 21, 2002	The Department conducts a hazardous waste inspection. A notice of noncompliance and close-out letter is issued on May 23, 2001 for failure to keep containers closed during storage. Superior corrected the violation during the inspection.
December 26, 2002	The Department provided conditional approval of Onyx's Class 1 Plan Modification request, dated December 17, 2002, to change the facilities name from Superior Special Services, Inc. to Onyx Special Services, Inc.

This is not a complete list of contacts between Onyx and WDNR.

DOCUMENTED RELEASES

Chronological List of Spills from DNR File

The following list is from spills incident reports contained in the spills file at the Department of Natural Resources Plymouth Service Center for this facility.

January 1992	10 gallons expended lithography plate etching solution, drained into the loading dock collection sump; 10-15 gallons of corrosive liquid (contains ferric nitrate and nitric acid).
February 1992	190 pounds of Halon 1301 gas that dissipated into the atmosphere.
Sept 1992	1-2 gallons of acid buffer solution in parking lot. Collected with oil-dry, leaking container was overpacked.
October 1992	20 gallons ferric nitrate, a corrosive liquid, spilled when its canister burst, leaking contents into storage cell. The pressure release triggered the fire suppression system, releasing 475 pounds of Halon 1301.
August 1993	~~½-pint sulfuric acid tank rinsate and ½-pint sodium hydroxide stripper~~ sludge spilled in front of the loading dock. Spill was collected and properly disposed.
December 1993	Less than 10 gallons sulphuric or phosphoric/fluoroboric acid solution spilled in the parking lot from a transportation trailer. The spilled substance was collected with oil-dry and sodium bicarbonate and properly disposed of.
August 1994	2-gallons sec-butyl alcohol spilled from a bad seam in a drum onto the parking lot. The spilled substance was collected with oil-dry and properly disposed of.
December 1994	Less than 10-gallons petroleum solvent onto snow on the paved parking lot. Spilled substance was collected with floor dry and drummed with contaminated snow.
July 1995	About 25 pounds bulked waste flammable liquid paint and solvents spilled when a coupling broke on a transfer line from drums to a transportation truck in the

parking lot. The spilled substance was collected with oil dry and properly disposed of.

October 1996 — 3,000 gallons latex top-coat solution (for thermal fax paper) spilled from a tanker in the north loading dock. The material drained to the loading dock sump, then through the drainage pipe connected to the sump onto the ground surface drainage area in the northwest section of the fenced area. The solution was contained with a trench dug in the soil with a backhoe before it could reach the pond. 90% of material was recovered. About 48 cubic-yards of contaminated soil and sod was excavated for remedial action to a depth of 4-5 inches. Soil samples were collected from the drainage pipe. These confirmation samples indicated no detectable concentrations of acetone and styrene.

March 1997 — 2-gallons of mercury contaminated ice-water was spilled onto paved parking lot. The spill was collected with oil-dry and a commercial absorbent and properly disposed of.

July 1997 — Approximately 25 gallons mineral spirits spilled in the loading dock. The material was characteristic hazardous for ignitability and toxicity for lead and chromium. A vacuum hose split while Onyx personnel were pumping liquids into a tanker truck, causing this spill. The spill material flowed downhill where it was collected with a berm of oil-dry. The material was containerized and properly disposed of.

December 1997 — 1,000-3,000 gallons of RCRA non-hazardous fly ash spilled from the flyash storage silo release valve. The flyash covered the surface of the ground from the silo to near the east property line and the employee part of the parking lot. The flyash was recovered with a Super Sucker Vacuum truck and a street sweeper.

Onyx's List of Spills

Onyx included a table of known releases at the facility as Appendix M to their Feasibility and Plan of Operations Report, dated May of 1999. Most significantly, Onyx lists a mercury vapor release of less than one pound in March of 1997 from the retort oven in the retort room, and a release of 20 pounds of mercury in August of 1999 into a trailer and on the south parking lot.

SOLID WASTE MANAGEMENT UNITS (SWMU's)

List of SWMU's

1 Hazardous Waste Storage Rooms
2 South Loading Dock
3 North Loading Dock
4 Fluorescent Lamp Crushing/Processing Machine
5 Mercury Retort Area
6 Waste Glass Lugger Box Areas
7 Solid Waste Solidification Area
8 Household Hazardous Waste Storage Area

9 Trailer Storage/Parking Lot Area

SWMU #1 Hazardous Waste Storage Rooms

Location
Main Building

Unit Description
The storage rooms consist of three separate rooms enclosed by 4-hour fire prevention concrete walls and ceiling, and with high pressure, monolithic concrete floors. Capacity is about 20,000 gallons. The rooms are divided into "pods" separated by short concrete walls and 3 ½-inch high berms. Storage containers are kept a few inches off the floor on steel gratings to keep the containers from having contact with liquid in the event of a spill. Storage Room 1 is approximately 660 square feet, including a segregated 68 square foot enclosed subroom. Storage Room 1 is divided into two segregated pods by concrete walls and concrete berms. Storage Room 2 is approximately 1130 square feet and is divided into three bermed pods of 394, 400, and 336 square feet. Storage Room 3 is approximately 640 square feet and is divided into six pods of 98, 95, 98, 117, 114, and 118 square feet. Containers stored in these rooms range in size from less than one-pint bottles up to cubic yard boxes. Hazardous wastes are only received in DOT shippable containers.

History of Use and Operation
These rooms were built as an original part of the facility when Aqua Tech, Inc. built it in 1989. The use of the rooms has not changed. Hazardous wastes are stored in these rooms in containers that range in size from pint up to cubic-yard DOT approved boxes on pallets. 55-gallon drums are typical in these rooms.

Potential Migration Pathway/Release Controls
Floors of the pods are constructed of 4,000 psi concrete mixed with fly-ash and polypropylene fibers. The concrete floors in the pods were a monolithic, continuous pour, which was wet-cure sealed with a superplasticizer. The floors have not been top-coated.

A portable peristaltic pump is maintained at the facility to collect spilled hazardous waste. The floor grating is removable in sections to allow for pumping of the spill. The spaces below the gratings are vacuumed annually. Each pod has a raised walkway and enough aisle space for the use of fire protection, spill control, and decontamination equipment. Drums are stored in rows to allow for accessibility. Wastes are stored in a segregated manner by hazard class to prevent incompatible mixing in the event of a spill.

History of Releases
On October 29, 1992, a twenty-gallon ferric nitrate corrosive liquid canister burst, leaking contents into one of the storage pods. The pressure release triggered the fire suppression system, releasing 475 pounds of Halon 1301. The Department of Natural Resources noted in a "Substance Spill/Release Form" that the spill was contained and no DNR action was taken. Onyx lists the occurrence of half-dozen minor spills in the storage pods.

Conclusions/Remarks
The hazardous waste storage rooms have a very low potential for having caused environmental contamination.

SWMU #2 South Loading Dock

Location
The South Loading Dock is located on the south end of the building.

Unit Description
Incoming and outgoing wastes pass through this loading dock. Liquid waste containers are moved from the storage pods to the loading dock before bulking into tanker trucks. The loading dock area is designed to contain a spill. The floor is a continuous concrete slab that slopes inward toward the building to a trench drain that empties into a sealed trench.

Potential Migration Pathway/Release Controls
The trench-drain is sealed to contain spills to the loading dock area until a vacuum truck can recover the spilled material. A collection basin is placed below hosing connections prior to tanker bulking procedures.

History of Use and Operation
The loading dock was part of the original operation and is currently in use.

History of Releases
Several minor spills have taken place in the loading dock area.

Conclusions/Remarks
Operations at the main loading dock have a low potential for having caused a significant release to the environment.

SWMU #3 North Loading Dock

Location
The north loading dock is located on the north end of the building.

Unit Description
This loading dock has two bays that join the main building to the latest addition/former solid waste processing area, currently the lamp machine area.

Potential Migration Pathway/Release Controls
There was a drainage sump outside the loading dock area that had an outlet pipe that drained to the ground surface northwest of the building. These were sealed after a spill of 3,000 gallons of a latex topcoat solution in October of 1996. This sump was paved over during the new construction.

History of Use and Operation
This area was enclosed with walls and a roof as part of the last building addition in late 1996 or early 1997. Prior to that, a tanker truck brought liquid from the frac tank located in the south loading dock at that time to the north loading dock for solidification processing. Solid/liquid separation was originally done in plastic lined rolloff boxes in a curbed area in the northeast corner of the building adjacent to the North Loading Dock that was equipped with a recessed floor designed to accommodate a rolloff box. The recessed floor had a 3'x4' catch basin. The rolloff boxes were placed outside overnight to set-up near the flyash silo. In August of 1998, the

frac tank was moved to the newly constructed waste separation area to sit near the waste separation pit. In 2001, the waste separation pit was closed, the frac tank was gotten rid of, and two lamp machines were set up at this location.

History of Releases
During a March 19, 1997 WDNR inspection, liquids were observed by WDNR personnel to be leaking from a lugger box sitting in the north loading dock and running towards the pond. However, only the 3,000-gallon latex topcoat spill in this area is documented to have caused an impact to the soil at the site. This impact was remedied in the day and next day following the spill.

Conclusions/Remarks
There is a potential that spill residuals from the sump drainage outlet may have caused minor soil impacts (other than the latex topcoat solution) prior to when it was plugged in October of 1996.

SWMU #4 Fluorescent Lamp Crushing/Processing Machine

Location
The lamp machine was originally located in the northwestern corner of the original building in the retort room. In 2001 the lamp machine operation was moved to the northernmost building addition where the frac tank and waste solidification pit used to be.

Unit Description
The lamp machines crush the florescent light tube lamps, separate the glass, the phosphor powder, and the aluminum end caps and metal wire. The phosphor powder collects in drums on the floor and is sent for processing in the retort furnaces. The glass is stored in a rolloff box outside the building.

History of Use and Operation
The lamp machine and retort operation were approved for use in 1993, and were located in the northwestern corner of the main building. In 1995, the department approved the use of new lamp machines. In early 2002 a new lamp machine was added.

Waste Management
TCLP mercury and total mercury testing is done on samples of the waste lamp glass and lamp aluminum end-caps and metal wire. The waste lamp glass is stored in a large roll-off outside the building. Filter bags with residual phosphor powder from the lamp machine air emission control equipment are sent through the retort. Onyx's current air permit limits mercury emissions to no more than 0.0956 lbs/hr. Actual emissions are likely much lower. WDNR modeled air concentrations to be 0.3 ug/m3 on an annual basis at the worst area of impact.

History of Releases
No spills of phosphor powder, glass, or other lamp components have been recorded for this operation.

Conclusions/Remarks
Mercury emission fallout from the lamp machine roof stacks is a potential concern. Mercury may have a potential to concentrate at the base of the roof drains.

SWMU #5 Mercury Retort Area

Location
The mercury retort furnaces and equipment are located in the northwest corner of the building in the retort room. The retort furnaces remained at this location after the lamp machines were moved to the building addition.

Unit Description
The retort is a natural-gas fired furnace with two chambers. One chamber is primarily used to heat mercury containing phosphor powder generated by the lamp machines. The mercury is driven off as a vapor to a scrubber and packed tower where it condenses with water, then is collected in a tank as elemental mercury. The other chamber is used to recover mercury from other mercury bearing wastes such as batteries, switches, thermometers etc.

History of Use and Operation
The lamp machine and retort operation were approved for use in 1993 and are still in use.

Waste Management
TCLP mercury and total mercury testing is done on samples of the post-retort powder and mercury contaminated carbon, water, and debris. Mercury contaminated water and carbon is drummed and shipped off-site for disposal.

History of Releases
According to the WDNR Air management Engineer assigned to this facility, the stacks from the retort operation have very low mercury emissions. Onyx lists a mercury vapor release of less than one pound in March of 1997 from the retort oven door to the retort room.

Conclusions/Remarks
The retort operation may have some potential for accumulation of contaminants from fallout to the roof then to the soil at the base of the roof drains.

SWMU #6 Waste Glass Lugger Box Areas

Location
The waste glass lugger box was originally located on the west side of the original building on a concrete pad. The lugger box was moved with the lamp machines to the north end of the building where it rests on a paved section of the parking lot.

Unit Description
The lugger box is open on top and is about 15 cubic-yards in capacity. The department observed a hole at the base of the lugger box in an inspection of the Onyx Special Services facility on April 25, 2002.

History of Use and Operation
The lugger box was noted to not be covered during an inspection in March of 2000, and in April of 2002.

History of Releases
No documented releases are on file for this SWMU.

Conclusions/Remarks
Although the concentration of mercury in the waste lamp glass is very low, there is a potential for mercury to concentrate in the soil downhill from the lugger box due to rainwater draining through the lugger box and running off the pavement into the soil.

SWMU #7 Solid Waste Solidification Area

Location
The waste separation pit and frac tank were located in the northern most part of the building. The Maxon Mixer was located in the main building on the other side of the wall.

Unit Description
The Waste Separation Pit and frac tank were mainly used for solidifying non-hazardous solid waste such as paint, garage pit waste, car wash sludge, and sludgy wash water. The pit measures 44 feet long by 13.5 feet wide by 5 feet deep. The floors and walls of the pit are six-inch concrete construction. The pit has a small sump in one corner. Joints in the concrete were sealed with Voclay Waterstop-RX.

Onyx hired Mongomery Watson (MW) to inspect the pit in May of 2001 for the purpose of closing this activity. MW found two somewhat less than inch-wide cracks running the width of the pit. The cracks had been sealed; however, MW observed that the sealant had come loose in several isolated locations from the scraping and pressure washing during the decontamination process. MW stated that there was no visual evidence that process materials had penetrated the cracks. According to Onyx, the cracks had developed during the construction process and were patched before the pit was put into use.

In the frac tank area, MW observed several scrape marks an inch or less in depth presumably caused by the movement of roll-offs across the floor. None of the scrapes penetrated the concrete. The area was free of process residuals.

History of Use and Operation
This waste solidification process operated from 1993 to 2001. Montgomery Watson stated in their report submitted to the department that field observations of the integrity of the pit did not indicate a "significant potential for subsurface impacts". Onyx has filled in the pit with compacted aggregate followed by a concrete slab.

Onyx maintained a 1,100-gallon polyethylene tank in this area to store oil/water separator sludge generated by customers who had truck washing operations.

Waste Management
Liquids were separated from the waste by settlement in the pit and then pumped to the frac tank. Solids from the pit were mixed with sawdust and disposed of at a landfill. Liquids were solidified by mixture with flyash in the Maxon Mixer inside the building, prior to being shipped off-site for landfill disposal. Liquids were also run through this process without passing through the pit.

History of Releases
Onyx lists a 500-gallon non-hazardous garage pit waste spill in the northern solidification area in August of 1998. During a December 10, 1998 inspection, liquids were observed flowing down the asphalt drive from just north of the solidification pit to a low grassy area west of the asphalt. Onyx personnel said the liquid was water used to clean the backhoe after it was used in the

solidification process. A DNR inspection record from March, 2000 noted a release from the solid waste processing operation on the northern side of the building. Overfilling of the solidification pit apparently caused a release that flowed toward the onsite pond.

Conclusions/Remarks
There is a potential that a release of contaminants into the subsurface occurred from the cracked floor of the Solid Waste Separation Pit. There is a minor potential for contamination occurring in the soil near the pond and into the pond from waste solidification operation spills.

SWMU #8 Household Hazardous Waste Storage Area

Location
Household hazardous waste (HHW) are collected and stored in an eastern portion of the Materials Storage Area near an overhead door. These wastes are also collected at the Main Loading Dock area.

Unit Description
Onyx is classified as a Permanent Collection Facility for accepting household hazardous waste for the local community. The HHW is packed into DOT approved shipping containers. Some of these wastes are consolidated or commingled into other waste streams in the storage pod rooms then stored in the hazardous waste storage pods. The Main (southern) Loading Dock area accommodates large containers, typically roll off boxes for storing containers of HHW paint.

History of Use and Operation
Onyx submitted a plan of operation for this ongoing operation in 1999.

History of Releases
No releases from this operation are on record.

Conclusions/Remarks
It is not likely that this operation has contributed to a release to the environment.

SWMU #9 Trailer Storage/Parking Lot Area

Location
The trailer storage area/parking lot is on the south side of the property.

Unit Description
This is the location of the PCB storage trailer and 10 day transfer area for hazardous waste. The trailer storage/parking lot area drains to a catch basin that discharges to a controlled flow outfall near the pond north of the building. Roll-offs kept in this area are stored on concrete pads.

History of Use and Operation
This unit has been paved with asphalt since the operation began. Onyx inspects the area on a daily basis.

History of Releases
A number of mostly minor spills detailed in the text above have occurred here.

Conclusions/Remarks

There is a potential that rainfall may have flushed spill residuals that have occurred in the parking lot to the soil near the outfall located near the pond.

AREAS OF CONCERN (AOC)

AOC #1 Roof Drain

The roof drain is on the north side of the building and drains to a grassy area close to the building. There is a small potential that mercury fallout from stack emissions could be collected on the roof and concentrated by rainfall to the soil in this area.

SUMMARY AND RECOMMENDATIONS

Onyx Special Services, Inc. has documented several minor spills at this facility. Onyx has responded to each spill and has taken remedial action when necessary. Onyx modifies their operating procedures when deemed prudent to prevent future spills. However, there are areas of potential contamination that should be investigated relating to the activities in AOC #1 and SWMU # 3, 4, 5, 6, 7 and 9. Therefore, WDNR recommends that Onyx be required to submit an initial investigation workplan for some limited sampling to address the following areas as related to the above stated SWMUs and AOC. The site investigation workplan should be submitted for prior WDNR approval and adhere to NR 716.09 and applicable sections of NR 635 and NR 680, Wis. Adm. Code. Any investigation or remedial activities shall be completed under the applicable requirements of Chapters NR 700, NR 635, NR 636, and NR 680, Wis. Adm. Code:

Soil Samples

- The parking lot drainage outfall (sediment) for PAH's, VOC's, and mercury (SWMU #9).
- The base of the roof drainage spout for mercury (AOC# 1 and SWMU #4 and 5).
- The edge of the paved area, closest to the pond, on the north side of the building near the glass lugger-box for mercury, PAH's and RCRA metals (SWMU #3, 6 and 7).
- The former glass lugger-box area on the west side of the building off the concrete pad for mercury (SWMU #6).

WDNR will use a site investigation trigger level of 0.21 mg/kg mercury as established in EPA's website that calculates generic soil to groundwater residual contaminant levels (RCL's) using Wisconsin default parameters for dilution factor (0.4), fraction organic carbon in soil (0.001), and water-filled soil porosity (0.2). Onyx is not bound to use this trigger-level concentration as an residual cleanup level, rather, Onyx may generate their own site-specific RCL for mercury under NR 720, Wisconsin Administrative Code. Onyx may not generate a site specific trigger level concentration.

Groundwater Sample

- One groundwater sample from a well, temporary well, or geoprobe in the presumed downgradient direction, between the former solid waste solidification pit and the existing pondfor SVOC's (method 8270), VOC's, and RCRA Metals (SWMU #7).

The WDNR has determined through this RFA that no investigation or remedial activities are required for SMU #1, 2, or 8 under the applicable requirements of Chapters NR700, NR635, NR636, and NR680, Wis. Adm. Code as related to the RCRA operating permit.

Report Prepared by:

John Feeney and Sandra Miller
Wisconsin Department of Natural Resources

J

Montgomery Watson October 19, 2004 RCRA Facility Investigation (RFI) Report

MWH

October 19, 2004

Mr. John Feeney
Wisconsin Department of Natural Resources
1155 Pilgrim Road
Plymouth, Wisconsin 53073-0408

Re: RCRA Facility Investigation Report
Onyx Special Services, Inc.
1275 Mineral Springs Drive
Port Washington, Wisconsin
FID#: 246076050
EPA ID #: WID 988566543

Dear Mr. Feeney:

On behalf of Onyx Special Services, Inc. (Onyx), MWH has prepared this RCRA Facility Investigation Report for the Onyx facility located at 1275 Mineral Springs Drive in Port Washington, Wisconsin. The Report is being submitted in accordance with Condition #23 of the Department's September 25, 2003 Final Determination to Conditional Approval issued to Onyx.

If you have any questions or comments, please contact me at (262) 376-5082.

Sincerely,

MWH AMERICAS, INC.

Norman M. Cira

N. Michael Cira, CHMM
Supervising Environmental Scientist

Enclosure: RCRA Facility Investigation Report (1 copy)

cc: Kevin Shaver, Onyx Special Services, Inc. (1 copy)
Sandra Miller, WDNR (1 copy)

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2082678.01160101-MAD1

One Science Court
P.O. Box 5385
Madison, Wisconsin
53705-0385

Tel: 608 231 4747
Fax: 608 231 4777

RCRA FACILITY INVESTIGATION REPORT

ONYX SPECIAL SERVICES, INC.
1275 MINERAL SPRINGS DRIVE
PORT WASHINGTON, WISCONSIN

FID#: 246076050
EPA ID #: WID988566543

October 2004

Prepared For:
Onyx Special Services, Inc.
Port Washington, Wisconsin

•••

Prepared By:
MWH
Madison, Wisconsin

Project No. 2082678.01160101

MWH
MONTGOMERY WATSON HARZA

RCRA FACILITY INVESTIGATION REPORT

ONYX SPECIAL SERVICES, INC.
1275 MINERAL SPRINGS DRIVE
PORT WASHINGTON, WISCONSIN

FID#: 246076050
EPA ID #: WID988566543

October 2004

"I, Leo B. Linnemanstons, hereby certify that I am a hydrogeologist as that term is defined in s. NR 600.03 (98), Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 635 and 685, Wis. Adm. Code."

Leo B. Linnemanstons — October 19, 2004

Leo B. Linnemanstons, Hydrogeologist — Date

"I, N. Michael Cira, hereby certify that I am a scientist as that term is defined in s. NR 712.03 (3), Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 635 and 685, Wis. Adm. Code."

Norman M. Cira — October 19, 2004

N. Michael Cira, Supervising Scientist — Date

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1.0 INTRODUCTION

On behalf of Onyx Special Services, Inc. (Onyx), MWH has prepared this report for the RCRA Facility Investigation of the Onyx facility located at 1275 Mineral Springs Drive in Port Washington, Wisconsin. The report is being submitted in accordance with Condition #23 of the WDNR's September 25, 2003 Final Determination to Conditional Approval letter issued to Onyx.

This report has been prepared in accordance with Chapter NR 716, Wisconsin Administrative Code (WAC). The report describes the investigation activities performed as described in the Work Plan developed based on the results of the WDNR's *RCRA Facility Assessment* dated July 3, 2003. In addition, the report also includes additional sampling efforts described in the *Initial RFI Investigation Results* report sent to the WDNR on June 8, 2004, and subsequently approved by WDNR in a June 21, 2004 telephone conversation with MWH. Finally, several additional sediment samples were collected after the second series of samples to provide a more statistically representative characterization.

1.1 SITE INFORMATION

- Project Title: RCRA Facility Investigation
  Onyx Special Services, Inc.
  1275 Mineral Springs Drive
  Port Washington, Wisconsin

- Current Property Owner: Onyx Special Services, Inc.
  Address: 125 South 84th Street, Suite 200
  Milwaukee, Wisconsin 53214
  Phone: (414) 479-7800

- Client Contact: Mr. Kevin Shaver
  Onyx Special Services, Inc.
  1275 Mineral Springs Drive
  Port Washington, Wisconsin
  Phone: (262) 243-8909

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- Site Name: Onyx Special Services, Inc.
  Mineral Springs Facility
  EPA ID # WID 988566543
  FID #246076050

- Location: NW ¼, of the SE ¼ of Section 32 , T11N, R22E
  1275 Mineral Springs Drive
  City of Port Washington
  Ozaukee County, Wisconsin

1.2 BACKGROUND INFORMATION

1.2.1 Site Description

The Onyx Special Services, Inc. (Onyx)-Mineral Springs facility is located in a City of Port Washington industrial park (see Drawing A1). The rectangular shaped parcel comprises approximately 11 acres (see Drawing B1) and includes two site buildings. The approximate northern half of the facility consists of vacant land and a large stormwater retention pond. The majority of facility run-off discharges to this pond. There are two intermittent creeks running north-south approximately 500 feet east and west of the facility. The creeks ultimately discharge to Lake Michigan near the WE Energies power plant, located to northeast. The southern half of the facility is comprised primarily of asphalt and concrete pavement, as well as the main facility buildings.

1.2.2 Site History

Historically, the Onyx property was used as agricultural land. For some period of time, the property was also used as a lawnmower test area by the neighboring Bolens/Garden Way lawn tractor factory. In 1989, the original hazardous waste facility was constructed by Aqua Tech. Subsequently, the facility was purchased by Superior Special Services, Inc., now named Onyx Special Services, Inc.

The facility is currently up for RCRA license renewal and expansion. As such, the WDNR conducted a RCRA Facility Assessment (RFA) inspection of the facility on April 25, 2002 as the first part of the RCRA Corrective Action Process. Based on the RFA inspection and a review of available Department files, the WDNR concluded that there was sufficient information to require completion of some limited sampling in order to determine whether hazardous constituents may have been released to the environment.

1.2.3 Previous Investigations

In 1990, an Environmental Assessment was completed at the facility. Results are contained in the facility's Feasibility and Plan of Operation. The results indicate that there were no impacts to endangered species: sensitive species, habitats or ecosystems; wetlands; outstanding or exceptional resource water; and historical or archaeological sites.

Furthermore, in a September 25, 2003 letter to Onyx, the WDNR indicated that no Environmental Impact Statement (EIS) was required for expansion of the facility. The letter also indicated that the water quality standards for wetlands in Chapter NR 103, Wis. Adm. Code, had been met and the needs requirements of s. 289.28, Stats. have also been met.

On April 25, 2003 the WDNR conducted a RCRA Facility Assessment (RFA) of the facility. The results of the inspection are included in the Department's RFA report dated July 3, 2003. The RFA report includes an examination of facility waste operations, a discussion of the facility's Solid Waste Management Units (SWMUs) and Areas of Concern (AOC), documentation of facility releases, and recommendations for further action.

The RFA report outlined the following waste operations at the facility:

- Indoor hazardous waste storage of various waste types and waste codes.
- Mercury reclamation via operation of a lamp crusher and retort furnace.
- Operation of a 10-day transfer facility to logistically accumulate and coordinate economic shipments of waste.
- Operation of a TSCA storage facility for materials such as fluorescent light ballasts.
- Solidification of non-hazardous solid wastes from 1993 to 2001.

Based on these operations, the WDNR identified 9 SWMUs and 1 AOC as listed below.

SWMU/ AOC	NAME	LOCATION
SWMU #1	Hazardous waste storage rooms	Three separate rooms in Main Building
SWMU #2	South loading dock	South end of the Main Building
SWMU #3	North loading dock	North end of Main Building
SWMU #4	Fluorescent lamp crushing/processing machine	This was originally used in the Northwest corner of the original building. Now used in the Northwest corner of the building addition.
SWMU #5	Mercury retort area	Northwest corner of original building in retort room
SWMU #6	Waste glass lugger box area	Originally on the West side of original building. Now on the paved area inside the north end of the building addition.

SWMU/ AOC	NAME	LOCATION
SWMU #7	Former solid waste solidification area	Separation pit and frac tank formerly located in northernmost portion of the Main Building. Maxon mixer previously located directly to the south through the wall.
SWMU #8	Household hazardous waste storage area	Eastern portion of the Materials Storage Area.
SWMU #9	Trailer storage/Parking lot area	South side of facility
AOC #1	Roof drain	North side of the facility

The WDNR concluded that no investigation or remedial activities are required at SWMUs #1, #2, and #8. However, at the remaining areas, WDNR concluded there was a potential for environmental impacts and that limited sampling was required to investigate this possibility. As part of the investigation, the WDNR required that Onyx submit an investigative work plan prepared in accordance with applicable portions of Chapters NR 635, NR 680, and NR 716.09, Wis. Adm. Code, to include the following:

SWMU/ AOC	LOCATION	MEDIA	ANALYTE(S)
SWMU #9	Parking lot drainage outfall	Sediment	PAHs, VOCs, Mercury
AOC #1, SWMU #4 and #5	Base of roof drainage spout	Soil	Mercury
SWMU # 3, #6, and #7	Edge of paved area on north side of building	Soil	PAHs, Mercury, RCRA metals
SWMU # 3, #6, and #7	Edge of paved area on north side of building	Groundwater	VOCs, SVOCs, RCRA metals
SWMU #6	Former glass lugger box area, west side of building	Soil	Mercury

The WDNR established 0.21 mg/kg as the site investigation trigger level for mercury. This trigger level does not preclude use of a site-specific mercury residual contaminant level, should one be required. No other trigger levels have been established by WDNR.

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2.0 INVESTIGATION METHODS

Soil, sediment, and groundwater samples were collected at various locations across the facility (Drawing B1), in order to evaluate the potential for environmental impacts from waste management activities. A Wisconsin Certified laboratory (CTI Laboratories in Baraboo, Wisconsin) was used to analyze the samples. The following initial sampling activities were included in the RFI Investigation Work Plan:

- 2 hand-auger soil borings (evaluate AOC #1, SWMU #4/#5 and SWMU #6)
- 1 soil boring for soil sampling (evaluate SWMU #3/#6/#7)
- 1 temporary well for a groundwater sample. (evaluate SWMU #3/#6/#7)
- 1 sediment sample (evaluate SWMU #9)

Based on the initial sample results the following second set of sampling activities was completed for the RFI Investigation:

- Three additional hand-auger soil borings and an extension in depth for one of the original hand auger soil borings (evaluate AOC #1).
- A second round of groundwater sampling (evaluate SWMU # 3/#6/#7).
- One additional sediment sample (evaluate SWMU #9).

Based on the second set of sample results, the following third set of sampling activities was completed for the RFI Investigation:

- Ten additional sediment samples to provide a better statistical characterization (evaluate SWMU #9).

2.1 HAND-AUGER SOIL SAMPLING

2.1.1 General Discussion of Methods

A decontaminated stainless steel bucket hand-auger was used to collect soil samples at each sampling location (see Drawing B1 for locations). Initially, separate samples were collected at half-foot intervals from ground surface to a depth of 1.0 feet. Additional sampling involved collecting samples at half-foot intervals from ground surface to a depth of 2.0 feet.

Each discrete half foot sample interval was individually placed in a decontaminated stainless steel bowl, and then transferred to appropriate laboratory-supplied containers,

labeled, and maintained in coolers at 4°C. Laboratory soil samples were shipped in a cooler on ice via overnight courier under chain-of-custody protocol to a WDNR certified laboratory for analyses.

The hand-auger soil samples were analyzed for mercury using Method 7471A. The next deeper sample from each location was only analyzed for mercury only if the concentration in the sample just above exceeded the site investigation trigger level of 0.21 mg/kg.

2.1.2 Initial Sampling

Initially, two hand-auger borings were conducted on April 22, 2004 as part of the RCRA Facility Investigation. One hand-auger boring (HA01) was located at the base of the fixed piping connected to the roof drainage spout, also located on the west side of the building (SWMU #4, #5, and AOC #1). One sample (HA02) was collected near the former glass lugger box area on the west side of the building (SWMU #6). The boring was placed just west of the pavement in this area at a point where relative elevations suggest surface run-off from the pavement would most likely occur.

2.1.3 Additional Sampling

Additional soil samples were collected on July 1, 2004 from three locations (HA01A, HA01B, and HA01C), as well as deeper samples from the 1.0 to 1.5 foot and 1.5 to 2.0 foot depth intervals at original location HA01. These deeper samples were necessitated by mercury concentrations above the prescribed trigger level. Samples were collected in the same manner as described above.

2.2 SOIL BORING SOIL SAMPLING

2.2.1 General Discussion of Methods

One soil boring (MW01) was installed on April 22, 2004 using a truck-mounted drill rig equipped with 4.25-in. inside diameter hollow stem augers (see Drawing B1 for location). Upon the completion of soil sampling, the borehole was implemented with a temporary monitoring well.

Soil samples were collected at 2.5-ft intervals to log soil stratigraphy. Each soil sample was visually classified using American Society for Testing and Materials (ASTM) D-2488 Standard Method for Classification of Soils in the Field. Information on the completed soil boring was recorded directly on a standard soil boring log form in the field. The boring log is provided in Appendix A.

The laboratory soil samples were immediately placed in appropriate laboratory-supplied containers, preserved (if necessary), labeled, and maintained in coolers at 4°C. The laboratory soil samples were shipped in a cooler on ice via overnight courier under chain-of-custody protocol to a WDNR certified laboratory (CTI Laboratories in Baraboo,

Wisconsin) for analyses. The samples were analyzed for PAHs (Method 8310), mercury by Method 7471A, and total concentrations of the remaining 7 RCRA metals (arsenic, barium, cadmium, chromium, lead, selenium, and silver) by Method 6010. Laboratory analytical reports are provided in Appendix B.

2.2.2 Initial Sampling

One soil boring (MW01) was conducted to approximately five feet below the watertable (estimated total depth of 16 feet). This boring was conducted at the edge of paved area, closest to the pond, on the north side of the building (SWMU #3, #6, #7). The surface soil sample was selected for laboratory analysis. In addition, because no impacts were identified, the depth interval just above the water table was selected as the second sample for analysis.

2.2.3 Additional Sampling

No additional soil boring sampling was required.

2.3 TEMPORARY WELL GROUNDWATER SAMPLING

2.3.1 General Discussion of Methods

One temporary monitoring well (MW01) was installed on April 22, 2004 north of the building at the edge of the pavement to investigate compounds of concem in groundwater (see Drawing B1 for location). The temporary well was constructed of 2-inch diameter Schedule 40 PVC pipe casing and well screen. The well screen was 10 feet long with a standard slot size of 0.010 inches, and was set to intersect the shallow water table. Filter pack sand was placed around the screened interval, and an annular seal of bentonite was placed to the surface. The temporary monitoring well was completed with a stick-up protector and locking cap.

The well was developed on April 23, 2004 using a decontaminated, stainless steel bailer. The well was gently surged and bailed to remove the sediments in the well and filter pack after installation. Development continued until the well was bailed dry three times. The well was then allowed approximately one week for sufficient water to accumulate for sampling purposes.

A peristaltic pump and new tubing was used to collect the water samples. The tubing was extended down to the approximate midpoint of the well screen to limit turbidity in the sample. Prior to sampling, the water level was measured in order to calculate the approximate volume of water present in the well. The well was then purged until 3 well volumes were removed, or until the well was purged dry.

After sampling was completed, the temporary well was abandoned on August 5, 2004 by backfilling with chipped bentonite in accordance with s. NR 141.25, WAC. Well information including the well construction form, well development form, and well abandonment form is provided in Appendix A.

2.3.2 Initial Sampling

The first groundwater sample collected on May 4, 2004 was immediately placed in appropriate laboratory-supplied containers, preserved (if necessary), labeled, and maintained in coolers at 4°C. The exception was the sample for metals analysis that was first field-filtered with a 45 micron filter. The initial sample was analyzed for VOCs (8260), SVOCs (8270), and dissolved metals by Method 6010 (except for mercury by Method 7471A). Laboratory analytical reports are provided in Appendix B.

2.3.3 Additional Sampling

The second groundwater sample collected on July 1, 2004 was managed in the same manner as the first. As approved by WDNR, the groundwater second sample was analyzed only for barium and selenium by Method 6010 in order to confirm their original concentrations above the respective Chapter NR 140, Wis. Adm. Code, Preventive Action Limits (PALs).

2.4 SEDIMENT SAMPLING

2.4.1 General Discussion of Methods

Sediment samples were collected in the area of the parking lot drainage outfall that discharges into the retention pond in the northern half of the facility (see Drawing B1 for location). The samples were collected using a decontaminated stainless steel spoon. Discreet sediment samples were placed in a decontaminated stainless steel bowl, mixed, and placed in to the appropriate sample containers. The outsides of the sample containers were rinsed off prior to being placed into the sample cooler.

The sediment samples were submitted for analysis in appropriate laboratory-supplied container, labeled, and maintained in coolers at 4°C.

2.4.2 Initial Sampling

Initially, one sediment sample (location SD01) was collected on April 22, 2004 near the terminus of the parking lot storm water outfall at the shoreline of the pond (SWMU #9). The initial sample was analyzed for mercury by Method 7471A; PAHs by Method 8310, and VOCs by Method 8260. Laboratory analytical reports are provided in Appendix B.

2.4.3 Additional Sampling

Because the initial mercury sample result was slightly above its WDNR Midpoint Effect Concentration screening level for sediments, a second sample was collected on July 1, 2004 in the vicinity of the first sample location in order to confirm the original mercury result.

Because the second sample had a mercury concentration approximately 5 times the first sample, a statistical sampling method was used in an attempt to determine a representative concentration value for the location. Therefore, ten additional samples were collected on August 5, 2004 within a 5 by 20-foot grid around original sample location SD01. The grid was divided into 100 one by one-foot grid spaces (see Figure 1 for grid). Samples were collected from grid spaces randomly selected by the 'RANDBETWEEN' function in the Microsoft Excel spreadsheet program. This function returns a randomly generated number between upper and lower limits assigned by the user (in this case 1 to 100). This method of selecting locations for sampling eliminated potential bias in the sampling design.

The overall grid dimensions (5 by 20 ft) were chosen considering 1) being able to collecting samples spatially comparable to SD01, and 2) the practical accessibility into the pond by the sampler from the shoreline (i.e. being able to stand in shallow water). In the field, the grid was established using a tape measure to form the 20-foot side of the grid parallel to the pond shoreline and a wooden lathe with marked 1-foot intervals to form the perpendicular grid dimension.

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3.0 RESULTS

3.1 SOIL

3.1.1 Regional Geologic Information

According to the WDNR's RCRA RFA report dated July 3, 2003, nearby private water supply well logs document the geological conditions to generally consist of approximately 160 feet of glacial clay soil over dolomite bedrock. Well logs at the adjacent Bolen's property to the north indicate stiff brown silty clay to the end of the boring at 20 feet. Other boring logs from the Bolen's site indicate a sand seam at 9 to 11 feet below ground surface. According to the September 1970 Soil Survey of Ozaukee County published by the US Department of Agriculture, soils in the vicinity of the facility consist of the Kewaunee-Manaua Association type. These soils are characterized as well drained to somewhat poorly drained soils that have a subsoil of clay to silty clay loam formed in thin loess and silty clay glacial till.

3.1.2 Investigation Results

The boring log for MW01 describes the soils encountered from the ground surface to a depth of approximately 15 feet. At the ground surface is approximately 1 ft of top soil that is underlain by approximately 0.5 feet of sand and gravel fill. Beneath the fill material, soils consist mostly of brown silt and clay with traces of fine to course sand. The brown silt and clay is likely a glacial deposit.

Soil results are presented in Table 1, and the sample locations are depicted on Drawing B1.

Mercury was not detected above the RFI trigger level of 0.21 mg/kg at hand-auger location HA02. This sample location was intended to evaluate potential soil impacts from run-off near the former glass lugger box on the west side of the building (SWMU #6).

Mercury was detected above the RFI trigger level of 0.21 mg/kg at hand-auger location HA01, HA01A, HA01B, and HA01C. These sample locations were intended to evaluate potential soil impacts from at the base of the roof drainage spout (AOC #1, SWMU #4 and #5). Mercury was detected above the RFI trigger level at all four hand-auger locations. The total depth of impact above the RFI trigger level decreases the further one goes downstream in the drainage swale. For example, at the base of the roof drainage spout (furthest upstream location in the drainage swale) the total depth of impact is approximately 2.0 feet. At approximately 20 and 40 feet downstream, the total depth of impact is approximately 1.0 foot. At approximately 60 feet downstream, the total depth of impact is approximately 0.5 feet. Based on this information, it is MWH's opinion that mercury impacts have been adequately characterized and the process for completing an appropriate remedial solution can begin.

There was one exceedance of an NR 720 WAC Residual Contaminant Level (RCL) at soil boring MW01. This sample location was intended to evaluate potential soil impacts near the edge of the paved area on the north side of the building (SWMU # 3, #6, and #7). Samples from the 0-1.0 ft and 4.0-5.0 ft intervals contained arsenic at concentrations (17.5 mg/kg and 11.8 mg/kg) above its RCL for direct contact and protection of groundwater. However, these arsenic concentrations are within the range of natural occurrence in Wisconsin and do not appear to be the result of site activities. In addition, a groundwater sample from this location did not contain arsenic above its PAL.

Thus, it is MWH's opinion that these arsenic concentrations do not warrant further investigation or remediation.

3.2 GROUNDWATER

3.2.1 Regional Hydrogeologic Information

According to the WDNR's RCRA RFA report dated July 3, 2003, there are three aquifers present in the vicinity of the site and include the saturated portion of the unconsolidated glacial deposits, the dolomite aquifer, and the deep sandstone aquifer. Groundwater flow in the dolomite and sandstone aquifers is predicted to trend towards the east. Groundwater flow in the saturated portion of the unconsolidated glacial deposits may be towards the pond on the northern half of the facility. Borings at the adjacent Bolen's property to the north indicate the depth to the shallow water table is between 9 and 11 feet.

3.2.2 Investigation Results

Groundwater monitoring information from temporary well MW01 provides an insight into the hydrogeology at the site. Depth to groundwater ranged from 9.35 ft on May 4, 2004 to 9.26 ft on August 5, 2004. Because the temporary well bailed dry during development but could be sampled by low flow methods, the site soils where the well is screened are interpreted to have moderate (silt) to low (clay) permeability.

Groundwater results are presented in Table 2, and the well location is indicated on Drawing B1.

In the first round of sampling, no VOCs were detected, and only two PAHs were detected just above the detection limit and well below their PAL. The only groundwater standard exceedance was of the PAL for barium and selenium at monitoring well MW01. Barium was detected at a concentration of 455 µg/L just exceeding the PAL of 400 µg/L. Selenium was detected at a concentration of 24.3 µg/L just exceeding the PAL of 10 µg/L. This sample location was intended to evaluate potential groundwater impacts near the edge of the paved area on the north side of the building (SWMU # 3, #6, and #7).

During the second round of sampling, the barium concentration decreased from 455 µg/L to 422 µg/L. The selenium concentration decreased from 24.3 µg/L to less than the detection limit of 5.1 µg/L. The barium concentration is just above the PAL of 400 µg/L, and the selenium concentration is now less than the PAL of 10 µg/L.

Thus, it is MWH's opinion that there is no evidence of impacts to groundwater and no further investigation or remediation is necessary.

3.3 SEDIMENT

3.3.1 Regional Information

Facility topography as primarily influenced by the asphalt parking lot grading. The parking lot elevations slope to a storm water collection basin located in the south-central portion of the lot. The topography of the remaining areas trend downward, to the north and the surface pond. Drainage at the facility is primarily towards the north, towards the pond, with secondary flow to Mineral Spring Drive to the east and Maritime Drive to the south.

3.3.2 Investigation Results

Sediment results are presented in Table 3 (first two sets of samples), Table 4 (results and summary statistics from the third set of ten samples), and Table 5 (summary statistics for all twelve sediment samples associated with SD01) and the sample location are indicated on Drawing B1 and Figure 1.

The sediment results were compared to values presented in the Consensus-Based Sediment Quality Guidelines, WDNR Interim Guidance (December 2003). The midpoint effect concentration (MEC) was selected as the most appropriate screening level for comparisons to results at the site. These sample locations were intended to evaluate potential sediment impacts from the parking lot drainage outfall (SWMU #9).

At location SD01, several PAHs and one VOC were detected at concentrations well below their respective MECs. Thus, it is MWH's opinion that there is no evidence of impacts to sediment and no further investigation or remediation for these compounds is necessary.

Mercury results were varied, with concentrations ranging from 0.035 to 4.7 mg/kg, with a standard deviation of 1.63 mg/kg. In addition, the mean value for mercury was 1.48 mg/kg, and the median value was 0.69 mg/kg. This is compared to the MEC for mercury which is 0.64 mg/kg. Four sample results also exceeded the Probable Effect Concentration (PEC) for mercury. As shown in Figure 2, the distribution of mercury is random, with no obvious pattern.

Based on these results, it is MWH's recommendation that a surface water sample be collected at the retention basin discharge point to evaluate water quality as it leaves the site.

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4.0 SUMMARY

The following table summarizes the results of the current investigation:

SWMU/ AOC	LOCATION	MEDIA	RECOMMENDATION
SWMU #9	Parking lot drainage outfall	Sediment	Investigate surface water quality at the discharge point for retention pond
AOC #1, SWMU #4 and #5	Base of roof drainage spout	Soil	Begin process for completing an appropriate remedial solution.
SWMU # 3, #6, and #7	Edge of paved area on north side of building	Soil	No further action
SWMU # 3, #6, and #7	Edge of paved area on north side of building	Groundwater	No further action
SWMU #6	Former glass lugger box area, west side of building	Soil	No further action

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Table 1
Summary of Soil Analytical Results
RCRA Facility Investigation
ONYX Special Services, Inc.
1275 Mineral Springs Drive
Port Washington, Wisconsin

		Location ID:		HA01	HA01 Dup	HA01	HA01	HA01	HA01A	HA01A	HA01A	HA01B	HA01B	HA01B	HA01C	HA01C	HA02	MW01	MW01
		Depth:		0-0.5	0-0.5	0.5-1.0	1.0-1.5	1.5-2.0	0-0.5	0.5-1.0	1.0-1.5	0-0.5	0.5-1.0	1.0-1.5	0-0.5	0.5-1.0	0-0.5	0-1.0	4.0-5.0
		Sample Date:		4/22/2004	4/22/2004	4/22/2004	7/1/2004	7/1/2004	7/1/2004	7/1/2004	7/1/2004	7/1/2004	7/1/2004	7/1/2004	7/1/2004	7/1/2004	4/22/2004	4/22/2004	4/22/2004
Metals	Units	GW RCL	Ind DC RCL	Result	Duplicate	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Arsenic	mg/kg	0.58	1.91	--	--	--	--	--	--	--	--	--	--	--	--	--	--	17.5	11.8
Barium	mg/kg	160	71500	--	--	--	--	--	--	--	--	--	--	--	--	--	--	68.6	84.6
Cadmium	mg/kg	0.75	1020	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.26	0.28
Chromium	mg/kg	200000000	1530000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	11.7	17.4
Lead	mg/kg	NE	500 (4)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	5.6	5.9
Mercury	mg/kg	0.21	NE	2.1	3.8	0.25	0.19	0.23	1.5	0.24	0.073	2.4	0.49	0.017	1.9	0.066	0.026	0.017	0.015
Selenium	mg/kg	0.51	5110	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.70	<0.69
Silver	mg/kg	3.1	5110	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.23	<0.23
Poly-Aromatic Hydrocarbons																			
Anthracene	mg/kg	650	307000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.0037 (J,P)	<0.0024
Benzo(a)anthracene	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.017	<0.00048
Benzo(a)pyrene	mg/kg	0.41	0.392	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.027	<0.0024
Benzo(b)fluoranthene	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.054	0.0070
Benzo(g,h,i)perylene	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.028	0.0090
Benzo(k)fluoranthene	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.012	0.0070 (P)
Fluoranthene	mg/kg	310	40900	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.040	0.0059 (P)
Indeno(1,2,3-cd)pyrene	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.025 (P)	<0.0024
Phenanthrene	mg/kg	NS	NS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.016 (B)	<0.0024
Dry Weight	%			79.7	82.2	74.4	77.1	74.3	59.2	70.7	75.4	54.6	75.3	82.5	75.1	78.5	83.5	89.3	84.8

Notes:

1. Only compounds detected on at least one occasion are summarized in this table.
2. RCL = Residual Contaminant Level
3. Industrial direct contact (Ind DC) RCL values are based on generic industrial scenario soil standards conservatively based on default site conditions and equations provided in Chapter NR 720, Wis. Adm. Code.
4. Lead Ind DC RCL taken from NR720, Table 2.
5. Groundwater (GW) RCL values are determined for protection of groundwater conservatively based on default site conditions and equations provided in Chapter NR 720, Wis. Adm. Code.
6. NE = RCL was not readily calculated based on available information.
7. NS = No RCL was readily calculated based on available information.
8. (B) = Analyte detected in associated Method Blank.
9. (P) = Concentration of analyte differs more than 40% between primary and confirmation analysis.
10. (J) = Indicates value is between limit of detection (LOD) and limit of quantitation (LOQ).
11. Bolded value indicates an exceedance of the RCL.
12. -- = Not analyzed for this compound.

Table 2
Summary of Groundwater Analytical Results
RCRA Facility Investigation
ONYX Special Services, Inc.
1275 Mineral Springs Drive
Port Washington, Wisconsin

		Location ID:		MW01	
		Sample Date:		5/4/2004	7/1/2004
Dissolved Metals	**Units**	**ES**	**PAL**	Result	Result
Arsenic	ug/L	10	1	0.87 (J)	NA
Barium	ug/L	2000	400	*455*	*422*
Cadmium	ug/L	5	0.5	<0.88	NA
Chromium	ug/L	100	10	<4.1	NA
Lead	ug/L	15	1.5	<2.8	NA
Mercury	ug/L	2	0.2	<0.11	NA
Selenium	ug/L	50	10	*24.3*	<5.1
Silver	ug/L	50	10	<2.7	NA
Poly-Aromatic Hydrocarbons (PAHs)					
Bis(2-ethylhexyl)phthalate	ug/L	6	0.6	0.36 (J)	NA
Di-n-butylpthalate	ug/L	100	20	1.2 (J,B)	NA

Volatile Organic Compounds (VOCs) were not detected.

Notes:

1. Only compounds detected on at least one occasion are summarized in this table.
2. ES = Enforcement Standard, Chapter NR 140, Wisconsin Administrative Code.
3. PAL = Preventive Action Limit, Chapter NR 140, Wisconsin Administrative Code.
4. (B) = Analyte detected in associated Method Blank.
5. (J) = Indicates value is between limit of detection (LOD) and limit of quantitation (LOQ).
6. Italicized value indicates an exceedance of the PAL.
7. NA = Not analyzed for this compound.

Table 3
Summary of Sediment Analytical Results
RCRA Facility Investigation
ONYX Special Services, Inc.
1275 Mineral Springs Drive
Port Washington, Wisconsin

	Location ID:				SD01	SD01
	Sample Date:				4/22/2004	7/1/2004
	Units	TEC	MEC	PEC	Result	Result
Percent Solids	%				73.6	53.8
Metals						
Mercury	mg/kg	0.18	0.64	1.1	**0.67**	**3.2**
Poly-Aromatic Hydrocarbons						
Benzo(a)pyrene	mg/kg	0.15	0.80	1.45	0.15	NA
Benzo(b)fluoranthene	mg/kg	0.24	6.82	13.4	0.29	NA
Benzo(g,h,i)perylene	mg/kg	0.17	1.69	3.20	0.14 (P)	NA
Fluoranthene	mg/kg	0.42	1.33	2.23	0.14 (P)	NA
Indeno(1,2,3-cd)pyrene	mg/kg	0.20	1.70	3.20	0.13 (P)	NA
Volatile Organic Compounds						
2-Butanone (6)	mg/kg	NS	NS	NS	0.50 (J,B)	NA

Notes:

1. Only compounds detected on at least one occasion are summarized in this table.
2. TEC = Consensus-Based Sediment Quality Guidelines - Threshold Effect Concentration
3. MEC = Consensus-Based Sediment Quality Guidelines - Midpoint Effect Concentration
4. PEC = Consensus-Based Sediment Quality Guidelines - Probable Effect Concentration
5. Consensus-Based Sediment Quality Guidelines, WDNR Interim Guidance, December 2003
6. Compound was also detected in field blank at a concentration of 0.43 mg/kg.
7. NS = No sediment guidelines were available.
8. (P) = Concentration of analyte differs more than 40% between primary and confirmation analysis.
9. (J) = Indicates value is between limit of detection (LOD) and limit of quantitation (LOQ).
10. (B) = Analyte detected in associated Field Blank.
11. Bolded value indicates an exceedance of the MEC.
12. NA = Not analyzed for this compound.

Table 4
Summary of Sediment Analytical Results Addendum - 8/5/2004 Mercury Results Only
RCRA Facility Investigation
ONYX Special Services, Inc.
1275 Mineral Springs Drive
Port Washington, Wisconsin

		Location ID:			SD01a	SD01b	SD01c	SD01d	SD01e	SD01f	SD01g	SD01h	SD01i	SD01j
		Sample Date:			8/5/2004	8/5/2004	8/5/2004	8/5/2004	8/5/2004	8/5/2004	8/5/2004	8/5/2004	8/5/2004	8/5/2004
Compound	**Units**	**TEC**	**MEC**	**PEC**	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Mercury	mg/kg	0.18	0.64	1.1	**0.45**	**3.1**	0.12	0.040	**4.7**	**0.82**	0.035	**0.71**	**0.49**	**3.4**

Summary Statistics	
Mean	1.39
Standard Error	0.53
Median	0.60
Standard Deviation	1.69
Sample Variance	2.85
95% Confidence	1.05
Range	4.665
Minimum	0.035
Maximum	4.7
Count	10

Notes:

1. TEC = Consensus-Based Sediment Quality Guidelines - Threshold Effect Concentration
2. MEC = Consensus-Based Sediment Quality Guidelines - Midpoint Effect Concentration
3. PEC = Consensus-Based Sediment Quality Guidelines - Probable Effect Concentration
4. Consensus-Based Sediment Quality Guidelines, WDNR Interim Guidance, December 2003
5. Bolded value indicates an exceedance of the MEC.

BJK/vlr
L:\208\2678\wp\tbl\Random Sample Grid.xls (Stats-10_new)
2082678.01160101-MAD1

Table 5
Summary of Sediment Analytical Results Addendum - All Mercury Results
RCRA Facility Investigation
ONYX Special Services, Inc.
1275 Mineral Springs Drive
Port Washington, Wisconsin

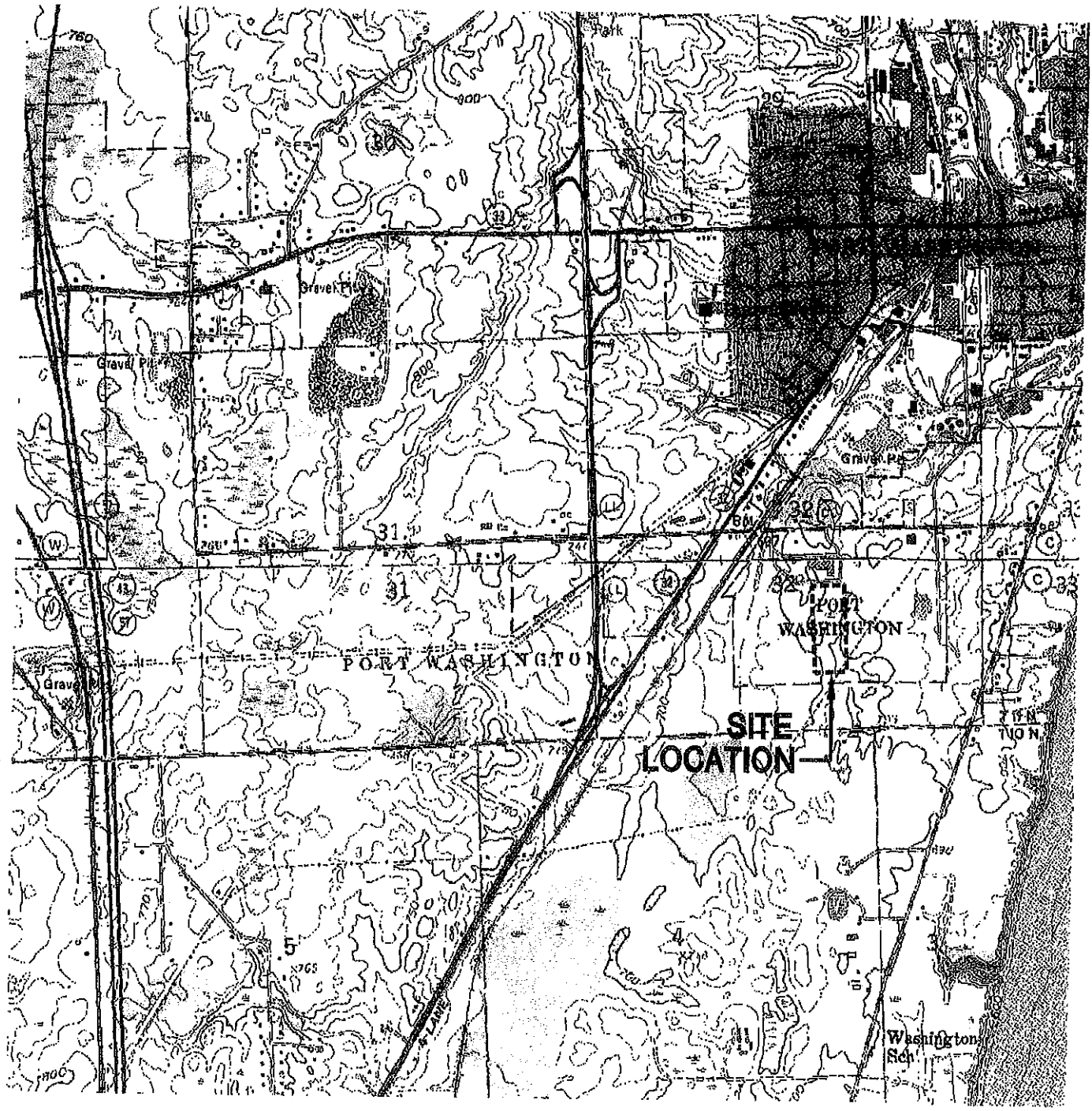
		Location ID:			SD01	SD01	SD01a	SD01b	SD01c	SD01d	SD01e	SD01f	SD01g	SD01h	SD01i	SD01j
		Sample Date:			4/22/2004	7/1/2004	8/5/2004	8/5/2004	8/5/2004	8/5/2004	8/5/2004	8/5/2004	8/5/2004	8/5/2004	8/5/2004	8/5/2004
Compound	**Units**	**TEC**	**MEC**	**PEC**	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Mercury	mg/kg	0.18	0.64	1.1	**0.67**	3.2	0.45	3.1	0.12	0.040	**4.7**	**0.82**	0.035	**0.71**	**0.49**	**3.4**

Summary Statistics	
Mean	1.48
Standard Error	0.47
Median	0.69
Standard Deviation	1.63
Sample Variance	2.67
95% Confidence	0.92
Range	4.665
Minimum	0.035
Maximum	4.7
Count	12

Notes:

1. TEC = Consensus-Based Sediment Quality Guidelines - Threshold Effect Concentration
2. MEC = Consensus-Based Sediment Quality Guidelines - Midpoint Effect Concentration
3. PEC = Consensus-Based Sediment Quality Guidelines - Probable Effect Concentration
4. Consensus-Based Sediment Quality Guidelines, WDNR Interim Guidance, December 2003
5. Bolded value indicates an exceedance of the MEC.

R21E | R22E



QUALITY CONTROL | Graphic Standards LCL 11-23-03 | Lead Professional | Technical Review | Project Manager NMC 11-24-03 | Management Review | Other

NOTE

BASE MAP DEVELOPED FROM THE PORT WASHINGTON WEST, WISCONSIN AND CEDARBURG, WISCONSIN 7.5 MINUTE U.S.G.S. TOPOGRAPHIC QUADRANGLE MAPS, DATED 1959. PHOTOREVISED 1971 AND 1976 WITH MINOR REVISION 1994. U.S.G.S. AERIAL PHOTOGRAPHS DATED MARCH 31, 2000 WERE ALSO USED TO LOCATE THE SITE.

QUADRANGLE LOCATION

north

0 2000 4000

SCALE IN FEET

Developed By NMC Drawn By LCL

Approved By Date 11-24-03

Reference

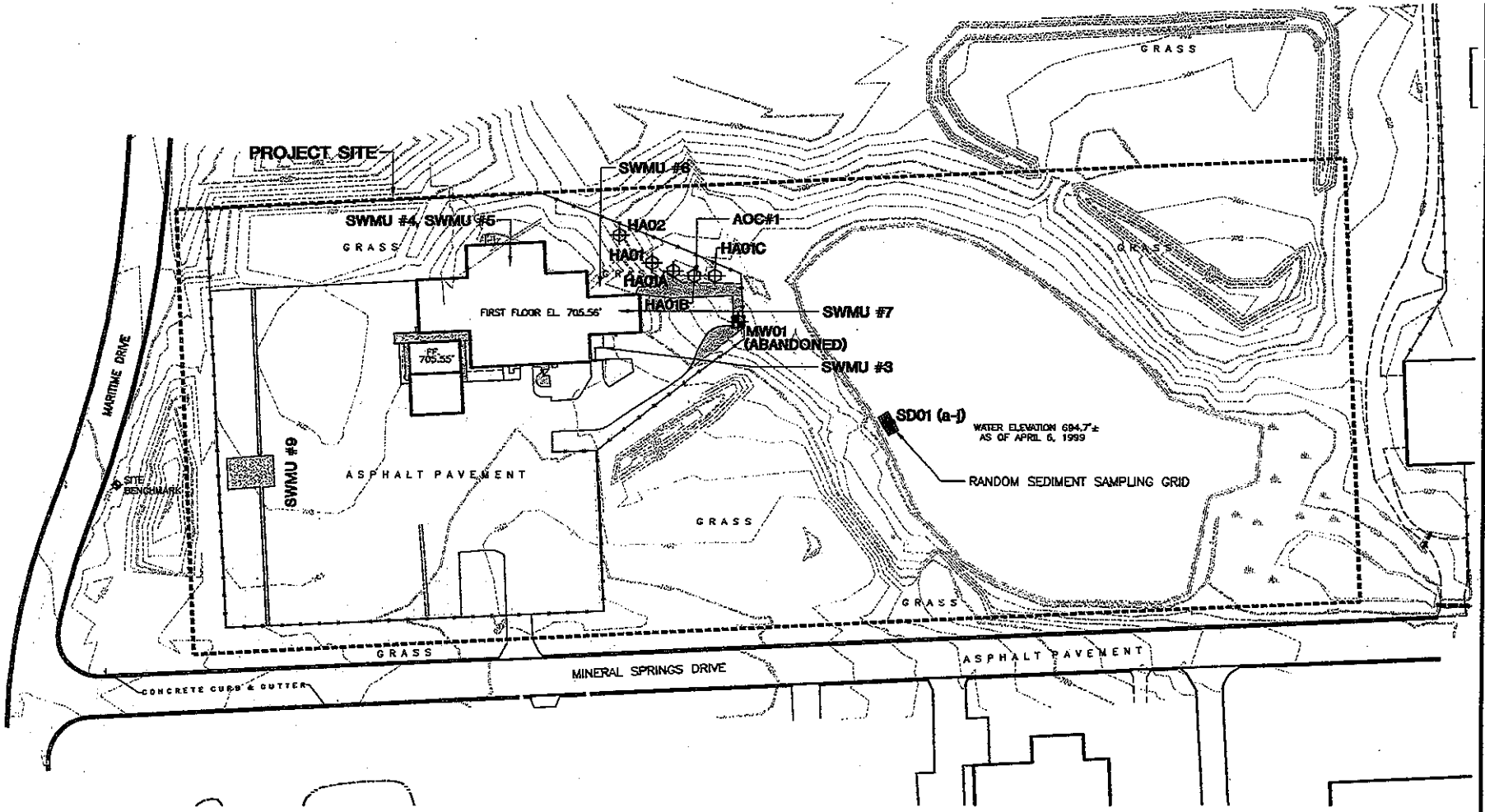
Revisions 1 Revised drawing number. 9-17-04/lcl/bk/nmc

SITE LOCATION MAP

ONYX SPECIAL SERVICES, INC.
1275 MINERAL SPRINGS DRIVE
PORT WASHINGTON, WISCONSIN

Drawing Number
2082678
01160101 A1

MWH



LEGEND

- **HA01** — HAND AUGER BORING LOCATION AND NUMBER
- **MW01** — SOIL BORING AND TEMPORARY WELL LOCATION AND NUMBER
- **SD01** — SEDIMENT SAMPLE LOCATION AND NUMBER
- **SWMU #1** — SOLID WASTE MANAGEMENT UNIT LOCATION AND NUMBER
- **AOC #1** — AREA OF CONCERN LOCATION AND NUMBER

NOTES

1. BASE MAP DEVELOPED FROM A DRAWING "TOPOGRAPHIC MAP", PREPARED BY STS CONSULTANTS LTD., VERNON HILLS, ILLINOIS, PROJECT NO. 86008, DATED APRIL 14, 1999.
2. BEARINGS AND GRID REFERENCED TO THE WISCONSIN STATE PLANE COORDINATE SYSTEM – SOUTH ZONE.
3. ALL ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1929. SITE BENCHMARK: NE FLANGE BOLT ON HYDRANT NORTH SIDE OF MARITIME DRIVE. ELEVATION = 703.22.
4. TOPOGRAPHIC MAPPING PREPARED FROM FIELD SURVEYS COMPLETED ON APRIL 7, 1999.
5. HAND AUGERS HA01 AND HA02 WERE COMPLETED ON APRIL 22, 2004 BY MWH.
6. MONITORING WELL MW01 WAS INSTALLED BY WISCONSIN SOIL TESTING WITH THE SUPERVISION OF MWH ON APRIL 22, 2004. MW01 WAS ABANDONED BY MWH ON AUGUST 5, 2004.
7. SEDIMENT SAMPLES SD01 AND SD01a–j WERE COLLECTED BETWEEN APRIL 22 AND AUGUST 5, 2004.

north

0 100 200

SCALE IN FEET

QUALITY CONTROL | Graphic Standards LCL 6-8-04 | Lead Professional RRJ 6-8-04 | Technical Review LBL 6-8-04 | Project Manager | Management Review | Other

Developed By RRJ Drawn By LCL

Approved By Date 6-15-04

Reference 2082639.01180101-B1

Revisions
- Added additional samples, HA01A, HA01B,HA01C. 07-22-04/lcl/jbl
- Revised notes 6 and 7. 09-17-04/lcl/bk/mmo

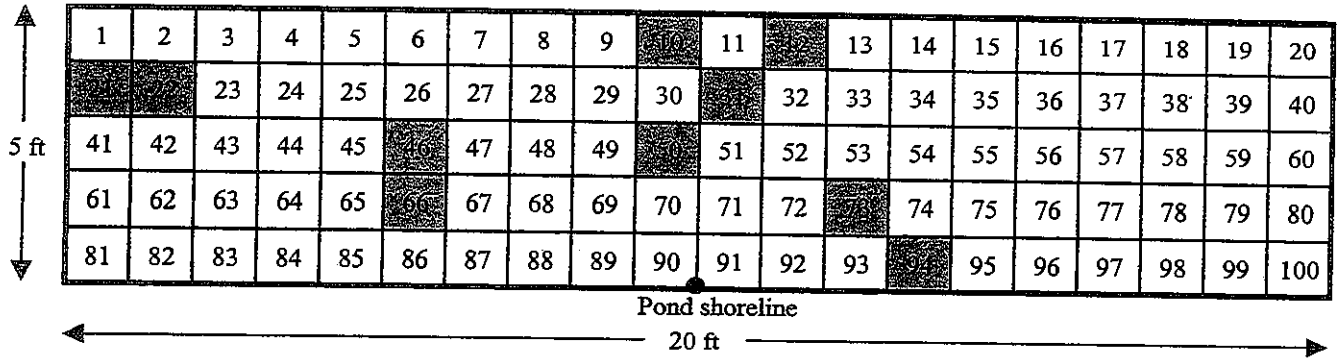
SITE FEATURES MAP

ONYX SPECIAL SERVICES, INC.
1275 MINERAL SPRINGS DRIVE
PORT WASHINGTON, WISCONSIN

Drawing Number
2082678
01160101 B1

MWH

Figure 1
Random Sediment Sampling Grid
Onyx RFI



● Location of sample SD01

Highlighted spaces were selected for sampling by the 'RANDBETWEEN' function in Microsoft Excel.

Random grid space selection:

Low	High	Cell selected	Sample No.
1	100	50	SD01a
1	100	66	SD01b
1	100	21	SD01c
1	100	94	SD01d
1	100	12	SD01e
1	100	73	SD01f
1	100	22	SD01g
1	100	31	SD01h
1	100	10	SD01i
1	100	46	SD01j

BJK/vlr
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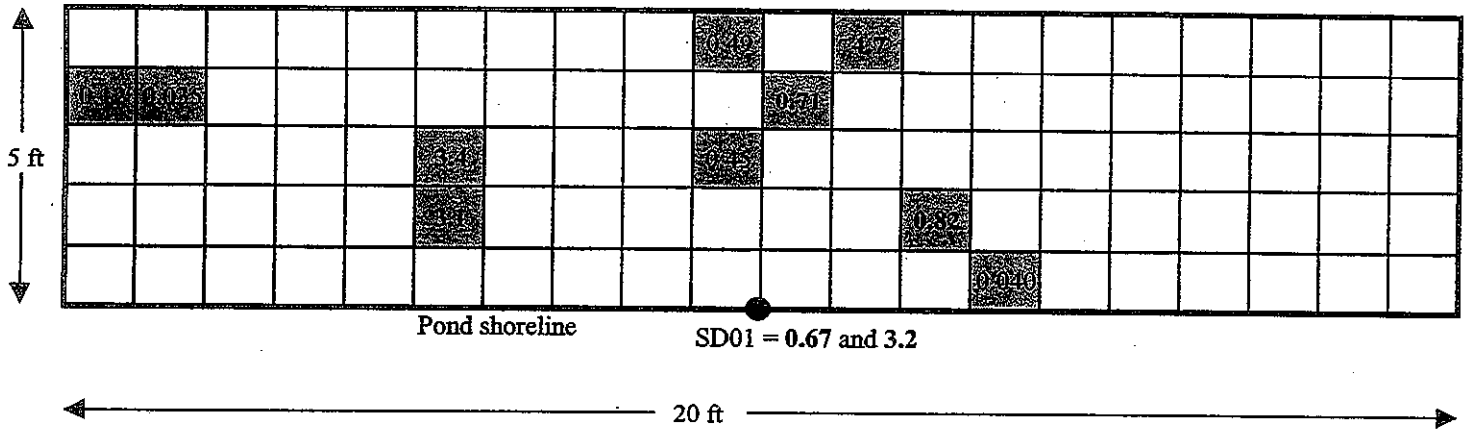
2082678.01160101-MAD1

Figure 2
Sediment Results on Sampling Grid
Onyx RFI



● Location of sample SD01. Sampled on April 22 and July 1, 2004.

Notes:
All results are in mg/kg
Bold values indicate an exceedence of the Midpoint Effect Concentration (MEC) for Mercury = 0.64 mg/kg

BJK/vlr
L:\208\2678\wp\tbl\Random Sample Grid.xls (Grid Results)
2082678.01160101-MAD1

A

SOIL BORING LOG, TEMPORARY WELL CONSTRUCTION, DEVELOPMENT, AND ABANDONMENT FORMS

MWH
One Science Court
P.O. Box 5385
Madison, WI 53705
TEL. (608) 231-4747

UNIFIED SOIL CLASSIFICATION SYSTEM

UNIFIED SOIL CLASSIFICATION AND SYMBOL CHART

COARSE-GRAINED SOILS
(More than 50% of material is larger than No. 200 sieve size.)

GRAVELS More than 50% of coarse fraction larger than No. 4 sieve size	Clean Gravels (Less than 5% fines)	GW	Well-graded gravels, gravel-sand mixtures, little or no fines
		GP	Poorly graded gravels, gravel-sand mixtures, little or no fines
	Gravels with Fines (More than 12% fines)	GM	Silty gravels, gravel-sand-silt mixtures
		GC	Clayey gravels, gravel-sand-clay mixtures
SANDS 50% or more of coarse fraction smaller than No. 4 sieve size	Clean Sands (Less than 5% fines)	SW	Well-graded sands, gravelly sands, little or no fines
		SP	Poorly graded sands, gravelly sands, little or no fines
	Sands with Fines (More than 12% fines)	SM	Silty sands, sand-silt mixtures
		SC	Clayey sands, sand-clay mixtures

FINE-GRAINED SOILS
(50% or more of material is smaller than No. 200 sieve size.)

SILTS AND CLAYS Liquid limit less than 50%		ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity
		CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
		OL	Organic silts and organic silty clays of low plasticity
SILTS AND CLAYS Liquid limit 50% or greater		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
		CH	Inorganic clays of high plasticity, fat clays
		OH	Organic clays of medium to high plasticity, organic silts
HIGHLY ORGANIC SOILS		PT	Peat and other highly organic soils

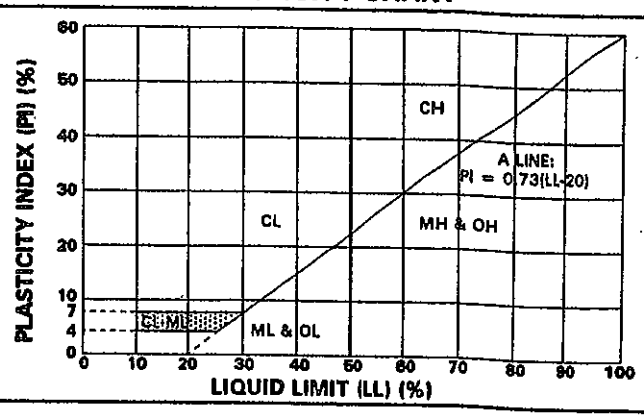
LABORATORY CLASSIFICATION CRITERIA

GW	$C_u = \frac{D_{60}}{D_{10}}$ greater than 4; $C_c = \frac{(D_{30})^2}{D_{10} X D_{60}}$ between 1 and 3	
GP	Not meeting all gradation requirements for GW	
GM	Atterberg limits below "A" line or P.I. less than 4	Above "A" line with P.I. between 4 and 7 are borderline cases requiring use of dual symbols
GC	Atterberg limits above "A" line with P.I. greater than 7	
SW	$C_u = \frac{D_{60}}{D_{10}}$ greater than 6; $C_c = \frac{(D_{30})^2}{D_{10} X D_{60}}$ between 1 and 3	
SP	Not meeting all gradation requirements for SW	
SM	Atterberg limits below "A" line or P.I. less than 4	Limits plotting in shaded zone with P.I. between 4 and 7 are borderline cases requiring use of dual symbols.
SC	Atterberg limits above "A" line with P.I. greater than 7	

Determine percentages of sand and gravel from grain-size curve. Depending on percentage of fines (fraction smaller than No. 200 sieve size), coarse-grained soils are classified as follows:

Less than 5 percent	GW, GP, SW, SP
More than 12 percent	GM, GC, SM, SC
5 to 12 percent	Borderline cases requiring dual symbols

PLASTICITY CHART



OTHER MATERIAL SYMBOLS

Topsoil	GS	SM/GM	CL-ML	Crystalline Rock	Dolomite
Pavement	GC-GM	SC/GC	Claystone	Sandstone	Siltstone
Fill	GS2	SC-SM	Coal	Limestone	Shale
Refuse					

See log description for USCS classification of the following soils:
SM/GM & SC/GC - Symbols are used to differentiate SM, GM, SC & GC soils.
GS2 - Symbol used when approximately equal percentages of gravel, sand, silt & clay exist.
GS - Symbol used for GP, GW, SP or SW soils with nearly equal sand and gravel.

MWH

FIELD BORING LOG

Facility/Project Name: Onyx Special Services
Location: Port Washington WI

Boring No. MW01
Project No. 30826781.0116.01.01

Drilling Company: Wisconsin Soil Testing
Driller's Name: Dan Turley
Drill Rig:
Drill Method: 4¼ HSA

Sample

Water Level: Hammer Torque:

State Plane: N, E
Local Grid Location: ☐ N ☐ E ft ☐ S ft ☐ W
1/4 of 1/4 of Section , T N,R E/W
Borehole Diameter
Surface Elevation: at Screen:

Logger: Rick Joslin Editor:
Start Date: 4/22/04 End Date: 4/22/04

Sample No.	Moisture	Blows on Sampler 0/6	Blows on Sampler 6/12	Sample Recovery	N Value	VISUAL CLASSIFICATION	Penetrometer (Tons/sq. ft.)	PID	% Gravel-Sand-Fines	Remarks
1	M	4	6	18	11	Black silt, some Fine sand and clay	—	—		Surface Sample collected @ 840
		5	6			Tan course sand and gravel, trace med. - Fine sand	1.5	—		
2	M	4	5	18	10	Brown silt and clay, trace Fine - course sand	—	—		Sample collected @ 850
		5	7				2.5	—		
3	M	3	4	22	9	Brown mottled clay and silt	2.0	—		
		5	8				2.0	—		
4	W	2	4	22	10	Brown silt and fine sand, trace med. - course sand	3.0	—		
		6	6			Brown silt and clay, trace course - Fine sand	2.5	—		
5	M	1	2	20	6		2.5	—		
		4	7				2.0	—		
6	M	1	3	20	6		—	—		
		3	2				2.5	—		
						End of Boring @ 15 Ft				

MW01 (0 - 0.5 Ft) @ 840
MW01 (4.0 - 5.0 Ft) @ 850

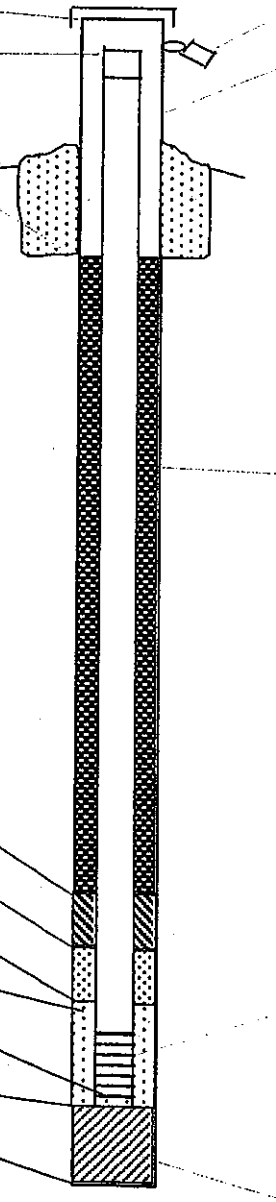
F:\Forms\FIELD.xls]

MWH

STICK-UP MONITORING WELL CONSTRUCTION SUMMARY

JOB NO. 2082678.01160101

Facility/Project Name: Exxyx Special Services	Local Grid Location of Well: ☐ N. ft. ☐ S. ☐ E. ft. ☐ W.	Well Name: MW01
Type of Well: Water Table Observation Well ■ Piezometer ☐	Grid Origin Location: Lat. _____ Long. _____ or St. Plane ft. N, ft. E.	Date Well Installed: 4/22/2004
	Section Location of Waste/Source: ☐ E. ☐ W.	Well Installed By: (Person's Name and Firm)
Distance Well Is From Waste/Source Boundary: ft.	Location of Well Relative to Waste/Source: ☐ Upgradient ☐ Sidegradient ☐ Downgradient ■ Not Known	(Geologist) Rick Joslin (MWH)
		(Driller) Dan Turley (Wisconsin Soil Testing)



Protective pipe, top elevation _____ ft. MSL

Well casing top elevation _____ ft. MSL

Land surface elevation _____ ft. MSL

Surface Seal, bottom _____ ft. MSL or 3.0 ft.

USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☐ SC ☐ ML ■ MH ☐ CL ■ CH ☐
Bedrock ☐

Sieve analysis attached? ☐ Yes ■ No

Drilling method used: Rotary ☐ Hollow Stem Auger ■ Other ☐

Drilling fluid used: Water ☐ Air ☐ Drilling Mud ☐ None ■

Drilling additives used? ☐ Yes ■ No

Describe NA

Source of water: NA

	ELEVATION	DEPTH
Bentonite seal, top	_____ ft. MSL	or 0.0 ft.
Fine sand, top	_____ ft. MSL	or -- ft.
Filter pack, top	_____ ft. MSL	or 3.0 ft.
Screen joint, top	_____ ft. MSL	or 5.0 ft.
Well bottom	_____ ft. MSL	or 15.0 ft.
Filter pack, bottom	_____ ft. MSL	or 15.0 ft.
Borehole, bottom	_____ ft. MSL	or 15.0 ft.

Borehole, diameter 8.3 in.

O.D. well casing 2.38 in.

I.D. well casing 2.06 in.

Cap and lock? ■ Yes ☐ No

Protective cover pipe:
Inside diameter: 4.0 in.
Length: 5.0 ft.
Material: Steel ■ Other ☐

Additional protection? ☐ Yes ■ No
If yes, describe: _____

Surface seal: Bentonite ☐ Concrete ■ Other ☐

Material between well casing and protective pipe: Bentonite ☐ Annular space seal ☐ Other ■
Red Flint Filter Sand

Annular space seal: Granular Bentonite ■
_____ Lbs/gal mud weight... Bentonite-sand slurry ☐
_____ Lbs/gal mud weight..... Bentonite slurry ☐
_____ % Bentonite..... Bentonite-cement grout ☐
_____ cu ft volume added for any of the above

How installed: Tremie ☐ Tremie pumped ☐ Gravity ■

Bentonite seal: Bentonite granules ■ Bentonite pellets ☐ Other ☐
■ 1/4 in. ☐ 3/8 in. ☐ 1/2 in.
#8 Granular Bentonite

Fine sand material: Manufacturer, product name & mesh size
None
Volume added NA cu ft

Filter pack material: Manufacturer, product name & mesh size
Red Flint Filter Sand (50lbs/bag)
Volume added _____ cu ft

Well casing: Flush threaded PVC schedule 40 ■ Flush threaded PVC schedule 80 ☐ Other ☐
Screen material: Sch. 40 PVC

Screen type: Factory cut ■ Continuous slot ☐ Other ☐
Manufacturer Environmental Products
Slot size: 0.010 in.
Slotted length: 10.0 ft.

Backfill material (below filter pack): None ■ Other ☐

I hereby certify that the information on this form is true and correct to the best of my knowlege.

Signature | Firm: MWH Americas, Inc.

RRJ/rrj/LBL
N:/jobs/208/2678/01MW01_m-stckup.xls
4/30/2004

MONITORING WELL DEVELOPMENT SUMMARY

MWH

Project Name Onyx Special Services | Well No. MW01
Location Port Washington, Wisconsin | Project No. 2082678.01160101
Developed By RRJ | Checked By LBL

1. Can this well be purged dry? ■ Yes ☐ No
Bailed dry three times

2. Well development method

surged with bailer and bailed	■
surged with bailer and pumped	☐
surged with block and bailed	☐
surged with block and pumped	☐
surged with block, bailed and pumped	☐
compressed air	☐
bailed only	☐
pumped only	☐
pumped slowly	☐
Other _____	☐

3. Time spent developing well 60 min.

4. Total well depth (TOC) (From well construction summary) 18.7 ft.

Measured well depth (Before) 18.7 ft.

Measured well depth (After) 18.7 ft.

5. Inside diameter of well 2.06 in.

6. Volume of water in filter pack and well casing 6.5 gal.

7. Volume of water removed from well 11.0 gal.

Relative recovery rate 0.144 ft. per. 1 min.

8. Volume of water added (if any) 0.0 gal.

9. Source of water added NA

	Before Development	After Development
10 Depth to Water (from top of well casing)	a. 12.73 ft.	16.82 ft.
Date:	b. 4/22/4 (mm dd yy) ☐ a.m.	4/23/4 (mm dd yy) ■ a.m.
Time:	c. 12 : 30 ■ p.m.	7 : 45 ☐ p.m.
11 Sediment in well bottom:	0.0 inches	0.0 inches
12 Water Observations:	Clear ☐ Turbid ■ (Describe)	Clear ☐ Turbid ■ (Describe)
Color	Brown	Brown
Odor	None	None
Turbidity	High	Moderate
HNu	NA	NA

Filter Pack Vol. (gallons 0.057(K^2 - r^2)ls = 5.5

Well casing Vol. (gallons 0.16r^2 l = 1.0

Saturated length of sand pack (fi (ls) 5.97

Length of water column (ft. (l) 5.97

R = Radius of borehole (in.) r = Well radius (in.)

Collect groundwater sample if drilling fluids were used and well is at solid waste facility:

13 Total suspended solids (500 ml Unfiltered)	NA mg/l	NA mg/l
14. COD (250 ml Unfiltered Sulfuric)	NA mg/l (BEFORE)	NA mg/l (AFTER)

Time	Gallons Purged	pH	Spec. Cond.	T deg. C	Spec. Cond. at 25 deg. C	Color	Odor	Turb.	Comment

4

GROUND-WATER/SURFACE WATER SAMPLING FORM

Location: Onyx Specail Services | Surface water: ☐ | Groundwater: X | Sample Identification: MW01 (Use: Well name)

Sampling Personnel: Rick Joslin | Date: 5/4/2003 | Weather: Clear, sunny, slight breeze

MEASUREMENT SUMMARY:

Measuring Point: TOC | Depth to Water: 9 | Depth to Product: NA | Product Thickness: NA

Total Casing Depth: 18.68 | Casing Diameter: 2-inch | Calculated Purge Volume: NA mL

SAMPLING SUMMARY: Sample Type: Grab: X | Composite: ☐

Sampling Method: Grundfos: ☐ | Bladder Pump: ☐ | Peristaltic Pump: X | Bailer: ☐

Pump Started: 1010 | Pump Stopped: 1050 | Total: 500 mL | Organic Vapor at Well Head: NA

Time (military)	pH (S. U.)	SC (umhos/cm)	Temp (°C)	Turb. (NTU)	Flow Rate (mL/min)	DTW (Ft.)	DO (mg/L)	Redox (mV)
1012	6.94	1068	10.3	Clear	100	8.97	NA	NA
1014	6.67	1013	10.0	Clear	100	9.13	NA	NA
1016	6.61	1007	9.9	Clear	100	9.16	NA	NA
1018	6.58	1013	10.0	Clear	100	9.27	NA	NA
1020	8.59	1016	9.9	Clear	100	9.35	NA	NA

Final Readings:

Time	pH	SC	Temp	Turb.	Flow Rate	DTW	DO	Redox
1020	6.59	1016	9.9	Clear	100	9.35	NA	NA

HYDROLAB: pH calibration Buffers: 4 ☐ 7 ☐ 10 ☐ Eh Reference solution _____

SC Reference solution _____ Turbidity Reference solution _____ NTUs

SAMPLE COLLECTION AND TIME:

Sample Identification: MW01 | Time: 1020 | MS/MSD ☐ | Duplicate ☐

Duplicate Identification: NA | Time NA

SAMPLE ANALYSIS: VOCs X | SVOCs X | TPH ☐ | PAHs ☐ | TOC ☐

Pest./PCBs ☐ | Dioxins/Furans ☐ | Dissolved Metals X | Total Metals ☐ | Chloride, Sulfate ☐

C1-, F-, SO_4- ☐ | Carb/Bicarb ☐ | NO3/NO2 ☐ | Phenols ☐ | TDS ☐ | Dissolved Mercury X

Other X | List: Dissolved Metals = Arsenic, Barium, Cadium, Chromium, Lead, Selenium, and Silver

State of Wisconsin
Department of Natural Resources

WELL/DRILLHOLE/BOREHOLE ABANDONMENT

Form 3300-5B Rev. 12-91

All abandonment work shall be performed in accordance with the provisions of Chapters NR 111, NR 112 or NR 141, Wis. Admin. Code, whichever is applicable. Also, see instructions on back.

(1) GENERAL INFORMATION

Well/Drillhole/Borehole Location

County: Ozaukee

____ 1/4 of SE 1/4 of Sec. 32 ; T 11 N; R. 22 ■ E ☐ W

(If applicable)

____ Gov't Lot ____ Grid Number

Grid Location

____ ft ☐ N. ☐ S., ____ ft. ☐ E. ☐ W.

Civil Town Name

Street Address of Well
1275 Mineral Springs drive

City, Village
Port Washington

(2) FACILITY NAME

Original Well Owner (If Known)
Onyx Special Services

Present Well Owner
Onyx Special Services

Street or Route
1275 Mineral Springs drive

City, State, Zip Code
Port Washington

Facility Well No. and/or Name (If Applicable): MW01

WI Unique Well No.:

Reason for Abandonment
No longer needed

Date of Abandonment
8/5/2004

WELL/DRILLHOLE/BOREHOLE INFORMATION

(3) Original Well/Drillhole/Borehole Construction Completed on

(Date) 4/24/2004

■ Monitoring Well
☐ Water Well
☐ Drillhole
☐ Borehole

Construction Report Available?
■ Yes ☐ No

Construction Type:
■ Drilled ☐ Driven (Sandpoint) ☐ Dug
☐ Other (Specify) ____

Formation Type:
■ Unconsolidated Formation ☐ Bedrock

Total Well Depth (ft.) 15 Casing Diameter (ins.) 2
(From groundsurface)

Casing Depth (ft.) 15

Was Well Annular Space Grouted? ■ Yes ☐ No ☐ Unknown
If Yes, To What Depth? 3 Feet

(4) Depth to Water (Feet) 9.26

Pump & Piping Removed?	■ Yes	☐ No	☐ Not Applicable
Liner(s) Removed?	☐ Yes	☐ No	■ Not Applicable
Screen Removed?	☐ Yes	■ No	☐ Not Applicable
Casing Left in Place?	■ Yes	☐ No	

If No, Explain ____

Was Casing Cut Off Below Surface?	■ Yes	☐ No
Did Sealing Material Rise to Surface?	■ Yes	☐ No
Did Material Settle After 24 Hours?	☐ Yes	■ No
If Yes, Was Hole Retopped?	☐ Yes	☐ No

(5) Required Method of Placing Sealing Material
☐ Conductor Pipe-Gravity ☐ Conductor Pipe-Pumped
☐ Dump Bailer ☐ Other (Explain)

(6) Sealing Materials — For monitoring wells and monitoring well boreholes only

☐ Neat Cement Grout
☐ Sand-Cement (Concrete) Grout
☐ Concrete
☐ Clay-Sand Slurry
☐ Bentonite-Sand Slurry
☐ Chipped Bentonite
■ Bentonite Pellets
☐ Granular Bentonite
☐ Bentonite-Cement Grout

(7) Sealing Material Used	From (Ft.)	To (Ft.)	No. Yards, Sacks Sealant or Volume	(Circle One)	Mix Ratio or Mud Weight
Bentonite Chips	Surface	15	1		

(8) Comments: ____

(9) Name of Person or Firm Doing Sealing Work
MWH, Inc.

Signature of Person Doing Work: Brian J. Kapp
Date Signed: 8/6/2004

Street or Route: 1 Science Court
Telephone Number: (608) 231-4747

City, State, Zip Code: Madison, Wisconsin 53711

(10) FOR DNR OR COUNTY USE ONLY

Date Received/Inspected	District/County
Reviewer/Inspector	☐ Complying Work ☐ Noncomplying Work
Follow-up Necessary	

F:\FORMS\ABANDON

6-end

B

LABORATORY ANALYTICAL REPORTS

CTLaboratories

1230 Lange Cou
Baraboo, WI 53913-310
Phone: (800) 228-301
Fax: (608) 356-276
www.ctlaboratories.con

ANALYTICAL REPORT

MONTGOMERY WATSON HARZA
MARK PAULI
ONE SCIENCE CT
MADISON, WI 53711

Project Name: ONYX SPECIAL SERVICE
Contract #: 1510
Project #: 2082678.8060101 0116010
Folder #: 40447
Purchase Order #:
Arrival Temperature: See COC
Report Date: 5/10/2004
Date Received: 4/27/2004
Reprint Date:

CTI LAB#: 250890 Sample Description: SD01 Sampled: 4/22/2004 1030

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
Inorganic Results										
Solids, Percent	73.6	%	N/A	N/A	1			4/27/2004	JHO	EPA 5030A
Metals Results										
Mercury	0.87	mg/kg	0.041	0.12	10		5/1/2004	5/3/2004	NAH	EPA 7471
Organic Results										
Qualifiers applying to all Analytes of Method EPA 8310: V										
1-Methylnaphthalene	<0.12	mg/kg	0.12	0.38	1		4/28/2004	5/5/2004	SHU	EPA 8310
2-Methylnaphthalene	<0.14	mg/kg	0.14	0.44	1		4/28/2004	5/5/2004	SHU	EPA 8310
Acenaphthene	<0.12	mg/kg	0.12	0.38	1		4/28/2004	5/5/2004	SHU	EPA 8310
Acenephthylene	<0.096	mg/kg	0.096	0.30	1		4/28/2004	5/5/2004	SHU	EPA 8310
Anthracene	<0.014	mg/kg	0.014	0.054	1		4/28/2004	5/5/2004	SHU	EPA 8310
Benzo(a)anthracene	<0.0027	mg/kg	0.0027	0.013	1		4/28/2004	5/5/2004	SHU	EPA 8310
Benzo(a)pyrene	0.15	mg/kg	0.014	0.054	1		4/28/2004	5/5/2004	SHU	EPA 8310
Benzo(b)fluoranthene	0.29	mg/kg	0.0055	0.013	1		4/28/2004	5/5/2004	SHU	EPA 8310
Benzo(g,h,i)perylene	0.14	mg/kg	0.014	0.047	1	P	4/28/2004	5/5/2004	SHU	EPA 8310
Benzo(k)fluoranthene	<0.0055	mg/kg	0.0055	0.013	1		4/28/2004	5/5/2004	SHU	EPA 8310
Chrysene	<0.014	mg/kg	0.014	0.054	1		4/28/2004	5/5/2004	SHU	EPA 8310
Dibenzo(a,h)enthracene	<0.062	mg/kg	0.062	0.21	1		4/28/2004	5/5/2004	SHU	EPA 8310
Fluoranthene	0.14	mg/kg	0.0069	0.020	1	P	4/28/2004	5/5/2004	SHU	EPA 8310
Fluorene	<0.048	mg/kg	0.048	0.16	1		4/28/2004	5/5/2004	SHU	EPA 8310
Indeno(1,2,3-cd)pyrene	0.13	mg/kg	0.014	0.047	1	P	4/28/2004	5/5/2004	SHU	EPA 8310
Naphthalene	<0.12	mg/kg	0.12	0.38	1		4/28/2004	5/5/2004	SHU	EPA 8310
Phenanthrene	<0.014	mg/kg	0.014	0.054	1		4/28/2004	5/5/2004	SHU	EPA 8310
Pyrene	<0.014	mg/kg	0.014	0.054	1		4/28/2004	5/5/2004	SHU	EPA 8310

Solid sample results reported on a Dry Weight Basis

CTI LAB#: 250890 Sample Description: SD01 Sampled: 4/22/2004 1030

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
1,1,2-Trichloroethane	<0.016	mg/kg	0.016	0.050	1		4/27/2004	4/27/2004	RLD	EPA 8260
1,1,1,2-Tetrachloroethane	<0.016	mg/kg	0.016	0.054	1		4/27/2004	4/27/2004	RLD	EPA 8260
1,1,1-Trichloroethane	<0.012	mg/kg	0.012	0.042	1		4/27/2004	4/27/2004	RLD	EPA 8260
1,1,2,2-Tetrachloroethane	<0.011	mg/kg	0.011	0.035	1		4/27/2004	4/27/2004	RLD	EPA 8260
1,1-Dichloroethane	<0.018	mg/kg	0.018	0.060	1		4/27/2004	4/27/2004	RLD	EPA 8260
1,1-Dichloroethene	<0.018	mg/kg	0.018	0.057	1		4/27/2004	4/27/2004	RLD	EPA 8260
1,1-Dichloropropene	<0.016	mg/kg	0.018	0.058	1		4/27/2004	4/27/2004	RLD	EPA 8260
1,2,3-Trichlorobenzene	<0.018	mg/kg	0.018	0.060	1		4/27/2004	4/27/2004	RLD	EPA 8260
1,2,3-Trichloropropane	<0.023	mg/kg	0.023	0.076	1		4/27/2004	4/27/2004	RLD	EPA 8260
1,2,4-Trichlorobenzene	<0.015	mg/kg	0.015	0.052	1		4/27/2004	4/27/2004	RLD	EPA 8260
1,2,4-Trimethylbenzene	<0.011	mg/kg	0.011	0.037	1		4/27/2004	4/27/2004	RLD	EPA 8260
1,2-Dibromo-3-chloropropane	<0.019	mg/kg	0.019	0.063	1		4/27/2004	4/27/2004	RLD	EPA 8260
1,2-Dibromoethane	<0.016	mg/kg	0.018	0.061	1		4/27/2004	4/27/2004	RLD	EPA 8260
1,2-Dichlorobenzene	<0.0068	mg/kg	0.0068	0.020	1		4/27/2004	4/27/2004	RLD	EPA 8260
1,2-Dichloroethane	<0.011	mg/kg	0.011	0.033	1		4/27/2004	4/27/2004	RLD	EPA 8260
cis-1,2-Dichloroethene	<0.015	mg/kg	0.015	0.052	1		4/27/2004	4/27/2004	RLD	EPA 8260
trans-1,2-Dichloroethene	<0.022	mg/kg	0.022	0.072	1		4/27/2004	4/27/2004	RLD	EPA 8260
1,2-Dichloropropane	<0.0095	mg/kg	0.0095	0.033	1		4/27/2004	4/27/2004	RLD	EPA 8260
cis-1,3-Dichloropropene	<0.020	mg/kg	0.020	0.086	1		4/27/2004	4/27/2004	RLD	EPA 8260
trans-1,3-Dichloropropene	<0.012	mg/kg	0.012	0.038	1		4/27/2004	4/27/2004	RLD	EPA 8260
1,3,5-Trimethylbenzene	<0.015	mg/kg	0.015	0.049	1		4/27/2004	4/27/2004	RLD	EPA 8260
1,3-Dichlorobenzene	<0.015	mg/kg	0.015	0.046	1		4/27/2004	4/27/2004	RLD	EPA 8260
1,3-Dichloropropane	<0.015	mg/kg	0.015	0.049	1		4/27/2004	4/27/2004	RLD	EPA 8260
1,4-Dichlorobenzene	<0.012	mg/kg	0.012	0.039	1		4/27/2004	4/27/2004	RLD	EPA 8260
2,2-Dichloropropane	<0.014	mg/kg	0.014	0.048	1		4/27/2004	4/27/2004	RLD	EPA 8260
2-Butanone	0.50	mg/kg	0.29	0.92	1		4/27/2004	4/27/2004	RLD	EPA 8260
2-Chlorotoluene	<0.0068	mg/kg	0.0068	0.023	1		4/27/2004	4/27/2004	RLD	EPA 8260
2-Hexanone	<0.26	mg/kg	0.26	0.68	1		4/27/2004	4/27/2004	RLD	EPA 8260
4-Chlorotoluene	<0.014	mg/kg	0.014	0.046	1		4/27/2004	4/27/2004	RLD	EPA 8260
4-Methyl-2-pentanone	<0.16	mg/kg	0.16	0.56	1		4/27/2004	4/27/2004	RLD	EPA 8260
Acetone	<0.41	mg/kg	0.41	1.5	1		4/27/2004	4/27/2004	RLD	EPA 8260
Benzene	<0.0068	mg/kg	0.0068	0.023	1		4/27/2004	4/27/2004	RLD	EPA 8260
Bromobenzene	<0.018	mg/kg	0.016	0.060	1		4/27/2004	4/27/2004	RLD	EPA 8260

Solid sample results reported on a Dry Weight Basis

CTI LAB#: 250890 Sample Description: SD01 Sampled: 4/22/2004 1030

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
Bromochloromethane	<0.019	mg/kg	0.019	0.064	1		4/27/2004	4/27/2004	RLD	EPA 8260
Bromodichloromethane	<0.019	mg/kg	0.019	0.064	1		4/27/2004	4/27/2004	RLD	EPA 8260
Bromoform	<0.019	mg/kg	0.019	0.065	1		4/27/2004	4/27/2004	RLD	EPA 8260
Bromomethane	<0.030	mg/kg	0.030	0.10	1		4/27/2004	4/27/2004	RLD	EPA 8260
n-Butylbenzene	<0.011	mg/kg	0.011	0.035	1		4/27/2004	4/27/2004	RLD	EPA 8260
sec-Butylbenzene	<0.0095	mg/kg	0.0095	0.033	1		4/27/2004	4/27/2004	RLD	EPA 8260
tert-Butylbenzene	<0.011	mg/kg	0.011	0.037	1		4/27/2004	4/27/2004	RLD	EPA 8260
Carbon disulfide	<0.039	mg/kg	0.039	0.13	1		4/27/2004	4/27/2004	RLD	EPA 8260
Carbon tetrachloride	<0.012	mg/kg	0.012	0.042	1		4/27/2004	4/27/2004	RLD	EPA 8260
Chlorobenzene	<0.016	mg/kg	0.016	0.056	1		4/27/2004	4/27/2004	RLD	EPA 8260
Chloroethane	<0.022	mg/kg	0.022	0.071	1		4/27/2004	4/27/2004	RLD	EPA 8260
Chloroform	<0.012	mg/kg	0.012	0.039	1		4/27/2004	4/27/2004	RLD	EPA 8260
Chloromethane	<0.015	mg/kg	0.015	0.049	1		4/27/2004	4/27/2004	RLD	EPA 8260
Dibromochloromethane	<0.0082	mg/kg	0.0082	0.029	1		4/27/2004	4/27/2004	RLD	EPA 8260
Dibromomethane	<0.012	mg/kg	0.012	0.039	1		4/27/2004	4/27/2004	RLD	EPA 8260
Dichlorodifluoromethane	<0.018	mg/kg	0.018	0.056	1		4/27/2004	4/27/2004	RLD	EPA 8260
Diisopropyl ether	<0.011	mg/kg	0.011	0.038	1		4/27/2004	4/27/2004	RLD	EPA 8260
Ethylbenzene	<0.0095	mg/kg	0.0095	0.033	1		4/27/2004	4/27/2004	RLD	EPA 8260
Hexachlorobutadiene	<0.018	mg/kg	0.018	0.058	1		4/27/2004	4/27/2004	RLD	EPA 8260
Isopropylbenzene	<0.015	mg/kg	0.015	0.049	1		4/27/2004	4/27/2004	RLD	EPA 8260
p-Isopropyltoluene	<0.018	mg/kg	0.018	0.058	1		4/27/2004	4/27/2004	RLD	EPA 8260
Methyl tert-butyl ether	<0.0082	mg/kg	0.0082	0.024	1		4/27/2004	4/27/2004	RLD	EPA 8260
Methylene chloride	<0.034	mg/kg	0.034	0.11	1		4/27/2004	4/27/2004	RLD	EPA 8260
Naphthalene	<0.018	mg/kg	0.016	0.052	1		4/27/2004	4/27/2004	RLD	EPA 8260
n-Propylbenzene	<0.0068	mg/kg	0.0068	0.022	1		4/27/2004	4/27/2004	RLD	EPA 8260
Styrene	<0.011	mg/kg	0.011	0.034	1		4/27/2004	4/27/2004	RLD	EPA 8260
Tetrachloroethene	<0.018	mg/kg	0.018	0.057	1		4/27/2004	4/27/2004	RLD	EPA 8260
Tetrahydrofuran	<0.22	mg/kg	0.22	0.72	1		4/27/2004	4/27/2004	RLD	EPA 8260
Toluene	<0.0095	mg/kg	0.0095	0.031	1		4/27/2004	4/27/2004	RLD	EPA 8260
Trichloroethene	<0.020	mg/kg	0.020	0.067	1		4/27/2004	4/27/2004	RLD	EPA 8260
Trichlorofluoromethane	<0.014	mg/kg	0.014	0.044	1		4/27/2004	4/27/2004	RLD	EPA 8260
Vinyl acetate	<0.10	mg/kg	0.10	0.35	1		4/27/2004	4/27/2004	RLD	EPA 8260
Vinyl chloride	<0.015	mg/kg	0.015	0.048	1		4/27/2004	4/27/2004	RLD	EPA 8260

CTI LAB#: 250890 Sample Description: SD01 Sampled: 4/22/2004 1030

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
m & p-Xylene	<0.026	mg/kg	0.026	0.084	1		4/27/2004	4/27/2004	RLD	EPA 8260
o-Xylene	<0.016	mg/kg	0.016	0.056	1		4/27/2004	4/27/2004	RLD	EPA 8260

CTI LAB#: 250891 Sample Description: MEOH BLANK Sampled: 4/22/2004 1015

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
Organic Results										
1,1,2-Trichloroethane	<0.012	mg/kg	0.012	0.037	1		4/27/2004	4/27/2004	RLD	EPA 8260
1,1,1,2-Tetrachloroethane	<0.012	mg/kg	0.012	0.040	1		4/27/2004	4/27/2004	RLD	EPA 8260
1,1,1-Trichloroethane	<0.0090	mg/kg	0.0090	0.031	1		4/27/2004	4/27/2004	RLD	EPA 8260
1,1,2,2-Tetrachloroethane	<0.0080	mg/kg	0.0080	0.026	1		4/27/2004	4/27/2004	RLD	EPA 8260
1,1-Dichloroethane	<0.013	mg/kg	0.013	0.044	1		4/27/2004	4/27/2004	RLD	EPA 8260
1,1-Dichloroethene	<0.013	mg/kg	0.013	0.042	1		4/27/2004	4/27/2004	RLD	EPA 8260
1,1-Dichloropropene	<0.013	mg/kg	0.013	0.043	1		4/27/2004	4/27/2004	RLD	EPA 8260
1,2,3-Trichlorobenzene	<0.013	mg/kg	0.013	0.044	1		4/27/2004	4/27/2004	RLD	EPA 8260
1,2,3-Trichloropropane	<0.017	mg/kg	0.017	0.056	1		4/27/2004	4/27/2004	RLD	EPA 8260
1,2,4-Trichlorobenzene	<0.011	mg/kg	0.011	0.038	1		4/27/2004	4/27/2004	RLD	EPA 8260
1,2,4-Trimethylbenzene	<0.0080	mg/kg	0.0080	0.027	1		4/27/2004	4/27/2004	RLD	EPA 8260
1,2-Dibromo-3-chloropropane	<0.014	mg/kg	0.014	0.046	1		4/27/2004	4/27/2004	RLD	EPA 8260
1,2-Dibromoethane	<0.013	mg/kg	0.013	0.045	1		4/27/2004	4/27/2004	RLD	EPA 8260
1,2-Dichlorobenzene	<0.0050	mg/kg	0.0050	0.015	1		4/27/2004	4/27/2004	RLD	EPA 8260
1,2-Dichloroethane	<0.0080	mg/kg	0.0080	0.024	1		4/27/2004	4/27/2004	RLD	EPA 8260
cis-1,2-Dichloroethene	<0.011	mg/kg	0.011	0.038	1		4/27/2004	4/27/2004	RLD	EPA 8260
trans-1,2-Dichloroethene	<0.016	mg/kg	0.016	0.053	1		4/27/2004	4/27/2004	RLD	EPA 8260
1,2-Dichloropropane	<0.0070	mg/kg	0.0070	0.024	1		4/27/2004	4/27/2004	RLD	EPA 8260
cis-1,3-Dichloropropene	<0.015	mg/kg	0.015	0.050	1		4/27/2004	4/27/2004	RLD	EPA 8260
trans-1,3-Dichloropropene	<0.0090	mg/kg	0.0090	0.028	1		4/27/2004	4/27/2004	RLD	EPA 8260
1,3,5-Trimethylbenzene	<0.011	mg/kg	0.011	0.036	1		4/27/2004	4/27/2004	RLD	EPA 8260
1,3-Dichlorobenzene	<0.011	mg/kg	0.011	0.035	1		4/27/2004	4/27/2004	RLD	EPA 8260
1,3-Dichloropropane	<0.011	mg/kg	0.011	0.036	1		4/27/2004	4/27/2004	RLD	EPA 8260
1,4-Dichlorobenzene	<0.0090	mg/kg	0.0090	0.029	1		4/27/2004	4/27/2004	RLD	EPA 8260
2,2-Dichloropropane	<0.010	mg/kg	0.010	0.034	1		4/27/2004	4/27/2004	RLD	EPA 8260
2-Butanone	0.43	mg/kg	0.21 *	0.66	1		4/27/2004	4/27/2004	RLD	EPA 8260
2-Chlorotoluene	<0.0050	mg/kg	0.0050	0.017	1		4/27/2004	4/27/2004	RLD	EPA 8260

Solid sample results reported on a Dry Weight Basis

CTI LAB#: 250891 Sample Description: MEOH BLANK Sampled: 4/22/2004 1015

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
2-Hexanone	<0.19	mg/kg	0.19	0.65	1		4/27/2004	4/27/2004	RLD	EPA 8260
4-Chlorotoluene	<0.010	mg/kg	0.010	0.034	1		4/27/2004	4/27/2004	RLD	EPA 8260
4-Methyl-2-pentanone	<0.12	mg/kg	0.12	0.41	1		4/27/2004	4/27/2004	RLD	EPA 8260
Acetone	<0.30	mg/kg	0.30	1.1	1		4/27/2004	4/27/2004	RLD	EPA 8260
Benzene	<0.0050	mg/kg	0.0050	0.017	1		4/27/2004	4/27/2004	RLD	EPA 8260
Bromobenzene	<0.013	mg/kg	0.013	0.044	1		4/27/2004	4/27/2004	RLD	EPA 8260
Bromochloromethane	<0.014	mg/kg	0.014	0.047	1		4/27/2004	4/27/2004	RLD	EPA 8260
Bromodichloromethane	<0.014	mg/kg	0.014	0.047	1		4/27/2004	4/27/2004	RLD	EPA 8260
Bromoform	<0.014	mg/kg	0.014	0.048	1		4/27/2004	4/27/2004	RLD	EPA 8260
Bromomethane	<0.022	mg/kg	0.022	0.075	1		4/27/2004	4/27/2004	RLD	EPA 8260
n-Butylbenzene	<0.0080	mg/kg	0.0080	0.026	1		4/27/2004	4/27/2004	RLD	EPA 8260
sec-Butylbenzene	<0.0070	mg/kg	0.0070	0.024	1		4/27/2004	4/27/2004	RLD	EPA 8260
tert-Butylbenzene	<0.0080	mg/kg	0.0080	0.027	1		4/27/2004	4/27/2004	RLD	EPA 8260
Carbon disulfide	<0.029	mg/kg	0.029	0.098	1		4/27/2004	4/27/2004	RLD	EPA 8260
Carbon tetrachloride	<0.0090	mg/kg	0.0090	0.031	1		4/27/2004	4/27/2004	RLD	EPA 8260
Chlorobenzene	<0.012	mg/kg	0.012	0.041	1		4/27/2004	4/27/2004	RLD	EPA 8260
Chloroethane	<0.016	mg/kg	0.016	0.052	1		4/27/2004	4/27/2004	RLD	EPA 8260
Chloroform	<0.0090	mg/kg	0.0090	0.029	1		4/27/2004	4/27/2004	RLD	EPA 8260
Chloromethane	<0.011	mg/kg	0.011	0.036	1		4/27/2004	4/27/2004	RLD	EPA 8260
Dibromochloromethane	<0.0060	mg/kg	0.0060	0.021	1		4/27/2004	4/27/2004	RLD	EPA 8260
Dibromomethane	<0.0090	mg/kg	0.0090	0.029	1		4/27/2004	4/27/2004	RLD	EPA 8260
Dichlorodifluoromethane	<0.013	mg/kg	0.013	0.041	1		4/27/2004	4/27/2004	RLD	EPA 8260
Diisopropyl ether	<0.0080	mg/kg	0.0080	0.028	1		4/27/2004	4/27/2004	RLD	EPA 8260
Ethylbenzene	<0.0070	mg/kg	0.0070	0.024	1		4/27/2004	4/27/2004	RLD	EPA 8260
Hexachlorobutadiene	<0.013	mg/kg	0.013	0.043	1		4/27/2004	4/27/2004	RLD	EPA 8260
Isopropylbenzene	<0.011	mg/kg	0.011	0.036	1		4/27/2004	4/27/2004	RLD	EPA 8260
p-Isopropyltoluene	<0.013	mg/kg	0.013	0.043	1		4/27/2004	4/27/2004	RLD	EPA 8260
Methyl tert-butyl ether	<0.0060	mg/kg	0.0060	0.018	1		4/27/2004	4/27/2004	RLD	EPA 8260
Methylene chloride	<0.025	mg/kg	0.025	0.081	1		4/27/2004	4/27/2004	RLD	EPA 8260
Naphthalene	<0.012	mg/kg	0.012	0.038	1		4/27/2004	4/27/2004	RLD	EPA 8260
n-Propylbenzene	<0.0050	mg/kg	0.0050	0.016	1		4/27/2004	4/27/2004	RLD	EPA 8260
Styrene	<0.0080	mg/kg	0.0080	0.025	1		4/27/2004	4/27/2004	RLD	EPA 8260
Tetrachloroethene	<0.013	mg/kg	0.013	0.042	1		4/27/2004	4/27/2004	RLD	EPA 8260

Solid sample results reported on a Dry Weight Basis

CTI LAB#: 250891 Sample Description: MEOH BLANK Sampled: 4/22/2004 1015

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
Tetrahydrofuran	<0.16	mg/kg	0.16	0.53	1		4/27/2004	4/27/2004	RLD	EPA 8260
Toluene	<0.0070	mg/kg	0.0070	0.023	1		4/27/2004	4/27/2004	RLD	EPA 8260
Trichloroethene	<0.015	mg/kg	0.015	0.049	1		4/27/2004	4/27/2004	RLD	EPA 8260
Trichlorofluoromethane	<0.010	mg/kg	0.010	0.032	1		4/27/2004	4/27/2004	RLD	EPA 8260
Vinyl acetate	<0.077	mg/kg	0.077	0.26	1		4/27/2004	4/27/2004	RLD	EPA 8260
Vinyl chloride	<0.011	mg/kg	0.011	0.035	1		4/27/2004	4/27/2004	RLD	EPA 8260
m & p-Xylene	<0.019	mg/kg	0.019	0.062	1		4/27/2004	4/27/2004	RLD	EPA 8260
o-Xylene	<0.012	mg/kg	0.012	0.041	1		4/27/2004	4/27/2004	RLD	EPA 8260

CTI LAB#: 250892 Sample Description: HA01(0-0.5 FT) Sampled: 4/22/2004 1115

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
Inorganic Results										
Solids, Percent	79.7	%	N/A	N/A	1			4/27/2004	JHO	EPA 5030A
Metals Results										
Mercury	2.1	mg/kg	0.035	0.10	10		5/1/2004	5/3/2004	NAH	EPA 7471

CTI LAB#: 250893 Sample Description: HA01(0-0.5 FT) DUP Sampled: 4/22/2004 1115

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
Inorganic Results										
Solids, Percent	82.2	%	N/A	N/A	1			4/27/2004	JHO	EPA 5030A
Metals Results										
Mercury	3.8	mg/kg	0.068	0.20	20		5/1/2004	5/3/2004	NAH	EPA 7471

CTI LAB#: 250894 Sample Description: HA02(0-0.5 FT) Sampled: 4/22/2004 1135

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
Inorganic Results										
Solids, Percent	83.5	%	N/A	N/A	1			4/27/2004	JHO	EPA 5030A
Metals Results										
Mercury	0.026	mg/kg	0.0035	0.010	1		5/1/2004	5/3/2004	NAH	EPA 7471

CTI LAB#: 250895 Sample Description: MW01(0-1.0 FT) Sampled: 4/22/2004 0840

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
Inorganic Results										
Solids, Percent	89.3	%	N/A	N/A	1			4/27/2004	JHO	EPA 5030A
Metals Results										

Solid sample results reported on a Dry Weight Basis

CTI LAB#: 250895 Sample Description: MW01(0-1.0 FT) Sampled: 4/22/2004 0840

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
Arsenic	17.5	mg/kg	1.9	6.5	1		4/27/2004	4/27/2004	NAH	EPA 6010B
Barium	68.6	mg/kg	0.30	0.98	1		4/27/2004	4/27/2004	NAH	EPA 6010B
Cadmium	0.26	mg/kg	0.077	0.25	1		4/27/2004	4/27/2004	NAH	EPA 6010B
Chromium	11.7	mg/kg	0.31	1.0	1		4/27/2004	4/27/2004	NAH	EPA 6010B
Lead	5.6	mg/kg	0.32	1.1	1		4/27/2004	4/27/2004	NAH	EPA 6010B
Selenium	<0.70	mg/kg	0.70	2.4	1		4/27/2004	4/27/2004	NAH	EPA 6010B
Silver	<0.23	mg/kg	0.23	0.75	1		4/27/2004	4/27/2004	NAH	EPA 6010B
Mercury	0.017	mg/kg	0.0033	0.0099	1		5/1/2004	5/3/2004	NAH	EPA 7471
Organic Results										
1-Methylnaphthalene	<0.019	mg/kg	0.019	0.063	1		4/28/2004	5/5/2004	SHU	EPA 8310
2-Methylnaphthalene	<0.023	mg/kg	0.023	0.073	1		4/28/2004	5/5/2004	SHU	EPA 8310
Acenaphthene	<0.019	mg/kg	0.019	0.063	1		4/28/2004	5/5/2004	SHU	EPA 8310
Acenaphthylene	<0.016	mg/kg	0.016	0.050	1		4/28/2004	5/5/2004	SHU	EPA 8310
Anthracene	0.0037	mg/kg	0.0023 *	0.0089	1	P	4/28/2004	5/5/2004	SHU	EPA 8310
Benzo(a)anthracene	0.017	mg/kg	0.00045	0.0022	1		4/28/2004	5/5/2004	SHU	EPA 8310
Benzo(a)pyrene	0.027	mg/kg	0.0023	0.0089	1		4/28/2004	5/5/2004	SHU	EPA 8310
Benzo(b)fluoranthene	0.054	mg/kg	0.00090	0.0022	1		4/28/2004	5/5/2004	SHU	EPA 8310
Benzo(g,h,i)perylene	0.028	mg/kg	0.0023	0.0078	1		4/28/2004	5/5/2004	SHU	EPA 8310
Benzo(k)fluoranthene	0.012	mg/kg	0.00090	0.0022	1		4/28/2004	5/5/2004	SHU	EPA 8310
Chrysene	<0.0023	mg/kg	0.0023	0.0089	1		4/28/2004	5/5/2004	SHU	EPA 8310
Dibenzo(a,h)anthracene	<0.010	mg/kg	0.010	0.034	1		4/28/2004	5/5/2004	SHU	EPA 8310
Fluoranthene	0.040	mg/kg	0.0011	0.0033	1		4/28/2004	5/5/2004	SHU	EPA 8310
Fluorene	<0.0079	mg/kg	0.0079	0.027	1		4/28/2004	5/5/2004	SHU	EPA 8310
Indeno(1,2,3-cd)pyrene	0.025	mg/kg	0.0023	0.0078	1	P	4/28/2004	5/5/2004	SHU	EPA 8310
Naphthalene	<0.019	mg/kg	0.019	0.082	1		4/28/2004	5/5/2004	SHU	EPA 8310
Phenanthrene	0.016	mg/kg	0.0023	0.0089	1	B	4/28/2004	5/5/2004	SHU	EPA 8310
Pyrene	<0.0023	mg/kg	0.0023	0.0089	1		4/28/2004	5/5/2004	SHU	EPA 8310

CTI LAB#: 250898 Sample Description: MW01(4.0-5.0FT) Sampled: 4/22/2004 0850

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
Inorganic Results										
Solids, Percent	84.8	%	N/A	N/A	1			4/27/2004	JHO	EPA 5030A
Metals Results										
Arsenic	11.8	mg/kg	1.9	6.5	1		4/27/2004	4/27/2004	NAH	EPA 6010B

Solid sample results reported on a Dry Weight Basis

CTI LAB#: 250896 Sample Description: MW01(4.0-5.0FT) Sampled: 4/22/2004 0850

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
Barium	84.6	mg/kg	0.30	0.98	1		4/27/2004	4/27/2004	NAH	EPA 6010B
Cadmium	0.28	mg/kg	0.076	0.25	1		4/27/2004	4/27/2004	NAH	EPA 6010B
Chromium	17.4	mg/kg	0.31	1.0	1		4/27/2004	4/27/2004	NAH	EPA 6010B
Lead	5.9	mg/kg	0.32	1.1	1		4/27/2004	4/27/2004	NAH	EPA 6010B
Selenium	<0.69	mg/kg	0.69	2.4	1		4/27/2004	4/27/2004	NAH	EPA 6010B
Silver	<0.23	mg/kg	0.23	0.75	1		4/27/2004	4/27/2004	NAH	EPA 6010B
Mercury	0.015	mg/kg	0.0035	0.010	1		5/1/2004	5/3/2004	NAH	EPA 7471
Organic Results										
1-Methylnaphthalene	<0.020	mg/kg	0.020	0.067	1		4/28/2004	5/4/2004	SHU	EPA 8310
2-Methylnaphthalene	<0.024	mg/kg	0.024	0.077	1		4/28/2004	5/4/2004	SHU	EPA 8310
Acenaphthene	<0.020	mg/kg	0.020	0.067	1		4/28/2004	5/4/2004	SHU	EPA 8310
Acenaphthylene	<0.017	mg/kg	0.017	0.053	1		4/28/2004	5/4/2004	SHU	EPA 8310
Anthracene	<0.0024	mg/kg	0.0024	0.0094	1		4/28/2004	5/4/2004	SHU	EPA 8310
Benzo(a)anthracene	<0.00048	mg/kg	0.00048	0.0023	1		4/28/2004	5/4/2004	SHU	EPA 8310
Benzo(a)pyrene	<0.0024	mg/kg	0.0024	0.0094	1		4/28/2004	5/4/2004	SHU	EPA 8310
Benzo(b)fluoranthene	0.0070	mg/kg	0.00096	0.0023	1		4/28/2004	5/4/2004	SHU	EPA 8310
Benzo(g,h,i)perylene	0.0090	mg/kg	0.0024	0.0082	1		4/28/2004	5/4/2004	SHU	EPA 8310
Benzo(k)fluoranthene	0.0070	mg/kg	0.00096	0.0023	1	P	4/28/2004	5/4/2004	SHU	EPA 8310
Chrysene	<0.0024	mg/kg	0.0024	0.0094	1		4/28/2004	5/4/2004	SHU	EPA 8310
Dibenzo(a,h)anthracene	<0.011	mg/kg	0.011	0.036	1		4/28/2004	5/4/2004	SHU	EPA 8310
Fluoranthene	0.0059	mg/kg	0.0012	0.0035	1	P	4/28/2004	5/4/2004	SHU	EPA 8310
Fluorene	<0.0084	mg/kg	0.0084	0.028	1		4/28/2004	5/4/2004	SHU	EPA 8310
Indeno(1,2,3-cd)pyrene	<0.0024	mg/kg	0.0024	0.0082	1		4/28/2004	5/4/2004	SHU	EPA 8310
Naphthalene	<0.020	mg/kg	0.020	0.066	1		4/28/2004	5/4/2004	SHU	EPA 8310
Phenanthrene	<0.0024	mg/kg	0.0024	0.0094	1		4/28/2004	5/4/2004	SHU	EPA 8310
Pyrene	<0.0024	mg/kg	0.0024	0.0094	1		4/28/2004	5/4/2004	SHU	EPA 8310

Notes: * Indicates Value in between LOD and LOQ.

All samples were received intact and properly preserved unless otherwise noted. The results reported relate only to the samples tested. This report shall not be reproduced, except in full, without written approval of this laboratory. The Chain of Custody is attached.

PMC

Submitted by: _____

Record Reviewer

QC Qualifiers

Code	Description
A	Analyte averaged calibration criteria within acceptable limits.
B	Analyte detected in associated Method Blank.
C	Toxicity present in BOD sample.
D	Diluted Out.
E	Safe, No Total Coliform detected.
F	Unsafe, Total Coliform detected, no E. Coli detected.
G	Unsafe, Total Coliform detected and E. Coli detected.
H	Holding time exceeded.
J	Estimated value.
L	Significant peaks were detected outside the chromatographic window.
M	Matrix spike and/or Matrix Spike Duplicate recovery outside acceptance limits.
N	Insufficient BOD oxygen depletion.
O	Complete BOD oxygen depletion.
P	Concentration of analyte differs more than 40% between primary and confirmation analysis.
Q	Laboratory Control Sample outside acceptance limits.
R	See Narrative at end of report.
S	Surrogate standard recovery outside acceptance limits due to apparent matrix effects.
T	Sample received with improper preservation or temperature.
V	Raised Quantitation or Reporting Limit due to limited sample amount or dilution for matrix background interference.
W	Sample amount received was below program minimum.
X	Analyte exceeded calibration range.
Y	Replicate/Duplicate precision outside acceptance limits.
Z	Calibration criteria exceeded.

See Special Instructions 1 OF 1

40447

MWH
MONTGOMERY WATSON HARZA

CHAIN OF CUSTODY RECORD

SPECIAL INSTRUCTIONS:
- ☐ PECFA
- ☐ WI LUST
- ☐ ACT 307
- ☐ REPORT DRY WT
- ☒ OTHER:

TURNAROUND
- ☒ 2 WEEKS (standard)
- ☐ 1 WEEK
- ☐ 3 DAYS
- ☐ 1 DAY

PROJECT NAME: Onyx Special Services
PROJECT #: 20826781.011.60101
CITY: Port Washington
STATE: WI
SAMPLER(S): Rick Joslin

Folder #: 40447
Company: MONTGOMERY WATS
Project: ONYX SPECIAL SERVIC
Logged By: JLW PM: PMI

COLLECTION DATE	COLLECTION TIME	GRAB / COMP	SAMPLE ID	NO. OF CONTAINERS	Mercury (7471A)	BAHs (8310)	VOCs (8260)	7RCRA Metals (6010)	REMARKS	MATRIX	
4/22/04	1030	G	SD01	5	X	X	X			Soil	250890
	1015	G	MeOH Blank	1			X			—	250891
	1115	C	HA01(0-0.5Ft)	2	X					Soil	250892
	1115	C	HA01(0-0.5Ft) Dup	1	X					Soil	250893
	1135	C	HA02(0-0.5Ft)	2	X					Soil	250894
	840	C	MW01(0-1.0Ft)	2	X	X		X		Soil	250895
X	X		X		X	X	X	X	X	X	X
4/22/04	1120	C	HA01(0.5-1.0Ft)	2	X				Hold ②	Soil	
	1140	C	HA02(0.5-1.0Ft)	2	X				Hold ②	Soil	
	850	C	MW01(4.0-5.0Ft)	2	X	X		X	Hold ②	Soil	250896

SPECIAL INSTRUCTIONS:

PROJ. MGR.: Leo Lingemanstoas

TAMPER EVIDENT SEAL INTACT? ___YES ___NO ___NOT PRESENT
SEAL NO.: ___
SAMPLES RECEIVED ON ICE? X YES ___NO TEMP: 0.1 °C

4/27/04 1000 ylw 1176

① 7RCRA Metals → arsenic, barium, cadmium, chromium, lead, selenium, and silver

② Hold Samples until MWH instructs to analyze them

SIGNATURE	DATE	TIME	SIGNATURE	DATE	TIME
RELINQUISHED BY: Richard Joslin	4/26/04	900	RECEIVED BY:		
RELINQUISHED BY			RECEIVED BY:		
RELINQUISHED BY:			RECEIVED BY:		
RELINQUISHED BY			RECEIVED FOR LABORATORY BY:	4/27/04	1000

C-O-C No. 23573

NAME OF COURIER: ___
AIRBILL NUMBER: ___

10-end

CTLaboratories

1230 Lange Cour
Baraboo, WI 53913-310
Phone: (800) 228-301
Fax: (608) 356-276
www.ctlaboratories.com

ANALYTICAL REPORT

MONTGOMERY WATSON HARZA
MARK PAULI
ONE SCIENCE CT
MADISON, WI 53711

Project Name: ONYX SPECIAL SERVICE
Contract #: 1510
Project #: 2082678.01160101
Folder #: 40663
Purchase Order #:
Arrival Temperature: See COC
Report Date: 5/17/2004
Date Received: 5/10/2004
Reprint Date:

CTI LAB#: 252770 Sample Description: HA01(0.5-1.0FT) Sampled: 4/22/2004 1120

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
Inorganic Results										
Solids, Percent	74.4	%	N/A	N/A	1			5/11/2004	GCE	EPA 5030A
Metals Results										
Mercury	0.25	mg/kg	0.0039	0.012	1		5/15/2004	5/17/2004	NAH	EPA 7471

Notes: * Indicates Value in between LOD and LOQ.

All samples were received intact and properly preserved unless otherwise noted. The results reported relate only to the samples tested. This report shall not be reproduced, except in full, without written approval of this laboratory. The Chain of Custody is attached.

PML
Submitted by: _____
Record Reviewer

Solid sample results reported on a Dry Weight Basis

See Special Instructions 1 OF 1

40447

MWH
MONTGOMERY WATSON HARZA

CHAIN OF CUSTODY RECORD

SPECIAL INSTRUCTIONS:
- [ ] PECFA
- [ ] WI LUST
- [ ] ACT 307
- [ ] REPORT DRY WT
- [x] OTHER:

TURNAROUND
- [x] 2 WEEKS (standard)
- [ ] 1 WEEK
- [ ] 3 DAYS
- [ ] 1 DAY

PROJECT NAME: Onyx Special Services
PROJECT #: 20826781.011600101
CITY: Port Washington
STATE: WI
SAMPLER(S): Rick Joslin

COLLECTION DATE	COLLECTION TIME	GRAB / COMP	SAMPLE ID	NO. OF CONTAINERS	Mercury (7471A)	8 AHs (831D)	VOCs (8260)	TCLP RCRA Metals (6010)	REMARKS	MATRIX	LAB NO.
4/22/04	1030	G	SD01	5	X	X	X			Soil	250890
	1015	G	MeOH Blank	1			X			—	250891
	1115	C	HA01(0-0.5Ft)	2	X					Soil	250892
	1115	C	HA01(0-0.5Ft) Dup	1	X					Soil	250893
	1135	C	HA02(0-0.5Ft)	2	X					Soil	250894
↓	840	C	MW01(0-1.0Ft)	2	X	X		X		Soil	250895
4/22/04	1120	C	HA01(0.5-1.0Ft)	2	X				Hold ②	Soil	252770
	1140	C	HA02(0.5-1.0Ft)	2	X				Hold ②	Soil	
↓	850	C	MW01(4.0-5.0Ft)	2	X	X		X	Hold ②	Soil	250896

flw 4/30/04

Folder #: 40447
Company: MONTGOMERY WATS
Project: ONYX SPECIAL SERVIC
Logged By: JLW PM: PMI

SPECIAL INSTRUCTIONS:
① 7 RCRA Metals → arsenic, barium, cadmium, chromium, lead, selenium, and silver
② Hold Samples until MWH instructs to analyze them

TAMPER EVIDENT SEAL INTACT? ___YES ___NO ___NOT PRESENT
SEAL NO.: ___
SAMPLES RECEIVED ON ICE? X YES ___NO TEMP: 0.1 °C

PROJ. MGR.: Leo Linnemanstons

4/27/04 1000 flw 1176

	SIGNATURE	DATE	TIME
RELINQUISHED BY:	Richard Joslin	4/29/04	900
RELINQUISHED BY			
RELINQUISHED BY:			
RELINQUISHED BY			

	SIGNATURE	DATE	TIME
RECEIVED BY:			
RECEIVED BY:			
RECEIVED BY:			
RECEIVED FOR LABORATORY BY:		4/30/04	1000

C-O-C No. 23573

Folder #: 40663
Company: MONTGOMERY WATS
Project: ONYX SPECIAL SERVIC
Logged By: JLW PM: PMI

NAME OF COURIER: ___
AIRBILL NUMBER: ___

2-end

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ANALYTICAL REPORT

MONTGOMERY WATSON HARZA
MARK PAULI
ONE SCIENCE CT
MADISON, WI 53711

Project Name: ONYX SPECIAL SERVICE
Contract #: 1510
Project #: 2082678.01160101
Folder #: 40569
Purchase Order #:
Arrival Temperature: See COC
Report Date: 5/20/2004
Date Received: 5/5/2004
Reprint Date:

CTI LAB#: 252096 Sample Description: TRIP BLANK Sampled: 5/4/2004 0645

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
Organic Results										
1,1,2-Trichloroethane	<0.40	ug/L	0.40	1.2	1			5/7/2004	GRB	EPA 8260
1,1,1,2-Tetrachloroethane	<0.30	ug/L	0.30	1.0	1			5/7/2004	GRB	EPA 8260
1,1,1-Trichloroethane	<0.50	ug/L	0.50	1.6	1			5/7/2004	GRB	EPA 8260
1,1,2,2-Tetrachloroethane	<0.16	ug/L	0.15	0.52	1			5/7/2004	GRB	EPA 8260
1,1-Dichloroethane	<0.50	ug/L	0.50	1.7	1			5/7/2004	GRB	EPA 8260
1,1-Dichloroethene	<0.30	ug/L	0.30	1.0	1			5/7/2004	GRB	EPA 8260
1,1-Dichloropropene	<0.29	ug/L	0.29	0.97	1			5/7/2004	GRB	EPA 8260
1,2,3-Trichlorobenzene	<0.40	ug/L	0.40	1.5	1			5/7/2004	GRB	EPA 8260
1,2,3-Trichloropropane	<0.40	ug/L	0.40	1.4	1			5/7/2004	GRB	EPA 8260
1,2,4-Trichlorobenzene	<0.50	ug/L	0.50	1.8	1			5/7/2004	GRB	EPA 8260
1,2,4-Trimethylbenzene	<0.40	ug/L	0.40	1.3	1			5/7/2004	GRB	EPA 8260
1,2-Dibromo-3-chloropropane	<0.40	ug/L	0.40	1.2	1			5/7/2004	GRB	EPA 8260
1,2-Dibromoethane	<0.40	ug/L	0.40	1.2	1			5/7/2004	GRB	EPA 8260
1,2-Dichlorobenzene	<0.27	ug/L	0.27	0.89	1			5/7/2004	GRB	EPA 8260
1,2-Dichloroethane	<0.40	ug/L	0.40	1.2	1			5/7/2004	GRB	EPA 8260
cis-1,2-Dichloroethene	<0.25	ug/L	0.25	0.83	1			5/7/2004	GRB	EPA 8260
trans-1,2-Dichloroethene	<0.50	ug/L	0.50	1.6	1			5/7/2004	GRB	EPA 8260
1,2-Dichloropropane	<0.23	ug/L	0.23	0.76	1			5/7/2004	GRB	EPA 8260
cis-1,3-Dichloropropene	<0.12	ug/L	0.12	0.42	1			5/7/2004	GRB	EPA 8260
trans-1,3-Dichloropropene	<0.14	ug/L	0.14	0.48	1			5/7/2004	GRB	EPA 8260
1,3,5-Trimethylbenzene	<0.30	ug/L	0.30	1.1	1			5/7/2004	GRB	EPA 8260
1,3-Dichlorobenzene	<0.30	ug/L	0.30	1.1	1			5/7/2004	GRB	EPA 8260
1,3-Dichloropropane	<0.16	ug/L	0.16	0.55	1			5/7/2004	GRB	EPA 8260

Solid sample results reported on a Dry Weight Basis

CTI LAB#: 252096 Sample Description: TRIP BLANK Sampled: 5/4/2004 0645

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
1,4-Dichlorobenzene	<0.30	ug/L	0.30	1.0	1			5/7/2004	GRB	EPA 8260
2,2-Dichloropropane	<0.40	ug/L	0.40	1.4	1			5/7/2004	GRB	EPA 8260
2-Butanone	<5.0	ug/L	5.0	15	1			5/7/2004	GRB	EPA 8260
2-Chlorotoluene	<0.40	ug/L	0.40	1.2	1			5/7/2004	GRB	EPA 8260
2-Hexanone	<4.0	ug/L	4.0	12	1			5/7/2004	GRB	EPA 8260
4-Chlorotoluene	<0.30	ug/L	0.30	1.1	1			5/7/2004	GRB	EPA 8260
4-Methyl-2-pentanone	<4.0	ug/L	4.0	14	1			5/7/2004	GRB	EPA 8260
Acetone	10	ug/L	5.0 *	17	1			5/7/2004	GRB	EPA 8260
Benzene	<0.40	ug/L	0.40	1.2	1			5/7/2004	GRB	EPA 8260
Bromobenzene	<0.26	ug/L	0.26	0.85	1			5/7/2004	GRB	EPA 8260
Bromochloromethane	<0.40	ug/L	0.40	1.3	1			5/7/2004	GRB	EPA 8260
Bromodichloromethane	<0.13	ug/L	0.13	0.42	1			5/7/2004	GRB	EPA 8260
Bromoform	<0.30	ug/L	0.30	1.0	1			5/7/2004	GRB	EPA 8260
Bromomethane	<0.50	ug/L	0.50	1.6	1			5/7/2004	GRB	EPA 8260
n-Butylbenzene	<0.30	ug/L	0.30	1.1	1			5/7/2004	GRB	EPA 8260
sec-Butylbenzene	<0.40	ug/L	0.40	1.2	1			5/7/2004	GRB	EPA 8260
tert-Butylbenzene	<0.30	ug/L	0.30	1.0	1			5/7/2004	GRB	EPA 8260
Carbon disulfide	<0.50	ug/L	0.50	1.8	1			5/7/2004	GRB	EPA 8260
Carbon tetrachloride	<0.40	ug/L	0.40	1.4	1			5/7/2004	GRB	EPA 8260
Chlorobenzene	<0.29	ug/L	0.29	0.97	1			5/7/2004	GRB	EPA 8260
Chloroethane	<0.50	ug/L	0.50	1.7	1			5/7/2004	GRB	EPA 8260
Chloroform	<0.25	ug/L	0.25	0.82	1			5/7/2004	GRB	EPA 8260
Chloromethane	<0.30	ug/L	0.30	1.0	1			5/7/2004	GRB	EPA 8260
Dibromochloromethane	<0.28	ug/L	0.28	0.95	1			5/7/2004	GRB	EPA 8260
Dibromomethane	<0.30	ug/L	0.30	1.1	1			5/7/2004	GRB	EPA 8260
Dichlorodifluoromethane	<0.40	ug/L	0.40	1.4	1			5/7/2004	GRB	EPA 8260
Diisopropyl ether	<0.30	ug/L	0.30	1.2	1			5/7/2004	GRB	EPA 8260
Ethylbenzene	<0.30	ug/L	0.30	1.0	1			5/7/2004	GRB	EPA 8260
Hexachlorobutadiene	<0.40	ug/L	0.40	1.2	1			5/7/2004	GRB	EPA 8260
Isopropylbenzene	<0.40	ug/L	0.40	1.2	1			5/7/2004	GRB	EPA 8260
p-Isopropyltoluene	<0.40	ug/L	0.40	1.5	1			5/7/2004	GRB	EPA 8260
Methyl tert-butyl ether	<0.30	ug/L	0.30	1.0	1			5/7/2004	GRB	EPA 8260
Methylene chloride	<0.50	ug/L	0.50	1.8	1			5/7/2004	GRB	EPA 8260

CTI LAB#: 252096 Sample Description: TRIP BLANK Sampled: 5/4/2004 0645

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
Naphthalene	<0.50	ug/L	0.50	1.5	1			5/7/2004	GRB	EPA 8260
n-Propylbenzene	<0.30	ug/L	0.30	1.1	1			5/7/2004	GRB	EPA 8260
Styrene	<0.30	ug/L	0.30	1.1	1			5/7/2004	GRB	EPA 8260
Tetrachloroethene	<0.40	ug/L	0.40	1.4	1			5/7/2004	GRB	EPA 8260
Tetrahydrofuran	<5.0	ug/L	5.0	17	1			5/7/2004	GRB	EPA 8260
Toluene	<0.40	ug/L	0.40	1.3	1			5/7/2004	GRB	EPA 8260
Trichloroethene	<0.15	ug/L	0.15	0.50	1			5/7/2004	GRB	EPA 8260
Trichlorofluoromethane	<0.50	ug/L	0.50	1.6	1			5/7/2004	GRB	EPA 8260
Vinyl acetate	<1.0	ug/L	1.0	3.3	1			5/7/2004	GRB	EPA 8260
Vinyl chloride	<0.12	ug/L	0.12	0.39	1			5/7/2004	GRB	EPA 8260
m & p-Xylene	<0.70	ug/L	0.70	2.5	1			5/7/2004	GRB	EPA 8260
o-Xylene	<0.30	ug/L	0.30	1.0	1			5/7/2004	GRB	EPA 8260

CTI LAB#: 252097 Sample Description: MW01 Sampled: 5/4/2004 1020

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
Metals Results										
Dissolved Arsenic	0.87	ug/L	0.77 *	2.57	1		5/6/2004	5/6/2004	GCE	EPA 7060
Dissolved Barium	455	ug/L	1.4	4.5	1			5/10/2004	NAH	EPA 6010B
Dissolved Cadmium	<0.88	ug/L	0.88	2.9	1			5/10/2004	NAH	EPA 6010B
Dissolved Chromium	<4.1	ug/L	4.1	14	1			5/10/2004	NAH	EPA 6010B
Dissolved Lead	<2.8	ug/L	2.8	9.4	1			5/10/2004	NAH	EPA 6010B
Dissolved Selenium	24.3	ug/L	5.1	17	1			5/10/2004	NAH	EPA 6010B
Dissolved Silver	<2.7	ug/L	2.7	9.1	1			5/10/2004	NAH	EPA 6010B
Dissolved Mercury	<0.11	ug/L	0.11	0.35	1		5/8/2004	5/10/2004	NAH	EPA 7470
Organic Results										
1,2,4,5-Tetrachlorobenzene	<0.23	ug/L	0.23	0.77	1		5/11/2004	5/17/2004	JJY	EPA 8270
1,2,4-Trichlorobenzene	<0.24	ug/L	0.24	0.79	1		5/11/2004	5/17/2004	JJY	EPA 8270
1,2-Dichlorobenzene	<0.27	ug/L	0.27	0.92	1		5/11/2004	5/17/2004	JJY	EPA 8270
1,3-Dichlorobenzene	<0.26	ug/L	0.26	0.85	1		5/11/2004	5/17/2004	JJY	EPA 8270
1,4-Dichlorobenzene	<0.24	ug/L	0.24	0.79	1		5/11/2004	5/17/2004	JJY	EPA 8270
2,4,5-Trichlorophenol	<0.35	ug/L	0.35	1.2	1		5/11/2004	5/17/2004	JJY	EPA 8270
2,4,6-Trichlorophenol	<0.42	ug/L	0.42	1.4	1		5/11/2004	5/17/2004	JJY	EPA 8270
2,4-Dichlorophenol	<0.35	ug/L	0.35	1.2	1		5/11/2004	5/17/2004	JJY	EPA 8270

Solid sample results reported on a Dry Weight Basis

CTI LAB#: 252097 Sample Description: MW01 Sampled: 5/4/2004 1020

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
2,4-Dimethylphenol	<0.29	ug/L	0.29	0.97	1		5/11/2004	5/17/2004	JJY	EPA 8270
2,4-Dinitrophenol	<4.4	ug/L	4.4	15	1		5/11/2004	5/17/2004	JJY	EPA 8270
2,4-Dinitrotoluene	<0.43	ug/L	0.43	1.4	1		5/11/2004	5/17/2004	JJY	EPA 8270
2,6-Dichlorophenol	<0.44	ug/L	0.44	1.5	1		5/11/2004	5/17/2004	JJY	EPA 8270
2,6-Dinitrotoluene	<0.37	ug/L	0.37	1.2	1		5/11/2004	5/17/2004	JJY	EPA 8270
2-Chloronaphthalene	<0.23	ug/L	0.23	0.75	1		5/11/2004	5/17/2004	JJY	EPA 8270
2-Chlorophenol	<0.35	ug/L	0.35	1.2	1		5/11/2004	5/17/2004	JJY	EPA 8270
2-Methylnaphthalene	<0.22	ug/L	0.22	0.72	1		5/11/2004	5/17/2004	JJY	EPA 8270
2-Methylphenol	<0.25	ug/L	0.25	0.84	1		5/11/2004	5/17/2004	JJY	EPA 8270
2-Nitroaniline	<0.37	ug/L	0.37	1.2	1		5/11/2004	5/17/2004	JJY	EPA 8270
2-Nitrophenol	<0.42	ug/L	0.42	1.4	1		5/11/2004	5/17/2004	JJY	EPA 8270
3 & 4-Methylphenol	<0.38	ug/L	0.38	1.3	1		5/11/2004	5/17/2004	JJY	EPA 8270
3,3'-Dichlorobenzidine	<0.29	ug/L	0.29	0.97	1		5/11/2004	5/17/2004	JJY	EPA 8270
3-Nitroaniline	<0.37	ug/L	0.37	1.2	1		5/11/2004	5/17/2004	JJY	EPA 8270
4,6-Dinitro-2-methylphenol	<2.2	ug/L	2.2	7.3	1		5/11/2004	5/17/2004	JJY	EPA 8270
4-Bromophenyl-phenyl ether	<0.20	ug/L	0.20	0.66	1		5/11/2004	5/17/2004	JJY	EPA 8270
4-Chloro-3-methylphenol	<0.30	ug/L	0.30	0.99	1		5/11/2004	5/17/2004	JJY	EPA 8270
4-Chloroaniline	<0.31	ug/L	0.31	1.1	1		5/11/2004	5/17/2004	JJY	EPA 8270
4-Chlorophenyl-phenyl ether	<0.27	ug/L	0.27	0.91	1		5/11/2004	5/17/2004	JJY	EPA 8270
4-Nitroaniline	<0.35	ug/L	0.35	1.2	1		5/11/2004	5/17/2004	JJY	EPA 8270
4-Nitrophenol	<1.3	ug/L	1.3	4.4	1		5/11/2004	5/17/2004	JJY	EPA 8270
Acenaphthene	<0.23	ug/L	0.23	0.75	1		5/11/2004	5/17/2004	JJY	EPA 8270
Acenaphthylene	<0.20	ug/L	0.20	0.68	1		5/11/2004	5/17/2004	JJY	EPA 8270
Acetophenone	<0.45	ug/L	0.45	1.5	1		5/11/2004	5/17/2004	JJY	EPA 8270
Aniline	<0.37	ug/L	0.37	1.2	1		5/11/2004	5/17/2004	JJY	EPA 8270
Anthracene	<0.15	ug/L	0.15	0.49	1		5/11/2004	5/17/2004	JJY	EPA 8270
Azobenzene & 1,2-Diphenylhydra	<0.36	ug/L	0.36	1.2	1		5/11/2004	5/17/2004	JJY	EPA 8270
Benzo(a)anthracene	<0.11	ug/L	0.11	0.37	1		5/11/2004	5/17/2004	JJY	EPA 8270
Benzo(a)pyrene	<0.21	ug/L	0.21	0.69	1		5/11/2004	5/17/2004	JJY	EPA 8270
Benzo(b)fluoranthene	<0.25	ug/L	0.25	0.83	1		5/11/2004	5/17/2004	JJY	EPA 8270
Benzo(g,h,i)perylene	<0.34	ug/L	0.34	1.2	1		5/11/2004	5/17/2004	JJY	EPA 8270
Benzo(k)fluoranthene	<0.25	ug/L	0.25	0.82	1		5/11/2004	5/17/2004	JJY	EPA 8270
Benzyl alcohol	<0.32	ug/L	0.32	1.1	1		5/11/2004	5/17/2004	JJY	EPA 8270

Solid sample results reported on a Dry Weight Basis

CTLaboratories

MONTGOMERY WATSON HARZA

Contract #: 1510
Folder #: 40569

Project Name: ONYX SPECIAL SERVICE
Project #: 2082678.01160101

CTI LAB#: 252097 Sample Description: MW01 Sampled: 5/4/2004 1020

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
Bis(2-chloroethoxy)methane	<0.21	ug/L	0.21	0.69	1		5/11/2004	5/17/2004	JJY	EPA 8270
Bis(2-chloroethyl)ether	<0.32	ug/L	0.32	1.1	1		5/11/2004	5/17/2004	JJY	EPA 8270
Bis(2-chloroisopropyl)ether	<0.20	ug/L	0.20	0.68	1		5/11/2004	5/17/2004	JJY	EPA 8270
Bis(2-ethylhexyl)phthalate	0.36	ug/L	0.34 *	1.1	1		5/11/2004	5/17/2004	JJY	EPA 8270
Butylbenzylphthalate	<0.37	ug/L	0.37	1.2	1		5/11/2004	5/17/2004	JJY	EPA 8270
Carbazole	<0.10	ug/L	0.10	0.35	1		5/11/2004	5/17/2004	JJY	EPA 8270
Chrysene	<0.11	ug/L	0.11	0.38	1		5/11/2004	5/17/2004	JJY	EPA 8270
Di-n-butylphthalate	1.2	ug/L	0.88 *	3.0	1	B	5/11/2004	5/17/2004	JJY	EPA 8270
Di-n-octylphthalate	<0.28	ug/L	0.28	0.95	1		5/11/2004	5/17/2004	JJY	EPA 8270
Dibenzo(a,h)anthracene	<0.34	ug/L	0.34	1.1	1		5/11/2004	5/17/2004	JJY	EPA 8270
Dibenzofuran	<0.23	ug/L	0.23	0.77	1		5/11/2004	5/17/2004	JJY	EPA 8270
Diethylphthalate	<0.44	ug/L	0.44	1.5	1		5/11/2004	5/17/2004	JJY	EPA 8270
Dimethylphthalate	<0.37	ug/L	0.37	1.2	1		5/11/2004	5/17/2004	JJY	EPA 8270
Fluoranthene	<0.50	ug/L	0.50	1.7	1		5/11/2004	5/17/2004	JJY	EPA 8270
Fluorene	<0.24	ug/L	0.24	0.79	1		5/11/2004	5/17/2004	JJY	EPA 8270
Hexachlorobenzene	<0.19	ug/L	0.19	0.62	1		5/11/2004	5/17/2004	JJY	EPA 8270
Hexachlorobutediene	<0.24	ug/L	0.24	0.79	1		5/11/2004	5/17/2004	JJY	EPA 8270
Hexachlorocyclopentadiene	<1.0	ug/L	1.0	3.4	1		5/11/2004	5/17/2004	JJY	EPA 8270
Hexachloroethane	<0.27	ug/L	0.27	0.91	1		5/11/2004	5/17/2004	JJY	EPA 8270
Hexachloropropene	<0.17	ug/L	0.17	0.55	1		5/11/2004	5/17/2004	JJY	EPA 8270
Indeno(1,2,3-cd)pyrene	<0.33	ug/L	0.33	1.1	1		5/11/2004	5/17/2004	JJY	EPA 8270
Isophorone	<0.47	ug/L	0.47	1.6	1		5/11/2004	5/17/2004	JJY	EPA 8270
N-Nitroso-di-n-propylamine	<0.21	ug/L	0.21	0.71	1		5/11/2004	5/17/2004	JJY	EPA 8270
N-Nitrosodimethylamine	<0.36	ug/L	0.36	1.2	1		5/11/2004	5/17/2004	JJY	EPA 8270
N-Nitrosodiphenylamine & Diphn	<0.20	ug/L	0.20	0.67	1		5/11/2004	5/17/2004	JJY	EPA 8270
N-Nitrosopyrrolidine	<0.44	ug/L	0.44	1.5	1		5/11/2004	5/17/2004	JJY	EPA 8270
Naphthalene	<0.19	ug/L	0.19	0.62	1		5/11/2004	5/17/2004	JJY	EPA 8270
Nitrobenzene	<0.26	ug/L	0.26	0.86	1		5/11/2004	5/17/2004	JJY	EPA 8270
Pentachlorophenol	<1.4	ug/L	1.4	4.5	1		5/11/2004	5/17/2004	JJY	EPA 8270
Phenanthrene	<0.15	ug/L	0.15	0.49	1		5/11/2004	5/17/2004	JJY	EPA 8270
Phenol	<0.54	ug/L	0.54	1.8	1		5/11/2004	5/17/2004	JJY	EPA 8270
Pyrene	<0.23	ug/L	0.23	0.76	1		5/11/2004	6/17/2004	JJY	EPA 8270
Pyridine	<0.92	ug/L	0.92	3.1	1	M	5/11/2004	5/17/2004	JJY	EPA 8270

Solid sample results reported on a Dry Weight Basis

CTI LAB#: 252097 Sample Description: MW01 Sampled: 5/4/2004 1020

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
1,1,2-Trichloroethane	<0.40	ug/L	0.40	1.2	1			5/7/2004	GRB	EPA 8260
1,1,1,2-Tetrachloroethane	<0.30	ug/L	0.30	1.0	1			5/7/2004	GRB	EPA 8260
1,1,1-Trichloroethane	<0.50	ug/L	0.50	1.6	1			5/7/2004	GRB	EPA 8260
1,1,2,2-Tetrachloroethane	<0.15	ug/L	0.15	0.52	1			5/7/2004	GRB	EPA 8260
1,1-Dichloroethane	<0.50	ug/L	0.50	1.7	1			5/7/2004	GRB	EPA 8260
1,1-Dichloroethene	<0.30	ug/L	0.30	1.0	1			5/7/2004	GRB	EPA 8260
1,1-Dichloropropene	<0.29	ug/L	0.29	0.97	1			5/7/2004	GRB	EPA 8260
1,2,3-Trichlorobenzene	<0.40	ug/L	0.40	1.5	1			5/7/2004	GRB	EPA 8260
1,2,3-Trichloropropane	<0.40	ug/L	0.40	1.4	1			5/7/2004	GRB	EPA 8260
1,2,4-Trichlorobenzene	<0.50	ug/L	0.50	1.8	1			5/7/2004	GRB	EPA 8260
1,2,4-Trimethylbenzene	<0.40	ug/L	0.40	1.3	1			5/7/2004	GRB	EPA 8260
1,2-Dibromo-3-chloropropane	<0.40	ug/L	0.40	1.2	1			5/7/2004	GRB	EPA 8260
1,2-Dibromoethane	<0.40	ug/L	0.40	1.2	1			5/7/2004	GRB	EPA 8260
1,2-Dichlorobenzene	<0.27	ug/L	0.27	0.89	1			5/7/2004	GRB	EPA 8260
1,2-Dichloroethane	<0.40	ug/L	0.40	1.2	1			5/7/2004	GRB	EPA 8260
cis-1,2-Dichloroethene	<0.25	ug/L	0.25	0.83	1			5/7/2004	GRB	EPA 8260
trans-1,2-Dichloroethene	<0.50	ug/L	0.50	1.8	1			5/7/2004	GRB	EPA 8260
1,2-Dichloropropane	<0.23	ug/L	0.23	0.76	1			5/7/2004	GRB	EPA 8260
cis-1,3-Dichloropropene	<0.12	ug/L	0.12	0.42	1			5/7/2004	GRB	EPA 8260
trans-1,3-Dichloropropene	<0.14	ug/L	0.14	0.48	1			5/7/2004	GRB	EPA 8260
1,3,5-Trimethylbenzene	<0.30	ug/L	0.30	1.1	1			5/7/2004	GRB	EPA 8260
1,3-Dichlorobenzene	<0.30	ug/L	0.30	1.1	1			5/7/2004	GRB	EPA 8260
1,3-Dichloropropane	<0.16	ug/L	0.16	0.55	1			5/7/2004	GRB	EPA 8260
1,4-Dichlorobenzene	<0.30	ug/L	0.30	1.0	1			5/7/2004	GRB	EPA 8260
2,2-Dichloropropane	<0.40	ug/L	0.40	1.4	1			5/7/2004	GRB	EPA 8260
2-Butanone	<5.0	ug/L	5.0	15	1			5/7/2004	GRB	EPA 8260
2-Chlorotoluene	<0.40	ug/L	0.40	1.2	1			5/7/2004	GRB	EPA 8260
2-Hexanone	<4.0	ug/L	4.0	12	1			5/7/2004	GRB	EPA 8260
4-Chlorotoluene	<0.30	ug/L	0.30	1.1	1			5/7/2004	GRB	EPA 8260
4-Methyl-2-pentanone	<4.0	ug/L	4.0	14	1			5/7/2004	GRB	EPA 8260
Acetone	<5.0	ug/L	5.0	17	1			5/7/2004	GRB	EPA 8260
Benzene	<0.40	ug/L	0.40	1.2	1			5/7/2004	GRB	EPA 8260
Bromobenzene	<0.26	ug/L	0.28	0.85	1			5/7/2004	GRB	EPA 8260

Solid sample results reported on a Dry Weight Basis

CTLaboratories

MONTGOMERY WATSON HARZA

Contract #: 1510
Folder #: 40569

Project Name: ONYX SPECIAL SERVICE
Project #: 2082678.01160101

CTI LAB#: 252097 Sample Description: MW01 Sampled: 5/4/2004 1020

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
Bromochloromethane	<0.40	ug/L	0.40	1.3	1			5/7/2004	GRB	EPA 8260
Bromodichloromethane	<0.13	ug/L	0.13	0.42	1			5/7/2004	GRB	EPA 8260
Bromoform	<0.30	ug/L	0.30	1.0	1			5/7/2004	GRB	EPA 8260
Bromomethane	<0.50	ug/L	0.50	1.6	1			5/7/2004	GRB	EPA 8260
n-Butylbenzene	<0.30	ug/L	0.30	1.1	1			5/7/2004	GRB	EPA 8260
sec-Butylbenzene	<0.40	ug/L	0.40	1.2	1			5/7/2004	GRB	EPA 8260
tert-Butylbenzene	<0.30	ug/L	0.30	1.0	1			5/7/2004	GRB	EPA 8260
Carbon disulfide	<0.50	ug/L	0.50	1.8	1			5/7/2004	GRB	EPA 8260
Carbon tetrachloride	<0.40	ug/L	0.40	1.4	1			5/7/2004	GRB	EPA 8260
Chlorobenzene	<0.29	ug/L	0.29	0.97	1			5/7/2004	GRB	EPA 8260
Chloroethane	<0.50	ug/L	0.50	1.7	1			5/7/2004	GRB	EPA 8260
Chloroform	<0.25	ug/L	0.25	0.82	1			5/7/2004	GRB	EPA 8260
Chloromethane	<0.30	ug/L	0.30	1.0	1			5/7/2004	GRB	EPA 8260
Dibromochloromethene	<0.28	ug/L	0.28	0.95	1			5/7/2004	GRB	EPA 8260
Dibromomethane	<0.30	ug/L	0.30	1.1	1			5/7/2004	GRB	EPA 8260
Dichlorodifluoromethane	<0.40	ug/L	0.40	1.4	1			5/7/2004	GRB	EPA 8260
Diisopropyl ether	<0.30	ug/L	0.30	1.2	1			5/7/2004	GRB	EPA 8260
Ethylbenzene	<0.30	ug/L	0.30	1.0	1			5/7/2004	GRB	EPA 8260
Hexachlorobutadiene	<0.40	ug/L	0.40	1.2	1			5/7/2004	GRB	EPA 8260
Isopropylbenzene	<0.40	ug/L	0.40	1.2	1			5/7/2004	GRB	EPA 8260
p-Isopropyltoluene	<0.40	ug/L	0.40	1.5	1			5/7/2004	GRB	EPA 8260
Methyl tert-butyl ether	<0.30	ug/L	0.30	1.0	1			5/7/2004	GRB	EPA 8260
Methylene chloride	<0.50	ug/L	0.50	1.8	1			5/7/2004	GRB	EPA 8260
Naphthalene	<0.50	ug/L	0.50	1.5	1			5/7/2004	GRB	EPA 8260
n-Propylbenzene	<0.30	ug/L	0.30	1.1	1			5/7/2004	GRB	EPA 8260
Styrene	<0.30	ug/L	0.30	1.1	1			5/7/2004	GRB	EPA 8260
Tetrachloroethene	<0.40	ug/L	0.40	1.4	1			5/7/2004	GRB	EPA 8260
Tetrahydrofuran	<5.0	ug/L	5.0	17	1			5/7/2004	GRB	EPA 8260
Toluene	<0.40	ug/L	0.40	1.3	1			5/7/2004	GRB	EPA 8260
Trichloroethene	<0.15	ug/L	0.15	0.50	1			5/7/2004	GRB	EPA 8260
Trichlorofluoromethane	<0.50	ug/L	0.50	1.6	1			5/7/2004	GRB	EPA 8260
Vinyl acetate	<1.0	ug/L	1.0	3.3	1			5/7/2004	GRB	EPA 8260
Vinyl chloride	<0.12	ug/L	0.12	0.39	1			5/7/2004	GRB	EPA 8260

WI DNR Lab Certification Number: 15-7066030
DATCP Certification Number: 105-999289

Solid sample results reported on a Dry Weight Basis

CTI LAB#: 262097 Sample Description: MW01 Sampled: 5/4/2004 1020

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
m & p-Xylene	<0.70	ug/L	0.70	2.5	1			5/7/2004	GRB	EPA 8260
o-Xylene	<0.30	ug/L	0.30	1.0	1			5/7/2004	GRB	EPA 8260

Notes: * Indicates Value in between LOD and LOQ.

All samples were received intact and properly preserved unless otherwise noted. The results reported relate only to the samples tested. This report shall not be reproduced, except in full, without written approval of this laboratory. The Chain of Custody is attached.

PML

Submitted by: _____

Record Reviewer

QC Qualifiers

Code	Description
A	Analyte averaged calibration criteria within acceptable limits.
B	Analyte detected in associated Method Blank.
C	Toxicity present in BOD sample.
D	Diluted Out.
E	Safe, No Total Coliform detected.
F	Unsafe, Total Coliform detected, no E. Coli detected.
G	Unsafe, Total Coliform detected and E. Coli detected.
H	Holding time exceeded.
J	Estimated value.
L	Significant peaks were detected outside the chromatographic window.
M	Matrix spike and/or Matrix Spike Duplicate recovery outside acceptance limits.
N	Insufficient BOD oxygen depletion.
O	Complete BOD oxygen depletion.
P	Concentration of analyte differs more than 40% between primary and confirmation analysis.
Q	Laboratory Control Sample outside acceptance limits.
R	See Narrative at end of report.
S	Surrogate standard recovery outside acceptance limits due to apparent matrix effects.
T	Sample received with improper preservation or temperature.
V	Raised Quantitation or Reporting Limit due to limited sample amount or dilution for matrix background interference.
W	Sample amount received was below program minimum.
X	Analyte exceeded calibration range.
Y	Replicate/Duplicate precision outside acceptance limits.
Z	Calibration criteria exceeded.

Solid sample results reported on a Dry Weight Basis

40569

MWH
MONTGOMERY WATSON

Folder #: 40569
Company: MONTGOMERY WATS
Project: ONYX SPECIAL SERV
Logged By: JLW PM: PMI

JSTODY RECORD

SPECIAL INSTRUCTIONS:
- [ ] PECFA
- [ ] WI LUST
- [ ] ACT 307
- [ ] REPORT DRY WT
- [x] OTHER:

TURNAROUND
- [x] 2 WEEKS (standard)
- [ ] 1 WEEK
- [ ] 3 DAYS
- [ ] 1 DAY

PROJECT NAME: Onyx Special Services
PROJECT #: 20826776.01160104 RPJ
CITY: Port Washington
STATE: WI
SAMPLER(S): Rick Joslin

COLLECTION DATE	COLLECTION TIME	GRAB / COMP	SAMPLE ID	NO. OF CONTAINERS	VOCs (8260)	SVOCs (8270)	Dissolved Metals (6010)	Dissolved Mercury (7471A)	REMARKS	LAB USE ONLY MATRIX	LAB USE ONLY LAB NO.
5/4/04	645	G	Trip Blank	2	X					water	25206 6
1	1020	G	MW21	8	X	X	X	X		1	25209 7

SPECIAL INSTRUCTIONS:
* Diss. metals → Arsenic, Barium, Cadmium, chromium, lead, selenium, and silver

TAMPER EVIDENT SEAL INTACT? ___YES ___NO ___NOT PRESENT
SEAL NO.: _____
SAMPLES RECEIVED ON ICE? X YES ___NO TEMP: 2.0 °C 5/5/04 1010 jfw

PROJ. MGR.: Mike Cira

	SIGNATURE	DATE	TIME		SIGNATURE	DATE	TIME
RELINQUISHED BY:	Richard A. Joslin	5/4/04	1400	RECEIVED BY:			
RELINQUISHED BY				RECEIVED BY:			
RELINQUISHED BY:				RECEIVED BY:			
RELINQUISHED BY				RECEIVED FOR LABORATORY BY:	Jodi Bleuel	5/5/04	1037

C-O-C No. 23574

NAME OF COURIER: _____
AIRBILL NUMBER: _____

9 - end

CTLaboratories

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www.ctlaboratories.con

ANALYTICAL REPORT

MONTGOMERY WATSON HARZA
MARK PAULI
ONE SCIENCE CT
MADISON, WI 53711

Project Name: ONYX SPECIAL SERV
Contract #: 1510
Project #: 2082678.01160101
Folder #: 41760
Purchase Order #:
Arrival Temperature: See COC
Report Date: 7/13/2004
Date Received: 7/8/2004
Reprint Date:

CTI LAB#: 262471 Sample Description: SD01 Sampled: 7/1/2004 0945

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
Inorganic Results										
Solids, Percent	53.8	%	N/A	N/A	1			7/9/2004	JHO	EPA 5030A
Metals Results										
Mercury	3.2	mg/kg	0.054	0.16	10		7/10/2004	7/12/2004	NAH	EPA 7471

CTI LAB#: 262472 Sample Description: MW01 Sampled: 7/1/2004 1030

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
Metals Results										
Dissolved Barium	422	ug/L	1.4	4.5	1			7/12/2004	NAH	EPA 6010B
Dissolved Selenium	<5.1	ug/L	5.1	17	1			7/12/2004	NAH	EPA 6010B

CTI LAB#: 262473 Sample Description: HA01 (1.0-1.5FT) Sampled: 7/1/2004 1100

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
Inorganic Results										
Solids, Percent	77.1	%	N/A	N/A	1			7/9/2004	JHO	EPA 5030A
Metals Results										
Mercury	0.19	mg/kg	0.0035	0.011	1		7/10/2004	7/12/2004	NAH	EPA 7471

CTI LAB#: 262474 Sample Description: HA01 (1.5-2.0 FT) Sampled: 7/1/2004 1115

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
Inorganic Results										
Solids, Percent	74.3	%	N/A	N/A	1			7/9/2004	JHO	EPA 5030A
Metals Results										
Mercury	0.23	mg/kg	0.0037	0.011	1		7/10/2004	7/12/2004	NAH	EPA 7471

CTI LAB#: 262475 Sample Description: HA01A (0-0.5FT) Sampled: 7/1/2004 1120

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method

WI DNR Lab Certification Number: 15-7066030
DATCP Certification Number: 105-000289

Solid sample results reported on a Dry Weight Basis

CTI LAB#: 262475 Sample Description: HA01A (0-0.5FT) Sampled: 7/1/2004 1120

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
Inorganic Results										
Solids, Percent	59.2	%	N/A	N/A	1			7/9/2004	JHO	EPA 5030A
Metals Results										
Mercury	1.5	mg/kg	0.049	0.15	10		7/10/2004	7/12/2004	NAH	EPA 7471

CTI LAB#: 262476 Sample Description: HA01B (0-0.5FT) Sampled: 7/1/2004 1210

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
Inorganic Results										
Solids, Percent	54.6	%	N/A	N/A	1			7/9/2004	JHO	EPA 5030A
Metals Results										
Mercury	2.4	mg/kg	0.048	0.14	10		7/10/2004	7/12/2004	NAH	EPA 7471

CTI LAB#: 262478 Sample Description: HA01C (0-0.5 FT) Sampled: 7/1/2004 1240

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
Inorganic Results										
Solids, Percent	75.1	%	N/A	N/A	1			7/9/2004	JHO	EPA 5030A
Metals Results										
Mercury	1.9	mg/kg	0.025	0.076	10		7/10/2004	7/12/2004	NAH	EPA 7471

CTI LAB#: 263388 Sample Description: HA01A (0.5-1.0FT) Sampled: 7/1/2004 1130

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
Inorganic Results										
Solids, Percent	70.7	%	N/A	N/A	1			7/14/2004	GCE	EPA 5030A
Metals Results										
Mercury	0.24	mg/kg	0.028	0.084	10		7/17/2004	7/19/2004	NAH	EPA 7471

CTI LAB#: 263389 Sample Description: HA01B (0.5-1.0FT) Sampled: 7/1/2004 1215

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
Inorganic Results										
Solids, Percent	75.3	%	N/A	N/A	1			7/14/2004	GCE	EPA 5030A
Metals Results										
Mercury	0.49	mg/kg	2691935	0.081	10		7/17/2004	7/19/2004	NAH	EPA 7471

CTI LAB#: 263390 Sample Description: HA01C (0.5-1.0FT) Sampled: 7/1/2004 1245

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
Inorganic Results										
Solids, Percent	78.5	%	N/A	N/A	1			7/14/2004	GCE	EPA 5030A
Metals Results										

CTLaboratories

MONTGOMERY WATSON HARZA

Contract #: 1510
Folder #: 41760
3 of 3

Project Name: ONYX SPECIAL SERV
Project #: 2082678.01160101

CTI LAB#: 263390 Sample Description: HA01C (0.5-1.0FT) Sampled: 7/1/2004 1245

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
Mercury	0.066	mg/kg	0.0036	0.011	1		7/17/2004	7/19/2004	NAH	EPA 7471

CTI LAB#: 264665 Sample Description: HA01A (1.0-1.5FT) Sampled: 7/1/2004 1145

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
Inorganic Results										
Solids, Percent	75.4	%	N/A	N/A	1	H		7/21/2004	GCE	EPA 5030A
Metals Results										
Mercury	0.073	mg/kg	0.0031	0.0093	1		7/24/2004	7/26/2004	NAH	EPA 7471

CTI LAB#: 264666 Sample Description: HA01B (1.0-1.5FT) Sampled: 7/1/2004 1225

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
Inorganic Results										
Solids, Percent	82.5	%	N/A	N/A	1	H		7/21/2004	GCE	EPA 5030A
Metals Results										
Mercury	0.017	mg/kg	0.0028	0.0084	1		7/24/2004	7/26/2004	NAH	EPA 7471

Notes: * Indicates Value in between LOD and LOQ.

All samples were received intact and properly preserved unless otherwise noted. The results reported relate only to the samples tested. This report shall not be reproduced, except in full, without written approval of this laboratory. The Chain of Custody is attached.

PML

Submitted by: _____

Record Reviewer

QC Qualifiers

Code	Description
A	Analyte averaged calibration criteria within acceptable limits.
B	Analyte detected in associated Method Blank.
C	Toxicity present in BOD sample.
D	Diluted Out.
E	Safe, No Total Coliform detected.
F	Unsafe, Total Coliform detected, no E. Coli detected.
G	Unsafe, Total Coliform detected and E. Coli detected.
H	Holding time exceeded.
J	Estimated value.
L	Significant peaks were detected outside the chromatographic window.
M	Matrix spike and/or Matrix Spike Duplicate recovery outside acceptance limits.
N	Insufficient BOD oxygen depletion.
O	Complete BOD oxygen depletion.
P	Concentration of analyte differs more than 40% between primary and confirmation analysis.
Q	Laboratory Control Sample outside acceptance limits.
R	See Narrative at end of report.
S	Surrogate standard recovery outside acceptance limits due to apparent matrix effects.
T	Sample received with improper preservation or temperature.
V	Raised Quantitation or Reporting Limit due to limited sample amount or dilution for matrix background interference.
W	Sample amount received was below program minimum.
X	Analyte exceeded calibration range.
Y	Replicate/Duplicate precision outside acceptance limits.
Z	Calibration criteria exceeded.

* See Special Instructions *

1 of 2

MWH
MONTGOMERY WATSON HARZA

CHAIN OF CUSTODY

Folder #: 41760
Company: MONTGOMERY WATSON
Project: ONYX SPECIAL SERV
Logged By: JLW PM: PMI

SPECIAL INSTRUCTIONS:

TURNAROUND
- [x] 2 WEEKS (standard)
- [ ] 1 WEEK
- [ ] 3 DAYS
- [ ] 1 DAY

DRY WT

PROJECT NAME: Onyx Special Services
PROJECT #: 20826782.01160101
CITY: Port Washington
STATE: WI
SAMPLER(S): Rich Taslin

COLLECTION DATE	COLLECTION TIME	GRAB / COMP	SAMPLE ID	NO OF CONTAINERS	Mercury (7471A)	Dissolved Selenium	Dissolved Barium							
7/1/04	945	G	SD01	1	X									
	1030		MW01	3		X	X							
	1100		HA01 (1.0-1.5 Ft)	1	X									
	1115		HA01 (1.5-2.0 Ft)	1	X									
	1120		HA01A (0-0.5 Ft)	1	X									
	1130		HA01A (0.5-1.0 Ft)	1	X									
	1145		HA01A (1.0-1.5 Ft)	1	X									
	1155		HA01A (1.5-2.0 Ft)	1	X									
	1210		HA01B (0-0.5 Ft)	1	X									
	1215		HA01B (0.5-1.0 Ft)	1	X									
	1225		HA01B (1.0-1.5 Ft)	1	X									

① Hold → Hold Samples until MWH instructs to analyze them

TAMPER EVIDENT SEAL INTACT? ____YES ____NO ____NOT PRESENT
SEAL NO.: ____
SAMPLES RECEIVED ON ICE? ✓ YES X NO (melted) TEMP: 5.6 °C

7/8/04 jlw 1139

RELINQUISHED BY: SIGNATURE	DATE	TIME	RECEIVED BY: SIGNATURE	DATE	TIME
RELINQUISHED BY	7/1/04	1600	RECEIVED BY:		
RELINQUISHED BY:			RECEIVED BY:		
RELINQUISHED BY			RECEIVED FOR LABORATORY BY:	7/8/04	1239

C-O-C No. 23577

NAME OF COURIER: ____
AIRBILL NUMBER: ____

jlw 7/4/04 1327

Folder #: 41760
Company: MONTGOMERY WATSON
Project: ONYX SPECIAL SERV
Logged By: JLW PM: PMI

USE ONLY

		LAB NO.
Extra Volume	Sediment	262471
	water	262472
	Soil	262473
		262474
		262475
① Hold		263388
① Hold		264665 (EDD)
① Hold		
		262476
① Hold		263389
① Hold		264666 (EDD)

PROJ. MGR.: L. Linderman stone

9

* See Special Instructions *

2 of 2

MWH
MONTGOMERY WATSON HARZA

CHAIN OF CUSTODY RECORD

SPECIAL INSTRUCTIONS:
- ☐ PECFA
- ☐ WI LUST
- ☐ ACT 307
- ☐ REPORT DRY WT
- ☒ OTHER:

TURNAROUND
- ☒ 2 WEEKS (standard)
- ☐ 1 WEEK
- ☐ 3 DAYS
- ☐ 1 DAY

PROJECT NAME: Onyx Special Services
PROJECT #: 20826758.0160101
CITY: Port Washington
STATE: WI
SAMPLER(S): Rick Jaslin

COLLECTION DATE	COLLECTION TIME	GRAB / COMP	SAMPLE ID	NO. OF CONTAINERS	MS/MSD (7471A)	REMARKS	LAB USE ONLY MATRIX	LAB USE ONLY LAB NO
7/1/04	1230	G	HA01B (1.5-2.0 Ft)	1	X	① Hold	soil	262478
	1240		HA01C (0-0.5 Ft)	1	X			263390 *
	1245		HA01C (0.5-1.0 Ft)	1	X	① Hold		
	1255		HA01C (1.0-1.5 Ft)	1	X	① Hold		
	1300		HA01C (1.5-2.0 Ft)	1	X	① Hold		

SPECIAL INSTRUCTIONS:

① Hold → Hold Samples until MWH instructs to Analyze them

TAMPER EVIDENT SEAL INTACT? ___YES ___NO ___NOT PRESENT
SEAL NO.: ___
SAMPLES RECEIVED ON ICE? ___YES X NO TEMP: 5.6 °C melted 7/8/04 1139 hrs

PROJ. MGR.: L. Linnemanstons

	SIGNATURE	DATE	TIME		SIGNATURE	DATE	TIME
RELINQUISHED BY:		7/1/04	1600	RECEIVED BY:			
RELINQUISHED BY				RECEIVED BY:			
RELINQUISHED BY:				RECEIVED BY:			
RELINQUISHED BY				RECEIVED FOR LABORATORY BY:		7/8/04	1239

C-O-C No. 23439

NAME OF COURIER: ___
AIRBILL NUMBER: ___

6-end

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ANALYTICAL REPORT

MONTGOMERY WATSON HARZA
MARK PAULI
ONE SCIENCE CT
MADISON, WI 53711

Project Name: ONYX SPECIAL SERV
Contract #: 1510
Project #: 2082678.01180101
Folder #: 42350
Purchase Order #:
Arrival Temperature: See COC
Report Date: 8/11/2004
Date Received: 8/9/2004
Reprint Date:

CTI LAB#: 267958 Sample Description: SD01A Sampled: 8/5/2004 1345

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
Inorganic Results										
Solids, Percent	66.3	%	N/A	N/A	1			8/9/2004	JHO	EPA 5030A
Metals Results										
Mercury	0.45	mg/kg	0.032	0.096	10		8/10/2004	8/10/2004	NAH	EPA 7471

CTI LAB#: 267958 Sample Description: SD01B Sampled: 8/5/2004 1355

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
Inorganic Results										
Solids, Percent	31.1	%	N/A	N/A	1			8/9/2004	JHO	EPA 5030A
Metals Results										
Mercury	3.1	mg/kg	0.093	0.28	10		8/10/2004	8/10/2004	NAH	EPA 7471

CTI LAB#: 267959 Sample Description: SD01J Sampled: 8/5/2004 1400

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
Inorganic Results										
Solids, Percent	39.7	%	N/A	N/A	1			8/9/2004	JHO	EPA 5030A
Metals Results										
Mercury	3.4	mg/kg	0.080	0.18	10		8/10/2004	8/10/2004	NAH	EPA 7471

CTI LAB#: 267960 Sample Description: SD01C Sampled: 8/5/2004 1410

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
Inorganic Results										
Solids, Percent	67.2	%	N/A	N/A	1			8/9/2004	JHO	EPA 5030A
Metals Results										
Mercury	0.12	mg/kg	0.0025	0.0074	1		8/10/2004	8/10/2004	NAH	EPA 7471

Solid sample results reported on a Dry Weight Basis

CTI LAB#: 267961 Sample Description: SD01G Sampled: 8/5/2004 1420

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
Inorganic Results										
Solids, Percent	71.5	%	N/A	N/A	1			8/9/2004	JHO	EPA 5030A
Metals Results										
Mercury	0.035	mg/kg	0.0029	0.0087	1		8/10/2004	8/10/2004	NAH	EPA 7471

CTI LAB#: 267962 Sample Description: SD01I Sampled: 8/5/2004 1425

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
Inorganic Results										
Solids, Percent	68.3	%	N/A	N/A	1			8/9/2004	JHO	EPA 5030A
Metals Results										
Mercury	0.49	mg/kg	0.029	0.088	10		8/10/2004	8/10/2004	NAH	EPA 7471

CTI LAB#: 267963 Sample Description: SD01H Sampled: 8/5/2004 1435

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
Inorganic Results										
Solids, Percent	49.5	%	N/A	N/A	1			8/9/2004	JHO	EPA 5030A
Metals Results										
Mercury	0.71	mg/kg	0.036	0.11	10		8/10/2004	8/10/2004	NAH	EPA 7471

CTI LAB#: 267984 Sample Description: SD01H DUP Sampled: 8/5/2004 1440

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
Inorganic Results										
Solids, Percent	69.7	%	N/A	N/A	1			8/9/2004	JHO	EPA 5030A
Metals Results										
Mercury	0.29	mg/kg	0.0041	0.012	1		8/10/2004	8/10/2004	NAH	EPA 7471

CTI LAB#: 267965 Sample Description: SD01E Sampled: 8/5/2004 1445

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
Inorganic Results										
Solids, Percent	43.0	%	N/A	N/A	1			8/9/2004	JHO	EPA 5030A
Metals Results										
Mercury	4.7	mg/kg	0.085	0.26	20		8/10/2004	8/10/2004	NAH	EPA 7471

CTI LAB#: 267966 Sample Description: SD01F Sampled: 8/5/2004 1445

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
Inorganic Results										
Solids, Percent	49.9	%	N/A	N/A	1			8/9/2004	JHO	EPA 5030A
Metals Results										

Solid sample results reported on a Dry Weight Basis

CTLaboratories

MONTGOMERY WATSON HARZA

Contract #: 1510
Folder #: 42350

Project Name: ONYX SPECIAL SERV
Project #: 2082678.01160101

CTI LAB#: 267966 Sample Description: SD01F Sampled: 8/5/2004 1445

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
Mercury	0.82	mg/kg	0.035	0.10	10		8/10/2004	8/10/2004	NAH	EPA 7471

CTI LAB#: 267967 Sample Description: SD01D Sampled: 8/5/2004 1450

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date	Analysis Date	Analyst	Method
Inorganic Results										
Solids, Percent	54.0	%	N/A	N/A	1			8/9/2004	JHO	EPA 5030A
Metals Results										
Mercury	0.040	mg/kg	0.0027	0.0080	1		8/10/2004	8/10/2004	NAH	EPA 7471

Notes: * Indicates Value in between LOD and LOQ.

All samples were received intact and properly preserved unless otherwise noted. The results reported relate only to the samples tested. This report shall not be reproduced, except in full, without written approval of this laboratory. The Chain of Custody is attached.

PML

Submitted by: _____

Record Reviewer

Solid sample results reported on a Dry Weight Basis

MWH
MONTGOMERY WATSON HARZA

Folder #: 42350
Company: MONTGOMERY WATS
Project: ONYX SPECIAL SERV
Logged By: JLW PM: PMI

CHAIN OF CUSTODY RECORD

SPECIAL INSTRUCTIONS:
- ☐ PECFA
- ☐ WI LUST
- ☐ ACT 307
- ☐ REPORT DRY WT
- ☒ OTHER:

TURNAROUND
- ☒ 2 WEEKS (standard)
- ☐ 1 WEEK
- ☐ 3 DAYS
- ☐ 1 DAY

PROJECT NAME: Onyx Special Services
PROJECT #: 2082678.0116010
CITY: Port Washington
STATE: WI
SAMPLER(S): Brian Kappen

COLLECTION DATE	COLLECTION TIME	GRAB / COMP	SAMPLE ID	NO. OF CONTAINERS	Mercury (7471A)	REMARKS	LAB USE ONLY MATRIX	LAB USE ONLY LAB NO.
8/5/04	1345	G	SD01a	1	X			267956
8/5/04	1355	G	SD01b	1	X			267958
8/5/04	1400	G	SD01j	1	X			267959
8/5/04	1410	G	SD01c	1	X			267960
8/5/04	1420	G	SD01g	1	X			267961
8/5/04	1425	G	SD01i	1	X			267962
8/5/04	1435	G	SD01h	1	X			267963
8/5/04	1440	G	SD01h (dup)	1	X			267964
8/5/04	1445	G	SD01e	1	X			267965
8/5/04	1445	G	SD01f	1	X			267966
8/5/04	1450	G	SD01d	1	X			267967

SPECIAL INSTRUCTIONS:

PROJ. MGR.: L. Linneman Stons

TAMPER EVIDENT SEAL INTACT? ___YES ___NO ___NOT PRESENT
SEAL NO.: _____
SAMPLES RECEIVED ON ICE? X YES ___NO TEMP: 1.9 °C

jlw 8/6/04 1155

	SIGNATURE	DATE	TIME		SIGNATURE	DATE	TIME
RELINQUISHED BY:	Brian J. Kappen	8/6/04	945	RECEIVED BY:			
RELINQUISHED BY				RECEIVED BY:			
RELINQUISHED BY:				RECEIVED BY:			
RELINQUISHED BY				RECEIVED FOR LABORATORY BY:		8/9/04	1205

C-O-C No. 23463

NAME OF COURIER: _____
AIRBILL NUMBER: _____

4 pgs

K

National Enforcement Investigation Center (NEIC) Protocol

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION I
J.F.K. FEDERAL BUILDING, BOSTON, MA 02203

MEMORANDUM

DATE: July 31, 2002

SUBJ: Reactivity Worksheet for use in lieu of Rescinded Reactivity Tests

FROM: Kenneth B. Rota, Chief, RCRA Compliance Unit
Office of Environmental Stewardship

TO: RCRA Compliance Unit

The purpose of this memorandum is to provide an altemate approach for determining whether a solid waste meets the definition of reactivity under RCRA in light of the withdrawal of the SW-846 testing procedure for this characteristic. This memorandum includes a discussion of RCRA reactivity, the use of Henry's Law to demonstrate potential reactivity and an explanation of the Excel Spreadsheet that was developed for various cases by Joe Lowry of the Agency's National Enforcement Investigations Center (NEIC) to calculate the potential reactivity of chemical compounds. I believe the spreadsheet is a useful tool and can be used more broadly to aid in determining potential reactivity.

Reactivity Discussion:

The definition of reactivity, as defined at 40 CFR 262.23, is a narrative definition that describes a specific chemical property or reaction, which, when exhibited by a solid waste, would cause such waste to be regulated by RCRA and considered a reactive waste designated by the EPA hazardous waste code D003. As a narrative definition, EPA has the option of relying on specific analytical testing, where prescribed under SW-846, or in the absence of such testing, relying on other appropriate methods to demonstrate that a solid waste meets the definition of reactivity.

EPA developed a specific testing protocol, referred to as the reactivity test, for the purpose of determining whether or not solid wastes that contain reactive sulfide or cyanide compounds would release toxic gases and vapors in sufficient quantity and concentrations to be considered hazardous and potentially dangerous to human health and the environment. This testing protocol was used for a number of years to determine whether cyanide and sulfide-bearing wastes met the RCRA characteristic of reactivity without controversy.

On April 21, 1998, EPA withdrew the cyanide and sulfide reactivity guidance. This withdrawal was due to critical errors discovered in the development of the original guidance by the National Enforcement Investigations Center (NEIC). NEIC determined that the reactivity test did not properly predict the reactivity of cyanide and sulfide-bearing wastes nor did it establish maximum concentration levels for cyanide and hydrogen sulfide gases that were protective of human health and the environment.

For example, the old threshold for hydrogen sulfide gas was established at 500 ppm. NEIC's review of hydrogen sulfide determined that 138 ppm of sulfide in an aqueous solution at pH 2 is the equilibrium concentration for an air concentration of 40,000 ppmV. This concentration represents the lower explosive limit for hydrogen sulfide. Translated, the old hydrogen sulfide concentration level of 500 ppm was more than 350% above the concentration level necessary for a sulfide-bearing waste to reach the lower explosive limit.

Similarly, for hydrogen cyanide, the old threshold limit was established at 250 ppm. NEIC's review of cyanide determined that 16 ppm cyanide in an aqueous solution at pH 2 is the equilibrium concentration for an air concentration of 50 ppmV. This air concentration represents the IDLH (Immediately Dangerous to Life and Health threshold for hydrogen cyanide) concentration level that would result in human death within a 30 minute period. Despite the withdrawal of the SW-846 testing guidance, EPA has stated that it expected generators to continue classifying their high concentration sulfide-bearing and cyanide-bearing wastes as hazardous based on the narrative standard.

EPA's Industrial User Program, like RCRA, is concerned about the potential generation of toxic or explosive fumes and gases. To determine whether industrial water discharges could create potentially hazardous conditions, the Industrial User Program utilizes Henry's Law to assess what it calls "fume toxicity" and explosivity. [See Office of Water Enforcement and Permits, Guidance Manual on the Development and Implementation of Local Discharge Limitations Under the Pretreatment Program, December 1987]. The main purpose of this guidance is to avoid and eliminate wastewater discharges that may potentially result in the generation of toxic or explosive fumes in the sewer system. Since the definition of reactivity includes the generation of toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health and the environment, the fume toxicity methodology outlined in the Industrial User Guidance provides an alternate, acceptable method for demonstrating the characteristic of reactivity.

After the withdrawal of the SW-846 guidance for determining reactivity, NEIC developed a separate methodology for determining whether a solid waste exhibits the characteristics of reactivity. This methodology relies on the use of Henry's Law and, unbeknownst to NEIC, is based on the same chemistry and physics principles contained in the December 1987 Industrial User Guidance that is already used as an accepted method for determining potential toxicity and explosivity reactions in wastewater.

NEIC's methodology contains some minor refinements, but nonetheless is the existing water guidance and relies on the same principles of Henry's Law. The guidance examines the affects of temperature on the equilibrium concentrations. Temperature is a very important factor and must be considered when estimating mass transfer. Similarly, pH can affect mass transfer of certain toxins and is also included as part of NEIC's reactivity analysis. The equilibrium concentrations can be thought of as "maximum potential" and, depending on the nature of a system, air concentrations less than equilibrium might occur under a particular circumstance.

To illustrate an example of the point made above, EPA has measured 2% to 20% of equilibrium for hydrogen sulfide in a sewer (EPA 625/1-74-005). A static situation such as a tank or room involving hydrogen sulfide may more closely approximate equilibrium since toxic gases would collect, become more concentrated and represent an increasing threat to human health and the environment. A sewer system on the other hand, represents a more dynamic system and is not typically viewed as situation where equilibrium could be reached. Nonetheless, static air pockets may exist within a sewer system that impede the escape of hydrogen sulfide gas, allowing hydrogen sulfide to collect and approach equilibrium, thus reaching concentration levels that may also be potentially explosive or otherwise dangerous to human health and the environment. Dissolution kinetics is also an important consideration and is included in NEIC's methodology to address the uncertainty associated with the reliance on a short-term laboratory test that may not accurately predict or reflect the actual long-term environmental fate.

Explanation of the NEIC Excel Reactivity Spreadsheet:

The following data columns are identified on the Excel Spreadsheet Columns developed by NEIC. To read the Column letters, the spreadsheet must be viewed in Excel:

Column Headings and Information Contained Therein:

Column A: Constituent Name

Column B: Chemical Formula

Column C: Temperature in degrees Celsius

Column D: Temperature in degrees Kelvin

Column E: K_h (mole L^{-1} atm^{-1}) is Henry's Law constant taken from the NIST database when available, corrected for the temperature entered in Column C (NIST; "NIST

Chemistry Webbook"; Standard Reference Database 69; July 2001 release; http://www.webbook.NIST.gov/chemistry/).

NIST K_h values are given as mole L^{-1} bar^{-1} for a temperature of 25°C.
$K_h = e^{((\ln Kh) + (((1/T)-(1/298.15))((d(\ln Kh)/d(1/T)))}(1.01325 \text{ bar atm}^{-1})$

Column Headings and Information Contained Therein (Continued):

Column F: pH in standard units

Column G: $*K_h$ is the effective Henry's Law constant for the total concentration rather than just the volatile species. For example, the total concentration is cyanide plus hydrogen cyanide. It is based on the dissociation constant of the acid or base and the pH placed in Column F. Dissociation constants were taken from a NIST database when available (NIST; "Critically Selected Stability Constants of Metal Complexes"; Standard Reference Database 46; Version 4.0; November 1997).

$*K_h = K_h(1+10^{(pH-pKa)})$ for mono-protonated species and $*K_h = K_h(1+10^{(pH-pK1)} + 10^{(2pH-pK1-pK2)})$ for di-protonated species, except for ammonia where $*K_h = (1+10^{(pKa-pH)})$

Column H: Molecular weight in grams/mole

Column I: Conversion of the effective Henry's law constant given in Column G to different concentration units.

$(*K_h)(MW) = (\text{mole } L^{-1} \text{ atm}^{-1})(\text{g mole}^{-1}) = \text{g } L^{-1} \text{ atm}^{-1}$

$(\text{g } L^{-1} \text{ atm}^{-1})(1 \times 10^{-6} \text{ atm ppmV}^{-1}) / (1 \times 10^{-6} \text{ g } L^{-1} \text{ ppb}^{-1}) = \text{ppb ppmV}^{-1}$

Column J: Inversion of the effective Henry's law constant (K_h, water/air) given in Column I and unit change to give the effective Henry's law constant as air / water (*H).

$(1000 \text{ ppb ppm}^{-1}) / (\text{ppb ppmV}^{-1}) = \text{ppmV ppm}^{-1}$

Column K: Table spacer.

Column L: Threshold Limit Value (TLV)(ppmV).

Column M: The equilibrium aqueous concentration (ppm) to give the Threshold Limit Value.

$(\text{TLV, ppmV}) / (*\text{H, ppmV ppm}^{-1}) = \text{ppm}.$

Column N: Table spacer.

Column O: Immediately Dangerous to Life and Health Value (IDLH)(ppmV).

Column P: The equilibrium aqueous concentration (ppm) to give the Immediately Dangerous to Life and Health Value.

(IDLH, ppmV) / (*H, ppmV ppm^{-1}) = ppm.

Column Headings and Information Contained Therein (Continued):

Column Q: Table spacer.

Column R: Lower Explosive Limit (LEL)(ppmV).

Column S: The equilibrium aqueous concentration (ppm) to give the Lower Explosive Limit (ppmV).

(LEL, ppmV) / (*H, ppmV ppm^{-1}) = ppm.

Reading the chart - Using one of the Hydrogen Cyanide Examples:

The NEIC chart lists hydrogen cyanide three separate times using different temperatures and pH standard Units. Using the first instance on the chart for Hydrogen Cyanide and reading across provides the following information:

1. The compound is Hydrogen Cyanide (HCN)
2. The temperature is 25 degrees Celsius
3. The temperature converted to Kelvin is 298.15 (25°C + 273.15)
4. Using the formula for Henry's Law, HCN is 12.16 Molar/Atmosphere
5. A pH of 2 standard units will be used to determine reactivity
6. Henry's law corrected for acid dissociation is 12.1590 Molar/Atmosphere
7. Molecular weight of hydrogen cyanide is 27.03 grams/Mole
8. Converts HCN to a water concentration using Henry's law multiplied by the molecular weight to yield 328.6 ppb/ppmV.
9. Converts 328.6 ppb/ppmV to an air concentration of 3.04 ppmV/ppm

[Note: Based on the conversion, 1 ppb of HCN in the water is approximately equal to 1 ppm in the air when converted to a ppm concentration (1000/((MW) (K_h))]

What does this mean in English?:

After calculating the aqueous-phase reaction of HCN and converting the unit of measurement to ppmV/ppm (Column M), we can compare this value directly with the OSHA TLV and IDLH values to determine where gases may be produced in sufficient quantity to be toxic to human health.

We know from using Henry's law above that the aqueous-phase reaction for HCN at 25 degrees Celcius under standard temperature and pressure yields 328.6 ppb/ppmV of HCN which, when converted into ppm equals 3.04 ppmV/ppm. The OSHA TLV for

HCN in air is 5 ppmV. The OSHA TLV divided by 3.04 ppmV/ppm results in the number 1.64 ppm, which means that 1.64 ppm of cyanide is needed in water to reach the TLV threshold of 5 ppmV in air.

To take this one step further, the IDLH value (Immediately Dangerous to Life and Health:30 minute exposure results in death) for HCN is 50 ppm. The IDLH of 50 ppmV divided by the 3.04 ppmV/ppm result in the number 16.4 ppm which means that 16.4 ppm of cyanide in water is needed to reach the IDLH threshold of 50 ppmV in air.

Despite the withdrawal of the reactivity test procedures, the NEIC chart provides an alternate means for calculating whether certain chemicals meet the narrative definition for reactivity.

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Air Pollution Control Construction Permit Application

State of Wisconsin
Department of Natural Resources
dnr.wi.gov

Facility Identification
Air Pollution Control Permit Application
Form 4530-100 (R 1/11)

Notice: Use of this form is required by the Department for any air pollution control permit application filed pursuant to ss. 285.61, 285.62 or 285.66, Wis. Stats. Completion of this form is mandatory. The Department will not consider or act upon your application unless you complete and submit this application form. You are required to submit two copies in accordance with s. NR 407.05(2), Wis. Adm. Code. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Open Records Law [ss. 19.31-19.39, Wis. Stats.].

Facility Information

Facility Name	Standard Industrial Class Code (SIC)	Facility ID Number (FID)
Veolia ES Technical Solutions, L.L.C.	4953	246076050

Street Address (where pollution sources are/will be located)		County
1275 Mineral Springs Drive	☒ City ☐ Town ☐ Village of Port Washington	Ozaukee

Primary Operating Activity (e.g., lead-acid battery manufacturer or sulfite paper mill)	Is the facility located in an area designated as "nonattainment"?	If yes, indicate the pollutant(s) for the nonattainment designation
Mercury Recycling/Reclamation	☒ Yes ☐ No (refer to instruction booklet)	Ozone

Applicant Information

Applicant Name (provide full business or individual's name)
Veolia ES Technical Solutions, L.L.C.

Mailing Address	City	State	ZIP Code
1275 Mineral Springs Drive	Port Washington	WI	53074

Parent Corporation or Owner Name (if not wholly owned by applicant)
Veolia ES Technical Solutions, L.L.C.

Mailing Address	City	State	ZIP Code	Country (if not U.S.)
700 E. Butterfield Rd, Suite 201	Lombard	IL	60148	

Responsible Official Name–person legally responsible for the operation of the permitted air pollution sources [see NR 400.02(80e), Wis. Adm. Code]
Kevin D. Shaver

Title	Phone Number
Operations Manager	2622438909

Permit Contact Person – to be contacted for additional information concerning air pollution sources
Phillip Ditter

Title	Phone Number
Environmental Health and Safety Mgr	2622438908

Permit Information

Instructions: If applying for a construction permit (including modification, reconstruction, relocation, and replacement), you MUST also apply for an operation permit, an operation permit renewal, or an operation permit revision. Select 'Operation Permit' if you currently do not have a facility-wide operation permit. Select 'Operation Permit Renewal' if you are renewing your facility-wide operation permit in conjunction with the proposed project. Otherwise, select 'Operation Permit Revision' so that your facility-wide operation permit will be revised to reflect the proposed project.

Permit Type:

☒ Construction Permit

Anticipated construction start date: 2/1/2014 (mm/dd/yy) Anticipated operation start date: 3/1/2014 (mm/dd/yy)

☒ Initial application fee attached ($7,500)

☐ Construction Permit Exemption and Authority –List appropriate Code citation: _____

☐ Construction Permit Revision – List permit to be revised: _____

☐ Operation Permit Revision – List permit to be revised: _____

☐ Administrative Revision

☐ Minor Revision (must be accompanied by Form 4530-137)

☐ Significant Revision

☐ Operation Permit – select type:

☐ Part 70 Source

☐ Synthetic Minor, Non - Part 70 Source

☐ Non - Part 70 Source

☐ Operation Permit Renewal – select type:

List permit to be renewed: _____

☐ Elective Operation Permit (if requesting an operation permit that is otherwise not required)

☐ Operation Permit Exemption and Authority - List appropriate Code citation: _____

Expedited review fee:

If expedited review requested and fulfilled within the following time periods, the construction permit application fee you will be billed will include a surcharge for this additional service:

☐ 50 days from receipt of completed application for a review not conducted under ch. NR 405 or 408 - $5,000

☐ 60 days from receipt of completed application for a review conducted under ch. NR 405 or 408 - $7,500

☐ 90 days from receipt of completed application for a review conducted under ch. NR 405 or 408 - $4,000

Is additional information attached?
☒ Yes ☐ No

Are two copies of completed form and additional information included?
☒ Yes ☐ No

State of Wisconsin
Department of Natural Resources
APPLICATION

FACILITY PLOT PLAN
AIR POLLUTION CONTROL PERMIT

Form 4530-101 Rev. 12-99

Use of this form is required by the Department for any air pollution control permit application filed pursuant to ss. 285.61, 285.62 or 285.66, Wis Stats. Completion of this form is mandatory. The Department will not consider or act upon your application unless you complete and submit this form. It is not the Department's intention to use any personally identifiable information from this form for any other purpose.

In order for a comprehensive air quality analysis to be accomplished, a facility plot plan MUST be included with the permit application. If the application is for an initial operation permit, submit the elements under #2 below. If the application is for a renewal, answer #1 below first.

1. Have there been changes to the facility plot plan since the previous operation permit application was submitted?

☐ No. The plot plan submitted with the original application can be used for the renewal.
☒ Yes. An up-to-date plot plan is attached.

2. If there have been changes to the facility plot plan since the last operation permit application submittal, RESUBMIT an up-to-date plot plan which must include the following or the permit application will be deemed incomplete:

FOR DEPARTMENT USE ONLY

COMPLETE	INCOMPLETE	NOT APPLICABLE	
☐			1. A building layout (blueprint, plan view) including all buildings occupied by or located on the site of the facility.
☐			2. The maximum height of each building (excluding stack height).
☐			3. The location and numerical designation of each stack. Please ensure these designations correspond to the appropriate stacks listed on the other permit forms in this application.
☐			4. The location of fenced property lines (if any).
☐			5. Identify direction "North" on all submittals.
☐			6. All drawings shall be to scale and shall have the scale graphically depicted.
☐			7. An additional regional map depicting the facility location in relation to the surrounding vicinity (roads or other features) shall be included.

Are there any outdoor storage piles on the facility site? ☐ Yes ☒ No

If so, what material does the pile(s) consist of?

Are there any dirt roads or unpaved parking lots on the facility site? ☐ Yes ☒ No

State of Wisconsin
Department of Natural Resources

SOURCE AND SITE DESCRIPTIONS
AIR POLLUTION CONTROL PERMIT APPLICATION
Form 4530-102 Rev. 12-99 Information attached? __(y/n)

Use of this form is required by the Department for any air pollution control permit application filed pursuant to ss. 285.61, 285.62 or 285.66, Wis Stats. Completion of this form is mandatory. The Department will not consider or act upon your application unless you complete and submit this form. It is not the Department's intention to use any personally identifiable information from this form for any other purpose.

1. Briefly describe the proposed project or existing Unit(s) to be permitted. Attached supplemental forms as needed.

This application is being submitted to obtain a construction permit for a new source to be located at our facility as 1275 Mineral Springs Drive, Port Washington, WI. The current Operating Permit, 01-DJH-339-OP is in the renewal process.

Veolia ES Technical Solutions, L.L.C. is proposing to replace the existing process P12, ASE Retort Ovens with a natural gas fired oven, process P14. The process gases from the ovens and condensers will directed to the existing control devises (C11) and discharge through stack S15 to the retort room. Flue gas exhaust will discharge through a new stack S17.

For Renewal Applications:

1. Were any new or modified emissions units installed/modified at the facility since the last operation permit issuance date?
   - ☐ No. Proceed to form 4530-102A.
   - ☒ Yes. Answer the following questions:

2. Briefly describe any new/modified emissions units installed at the facility since the last operation permit issuance date and include the following information. Attach supplemental forms as needed.

An emergency power back-up generator (Process P13 and Stack S16) was installed at the facility in September 2010. An application for a minor permit revision was submitted on August 17, 2010.

a. List the Department issued construction and/or operation permit number as applicable (identifying which units were covered by which permit if multiple permits issued).

i. If operation permit application forms were submitted for the new emission unit(s) covered by the construction permit mentioned above, reference the date of that application.

August 17, 2010

ii. For Part 70 Sources Only: If no operation permit application forms were submitted for the new emissions unit(s) covered by the construction permit mentioned above, complete the appropriate forms 4530-118 through 4530-125.

b. Include the Department issued construction permit exemption number, if one was assigned, or reference the date of the letter of the exemption.

2. Site Description

The facility is located at 1275 Mineral Springs Drive, Port Washington, Ozaukee County. The facility is located on an 11 acre parcel of land in an industrial park bounded to the east by Mineral Springs Drive and to the south by Maritime Drive.

State of Wisconsin
Department of Natural Resources

SOURCE DESCRIPTION - SUPPLEMENTAL
AIR POLLUTION CONTROL PERMIT APPLICATION
Form 4530-102A Rev. 12-99 Information attached? __ (y/n)

Use of this form is required by the Department for any air pollution control permit application filed pursuant to ss. 285.61, 285.62 or 285.66, Wis Stats. Completion of this form is mandatory. The Department will not consider or act upon your application unless you complete and submit this form. It is not the Department's intention to use any personally identifiable information from this form for any other purpose.

1. List all significant existing or proposed air pollution units, operations, and activities at the facility. A short narrative of the inventory of air pollution emissions unit (e.g., boiler, printing line, etc.) followed by equipment specifications will suffice. If the facility consists of several individual emission units, present this information in an outline format. (See instruction booklet for an example Unit description.)

P01. Model 2000 Lamp Recycler, equipped with a HEPA filter (C01) and carbon adsorber (C02) and discharges to stack S01. This unit has a capacity to process 2,500 four foot (T12 – 1.5" diameter) lamps per hour.
P08. Model LSS1 Lamp Recycler equipped with a HEPA filter (C04) and carbon adsorber (C05) and discharges to stack S08. This unit has a capacity to process 4,000 four foot (T12 – 1.5" diameter) lamps per hour.
P10. RipSys Retort Oven equipped with electronic afterburner (C07) and carbon adsorber (C09) and discharges through process stack S11 to retort room. Flue gas to flue stack S12.
P11. Magna Drum Retort Oven equipped with electronic afterburner (C08) and carbon adsorber (C09) and discharges through process stack S11 to retort room. Flue gas to flue stack S13.
P12. ASE MR25 Retort Ovens equipped with a carbon adsorber (C11) and discharge through process stack S15 to retort room.
P13. Generac SD500 Emergency Generator, discharges through stack S16.
P14. Natural Gas fired retort oven equipped with a carbon adsorber (C11) and discharges through process stack S15 to retort room. Flue gas to discharge to flue stack S17.
S14. Retort room stack equipped with a carbon adsorber (C10) controlling discharges from S11, S12, and F99 fugitive emissions from retort room

Process P12 to be removed at the time of installation of the new process P14.

For Renewal Applications:
1. If there were any new or modified emissions units installed/modified at the facility since the last operation permit issuance date:

a. If any of these new/modified units were exempt from construction permit requirements, but are significant emissions units and operation permit application(s) for the new unit(s) were submitted to the Department reference the date of those submittals.

b. If any of the new/modified units are insignificant emissions units list them on form 4530-102B.

c. If any of the new/modified emissions units do not fit any of the above categories, fill out the appropriate forms for each emissions unit as follows:

i. For Part 70 Sources: Fill out the appropriate forms 4530-103 through 4530-133; OR

ii. For Synthetic Minor Non Part-70 Sources and Non-Part 70 Sources: Fill out the appropriate forms 4530-103 through 4530-117 and 4530-126 through 4530-129.

State of Wisconsin
Department of Natural Resources
APPLICATION

SOURCE DESCRIPTION - SUPPLEMENTAL
AIR POLLUTION CONTROL PERMIT

Form 4530-102B Rev. 12-99 Information attached? __ (y/n)

Use of this form is required by the Department for any air pollution control permit application filed pursuant to ss. 285.61, 285.62 or 285.66, Wis Stats. Completion of this form is mandatory. The Department will not consider or act upon your application unless you complete and submit this form. It is not the Department's intention to use any personally identifiable information from this form for any other purpose.

1. Mark all insignificant existing or proposed air pollution units, operations, and activities at the facility listed below. If not listed, provide a short narrative of the inventory of air pollution emissions unit (e.g., boiler, printing line, etc.) followed by equipment specifications. If the facility consists of several individual emission units, present this information in an outline format. **For Renewal Applications, identify those that are new since the last update to your application.** (See instruction booklet for an example Unit description.)

☒ Maintenance of Grounds, Equipment, and Buildings (lawn care, painting, etc.)

☒ Boiler, Turbine, and HVAC System Maintenance

☒ Pollution Control Equipment Maintenance

☒ Internal Combustion Engines Used for Warehousing and Material Transport

☒ Fire Control Equipment

☒ Janitorial Activities

☒ Office Activities

☒ Convenience Water Heating

☒ Convenience Space Heating (< 5 million BTU/hr Burning Gas, Liquid, or Wood)

☒ Fuel Oil Storage Tanks (< 10,000 gal.)

☐ Stockpiled Contaminated Soils

☐ Demineralization and Oxygen Scavenging of Water for Boilers

☐ Purging of Natural Gas Lines

☒ Sanitary Sewer and Plumbing Venting

☒ S03 Consolidation of packaged laboratory chemicals

☒ S03, S05, S06 Storage of hazardous waste in closed containers

☒ S04 Loading Dock operations

☒ S07 Laboratory Operations

☐

☐

☐

State of Wisconsin
Department of Natural Resources

STACK IDENTIFICATION
AIR POLLUTION CONTROL PERMIT APPLICATION

Form 4530-103 11-93 Information attached? __ (y/n)

SEE INSTRUCTIONS ON REVERSE SIDE

1. Facility name:	2. Facility identification number:	3. Stack identification number:
Veolia ES Technical Solutions, L.L.C.	246076050	S01

4. Exhausting Unit(s), use Unit identification number from appropriate Form(s) 4530-104, 106, 107, 108 and/or 109

4530-104 4530-106 4530-107 4530-108 4530-109 P01

5. Identify this stack on the plot plan required on Form 4530-101

6. Indicate by checking:
☑ This stack has an actual exhaust point. ☐ This stack serves to identify fugitive emissions.

If this stack has an actual exhaust point, then provide the following stack parameters

7. Discharge height above ground level: 25 (feet)

8. Inside dimensions at outlet (check one and complete):

☑ Circular 0.67 (feet) ☐ rectangular ____ length (feet) ____ width (feet)

9. Exhaust flow rate:

Normal 400 (ACFM) Maximum __ (ACFM)

10. Exhaust gas temperature (normal): 70 (°F)

11. Exhaust gas moisture content: Normal unk volume percent Maximum ____ volume percent

12. Exhaust gas discharge direction: ☑ Up ☐ Down ☐ Horizontal

13. Is this stack equipped with a rainhat or any obstruction to the free flow of the exhaust gases from the stack? ☐ Yes ☑ No

***** Complete the appropriate Air Permit Application Forms(s) 4530-104, 106, 107, 108 or 109 for each Unit ***** exhausting through this stack.

STACK IDENTIFICATION -- Form 4530-103

AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

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One form must be completed for each stack (or release point such as roof vent, wall vent, etc.).

Item 1 Provide the facility name.

Item 2 Provide the facility identification (FID) number that appears on the annual emissions inventory reports.

Item 3 Assign a three-character identification number for this stack (e.g., S01). Use the existing identification number from the Air Emissions Inventory.

Item 4 List the identification(s) for the emissions unit(s) that will vent through this stack. Use the existing identification number(s) from the Air Emissions Inventory. Use this number on the appropriate forms 4530-104, -106, -107, -108 or -109 for the unit(s). Examples: Boiler No. 1 can be "B01," Process No. 3 can be "P03" (see instruction booklet for details).

Item 5 Identify this stack or release point on the required plot plan.

Item 6 An "actual exhaust point" is a real stack that may be described by the physical parameters listed in items 7 through 13 of this form. "Fugitive emissions" means emissions from any emissions point within a facility (the buildings plus the grounds) other than a flue or stack. If you check "this stack serves to identify fugitive emissions," you do not need to complete the rest of the form.

In some cases the current emissions inventory (EI) groups several actual stacks into one fictitious stack, or several fugitive emission points are grouped into a single fictitious stack for accounting purposes. In such a situation, please retain the existing stack grouping from the EI for the purpose of completing your permit application and explain this on an attachment (Form 4530-135 may be used for this purpose).

Where groupings don't already exist, you may wish to combine several actual stacks into one fictitious stack. This would allow you to assign all of the emissions from a particular process line having several stacks, such as a manufacturing line involving painting, to a single stack. IF YOU DECIDE TO GROUP STACKS IN A WAY OTHER THAN THE WAY THEY ARE GROUPED ON YOUR EMISSIONS INVENTORY, PLEASE ATTACH FORM 4530-135, SUPPLEMENTAL INFORMATION, TO EXPLAIN THE REVISED STACK GROUPING. IN THIS WAY THE DEPARTMENT WILL BE ABLE TO RECONCILE THE APPLICATION AND THE EMISSIONS INVENTORY FOR YOUR PLANT.

Item 7 Provide the height (in feet) at which the stack discharges above ground level.

Item 8 Check appropriate shape of the stack. For circular shapes provide the diameter (in feet), and for rectangular shapes provide the length (L) and width (W) (in feet).

Item 9 Provide the normal exhaust flow rate in units of actual cubic feet per minute (ACFM) and the maximum exhaust flow rate expected (in ACFM).

Item 10 Provide the normal exhaust gas temperature (in ^{o}F).

Item 11 Provide the normal and maximum moisture content.

Item 12 Check appropriate discharge direction. If the direction of discharge is at an angle, check the nearest direction.

Item 13 Check the appropriate box.

***** For each emissions unit that vents through this stack, complete and attach the appropriate form(s) 4530-104 through -109. After doing so, start your second stack form, if you have additional stacks, and its associated emissions unit(s), control equipment, and compliance demonstration form(s).

State of Wisconsin
Department of Natural Resources

STACK IDENTIFICATION
AIR POLLUTION CONTROL PERMIT APPLICATION
Form 4530-103 11-93 Information attached? __ (y/n)

SEE INSTRUCTIONS ON REVERSE SIDE

1. Facility name:	2. Facility identification number:	3. Stack identification number:
Veolia ES Technical Solutions, L.L.C.	246076050	S08

4. Exhausting Unit(s), use Unit identification number from appropriate Form(s) 4530-104, 106, 107, 108 and/or 109

4530-104 4530-106 4530-107 4530-108 4530-109 P08

5. Identify this stack on the plot plan required on Form 4530-101

6. Indicate by checking:
☑ This stack has an actual exhaust point. ☐ This stack serves to identify fugitive emissions.

If this stack has an actual exhaust point, then provide the following stack parameters

7. Discharge height above ground level: 25 (feet)

8. Inside dimensions at outlet (check one and complete):

☑ Circular 0.67 (feet) ☐ rectangular ____ length (feet) ____ width (feet)

9. Exhaust flow rate:

Normal 500 (ACFM) Maximum __ (ACFM)

10. Exhaust gas temperature (normal): 70 (°F)

11. Exhaust gas moisture content: Normal unk volume percent Maximum ____ volume percent

12. Exhaust gas discharge direction: ☑ Up ☐ Down ☐ Horizontal

13. Is this stack equipped with a rainhat or any obstruction to the free flow of the exhaust gases from the stack? ☐ Yes ☑ No

***** Complete the appropriate Air Permit Application Forms(s) 4530-104, 106, 107, 108 or 109 for each Unit ***** exhausting through this stack.

STACK IDENTIFICATION -- Form 4530-103

AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

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One form must be completed for each stack (or release point such as roof vent, wall vent, etc.).

Item 1 Provide the facility name.

Item 2 Provide the facility identification (FID) number that appears on the annual emissions inventory reports.

Item 3 Assign a three-character identification number for this stack (e.g., S01). Use the existing identification number from the Air Emissions Inventory.

Item 4 List the identification(s) for the emissions unit(s) that will vent through this stack. Use the existing identification number(s) from the Air Emissions Inventory. Use this number on the appropriate forms 4530-104, -106, -107, -108 or -109 for the unit(s). Examples: Boiler No. 1 can be "B01," Process No. 3 can be "P03" (see instruction booklet for details).

Item 5 Identify this stack or release point on the required plot plan.

Item 6 An "actual exhaust point" is a real stack that may be described by the physical parameters listed in items 7 through 13 of this form. "Fugitive emissions" means emissions from any emissions point within a facility (the buildings plus the grounds) other than a flue or stack. If you check "this stack serves to identify fugitive emissions," you do not need to complete the rest of the form.

In some cases the current emissions inventory (EI) groups several actual stacks into one fictitious stack, or several fugitive emission points are grouped into a single fictitious stack for accounting purposes. In such a situation, please retain the existing stack grouping from the EI for the purpose of completing your permit application and explain this on an attachment (Form 4530-135 may be used for this purpose).

Where groupings don't already exist, you may wish to combine several actual stacks into one fictitious stack. This would allow you to assign all of the emissions from a particular process line having several stacks, such as a manufacturing line involving painting, to a single stack. IF YOU DECIDE TO GROUP STACKS IN A WAY OTHER THAN THE WAY THEY ARE GROUPED ON YOUR EMISSIONS INVENTORY, PLEASE ATTACH FORM 4530-135, SUPPLEMENTAL INFORMATION, TO EXPLAIN THE REVISED STACK GROUPING. IN THIS WAY THE DEPARTMENT WILL BE ABLE TO RECONCILE THE APPLICATION AND THE EMISSIONS INVENTORY FOR YOUR PLANT.

Item 7 Provide the height (in feet) at which the stack discharges above ground level.

Item 8 Check appropriate shape of the stack. For circular shapes provide the diameter (in feet), and for rectangular shapes provide the length (L) and width (W) (in feet).

Item 9 Provide the normal exhaust flow rate in units of actual cubic feet per minute (ACFM) and the maximum exhaust flow rate expected (in ACFM).

Item 10 Provide the normal exhaust gas temperature (in ^{o}F).

Item 11 Provide the normal and maximum moisture content.

Item 12 Check appropriate discharge direction. If the direction of discharge is at an angle, check the nearest direction.

Item 13 Check the appropriate box.

***** For each emissions unit that vents through this stack, complete and attach the appropriate form(s) 4530-104 through -109. After doing so, start your second stack form, if you have additional stacks, and its associated emissions unit(s), control equipment, and compliance demonstration form(s).

State of Wisconsin
Department of Natural Resources

STACK IDENTIFICATION
AIR POLLUTION CONTROL PERMIT APPLICATION
Form 4530-103 11-93 Information attached? __ (y/n)

SEE INSTRUCTIONS ON REVERSE SIDE

1. Facility name:	2. Facility identification number:	3. Stack identification number:
Veolia ES Technical Solutions, L.L.C.	246076050	S11

4. Exhausting Unit(s), use Unit identification number from appropriate Form(s) 4530-104, 106, 107, 108 and/or 109

4530-104 4530-106 4530-107 4530-108 4530-109 P10 and P11

5. Identify this stack on the plot plan required on Form 4530-101

6. Indicate by checking:
☐ This stack has an actual exhaust point. ☐ This stack serves to identify fugitive emissions.

This stack discharges into the retort room/C10

If this stack has an actual exhaust point, then provide the following stack parameters

7. Discharge height above ground level: __ (feet)

8. Inside dimensions at outlet (check one and complete):

☑ Circular 0.33 (feet) ☐ rectangular ____ length (feet) ____ width (feet)

9. Exhaust flow rate:

Normal 60 (ACFM) Maximum 90 (ACFM)

10. Exhaust gas temperature (normal): 70 (°F)

11. Exhaust gas moisture content: Normal unk volume percent Maximum ____ volume percent

12. Exhaust gas discharge direction: ☐ Up ☐ Down ☑ Horizontal

13. Is this stack equipped with a rainhat or any obstruction to the free flow of the exhaust gases from the stack? ☐ Yes ☑ No

***** Complete the appropriate Air Permit Application Forms(s) 4530-104, 106, 107, 108 or 109 for each Unit ***** exhausting through this stack.

STACK IDENTIFICATION -- Form 4530-103

AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

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One form must be completed for each stack (or release point such as roof vent, wall vent, etc.).

Item 1 Provide the facility name.

Item 2 Provide the facility identification (FID) number that appears on the annual emissions inventory reports.

Item 3 Assign a three-character identification number for this stack (e.g., S01). Use the existing identification number from the Air Emissions Inventory.

Item 4 List the identification(s) for the emissions unit(s) that will vent through this stack. Use the existing identification number(s) from the Air Emissions Inventory. Use this number on the appropriate forms 4530-104, -106, -107, -108 or -109 for the unit(s). Examples: Boiler No. 1 can be "B01," Process No. 3 can be "P03" (see instruction booklet for details).

Item 5 Identify this stack or release point on the required plot plan.

Item 6 An "actual exhaust point" is a real stack that may be described by the physical parameters listed in items 7 through 13 of this form. "Fugitive emissions" means emissions from any emissions point within a facility (the buildings plus the grounds) other than a flue or stack. If you check "this stack serves to identify fugitive emissions," you do not need to complete the rest of the form.

In some cases the current emissions inventory (EI) groups several actual stacks into one fictitious stack, or several fugitive emission points are grouped into a single fictitious stack for accounting purposes. In such a situation, please retain the existing stack grouping from the EI for the purpose of completing your permit application and explain this on an attachment (Form 4530-135 may be used for this purpose).

Where groupings don't already exist, you may wish to combine several actual stacks into one fictitious stack. This would allow you to assign all of the emissions from a particular process line having several stacks, such as a manufacturing line involving painting, to a single stack. IF YOU DECIDE TO GROUP STACKS IN A WAY OTHER THAN THE WAY THEY ARE GROUPED ON YOUR EMISSIONS INVENTORY, PLEASE ATTACH FORM 4530-135, SUPPLEMENTAL INFORMATION, TO EXPLAIN THE REVISED STACK GROUPING. IN THIS WAY THE DEPARTMENT WILL BE ABLE TO RECONCILE THE APPLICATION AND THE EMISSIONS INVENTORY FOR YOUR PLANT.

Item 7 Provide the height (in feet) at which the stack discharges above ground level.

Item 8 Check appropriate shape of the stack. For circular shapes provide the diameter (in feet), and for rectangular shapes provide the length (L) and width (W) (in feet).

Item 9 Provide the normal exhaust flow rate in units of actual cubic feet per minute (ACFM) and the maximum exhaust flow rate expected (in ACFM).

Item 10 Provide the normal exhaust gas temperature (in ^{o}F).

Item 11 Provide the normal and maximum moisture content.

Item 12 Check appropriate discharge direction. If the direction of discharge is at an angle, check the nearest direction.

Item 13 Check the appropriate box.

***** For each emissions unit that vents through this stack, complete and attach the appropriate form(s) 4530-104 through -109. After doing so, start your second stack form, if you have additional stacks, and its associated emissions unit(s), control equipment, and compliance demonstration form(s).

State of Wisconsin
Department of Natural Resources

STACK IDENTIFICATION
AIR POLLUTION CONTROL PERMIT APPLICATION
Form 4530-103 11-93 Information attached? __ (y/n)

SEE INSTRUCTIONS ON REVERSE SIDE

1. Facility name:	2. Facility identification number:	3. Stack identification number:
Veolia ES Technical Solutions, L.L.C.	246076050	S12

4. Exhausting Unit(s), use Unit identification number from appropriate Form(s) 4530-104, 106, 107, 108 and/or 109

4530-104 4530-106 4530-107 4530-108 4530-109 P10

5. Identify this stack on the plot plan required on Form 4530-101

6. Indicate by checking:
☑ This stack has an actual exhaust point. ☐ This stack serves to identify fugitive emissions.

If this stack has an actual exhaust point, then provide the following stack parameters

7. Discharge height above ground level: 20 (feet)

8. Inside dimensions at outlet (check one and complete):

☑ Circular 1 (feet) ☐ rectangular ____ length (feet) ____ width (feet)

9. Exhaust flow rate:

Normal 500 (ACFM) Maximum __ (ACFM)

10. Exhaust gas temperature (normal): 1000 (°F)

11. Exhaust gas moisture content: Normal unk volume percent Maximum ____ volume percent

12. Exhaust gas discharge direction: ☑ Up ☐ Down ☐ Horizontal

13. Is this stack equipped with a rainhat or any obstruction to the free flow of the exhaust gases from the stack? ☐ Yes ☑ No

***** Complete the appropriate Air Permit Application Forms(s) 4530-104, 106, 107, 108 or 109 for each Unit ***** exhausting through this stack.

STACK IDENTIFICATION -- Form 4530-103

AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

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One form must be completed for each stack (or release point such as roof vent, wall vent, etc.).

Item 1 Provide the facility name.

Item 2 Provide the facility identification (FID) number that appears on the annual emissions inventory reports.

Item 3 Assign a three-character identification number for this stack (e.g., S01). Use the existing identification number from the Air Emissions Inventory.

Item 4 List the identification(s) for the emissions unit(s) that will vent through this stack. Use the existing identification number(s) from the Air Emissions Inventory. Use this number on the appropriate forms 4530-104, -106, -107, -108 or -109 for the unit(s). Examples: Boiler No. 1 can be "B01," Process No. 3 can be "P03" (see instruction booklet for details).

Item 5 Identify this stack or release point on the required plot plan.

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Item 7 Provide the height (in feet) at which the stack discharges above ground level.

Item 8 Check appropriate shape of the stack. For circular shapes provide the diameter (in feet), and for rectangular shapes provide the length (L) and width (W) (in feet).

Item 9 Provide the normal exhaust flow rate in units of actual cubic feet per minute (ACFM) and the maximum exhaust flow rate expected (in ACFM).

Item 10 Provide the normal exhaust gas temperature (in ^{o}F).

Item 11 Provide the normal and maximum moisture content.

Item 12 Check appropriate discharge direction. If the direction of discharge is at an angle, check the nearest direction.

Item 13 Check the appropriate box.

***** For each emissions unit that vents through this stack, complete and attach the appropriate form(s) 4530-104 through -109. After doing so, start your second stack form, if you have additional stacks, and its associated emissions unit(s), control equipment, and compliance demonstration form(s).

State of Wisconsin
Department of Natural Resources

STACK IDENTIFICATION
AIR POLLUTION CONTROL PERMIT APPLICATION

Form 4530-103 11-93 Information attached? __ (y/n)

SEE INSTRUCTIONS ON REVERSE SIDE

1. Facility name:	2. Facility identification number:	3. Stack identification number:
Veolia ES Technical Solutions, L.L.C.	246076050	S13

4. Exhausting Unit(s), use Unit identification number from appropriate Form(s) 4530-104, 106, 107, 108 and/or 109

4530-104 4530-106 4530-107 4530-108 4530-109 P11

5. Identify this stack on the plot plan required on Form 4530-101

6. Indicate by checking:
☑ This stack has an actual exhaust point. ☐ This stack serves to identify fugitive emissions.

If this stack has an actual exhaust point, then provide the following stack parameters

7. Discharge height above ground level: 20 (feet)

8. Inside dimensions at outlet (check one and complete):

☑ Circular 0.5 (feet) ☐ rectangular ____ length (feet) ____ width (feet)

9. Exhaust flow rate:

Normal 500 (ACFM) Maximum __ (ACFM)

10. Exhaust gas temperature (normal): 1000 (°F)

11. Exhaust gas moisture content: Normal unk volume percent Maximum ____ volume percent

12. Exhaust gas discharge direction: ☑ Up ☐ Down ☐ Horizontal

13. Is this stack equipped with a rainhat or any obstruction to the free flow of the exhaust gases from the stack? ☐ Yes ☑ No

***** Complete the appropriate Air Permit Application Forms(s) 4530-104, 106, 107, 108 or 109 for each Unit ***** exhausting through this stack.

STACK IDENTIFICATION -- Form 4530-103
AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

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One form must be completed for each stack (or release point such as roof vent, wall vent, etc.).

Item 1 Provide the facility name.

Item 2 Provide the facility identification (FID) number that appears on the annual emissions inventory reports.

Item 3 Assign a three-character identification number for this stack (e.g., S01). Use the existing identification number from the Air Emissions Inventory.

Item 4 List the identification(s) for the emissions unit(s) that will vent through this stack. Use the existing identification number(s) from the Air Emissions Inventory. Use this number on the appropriate forms 4530-104, -106, -107, -108 or -109 for the unit(s). Examples: Boiler No. 1 can be "B01," Process No. 3 can be "P03" (see instruction booklet for details).

Item 5 Identify this stack or release point on the required plot plan.

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Item 7 Provide the height (in feet) at which the stack discharges above ground level.

Item 8 Check appropriate shape of the stack. For circular shapes provide the diameter (in feet), and for rectangular shapes provide the length (L) and width (W) (in feet).

Item 9 Provide the normal exhaust flow rate in units of actual cubic feet per minute (ACFM) and the maximum exhaust flow rate expected (in ACFM).

Item 10 Provide the normal exhaust gas temperature (in ^{o}F).

Item 11 Provide the normal and maximum moisture content.

Item 12 Check appropriate discharge direction. If the direction of discharge is at an angle, check the nearest direction.

Item 13 Check the appropriate box.

***** For each emissions unit that vents through this stack, complete and attach the appropriate form(s) 4530-104 through -109. After doing so, start your second stack form, if you have additional stacks, and its associated emissions unit(s), control equipment, and compliance demonstration form(s).

State of Wisconsin
Department of Natural Resources

STACK IDENTIFICATION
AIR POLLUTION CONTROL PERMIT APPLICATION
Form 4530-103 11-93 Information attached? __ (y/n)

SEE INSTRUCTIONS ON REVERSE SIDE

1. Facility name:	2. Facility identification number:	3. Stack identification number:
Veolia ES Technical Solutions, L.L.C.	246076050	S14

4. Exhausting Unit(s), use Unit identification number from appropriate Form(s) 4530-104, 106, 107, 108 and/or 109

4530-104	4530-106	4530-107	4530-108	4530-109 P10, P11, P12, F99

5. Identify this stack on the plot plan required on Form 4530-101

6. Indicate by checking:
☑ This stack has an actual exhaust point. ☐ This stack serves to identify fugitive emissions.

If this stack has an actual exhaust point, then provide the following stack parameters

7. Discharge height above ground level: 25 (feet)

8. Inside dimensions at outlet (check one and complete):

☑ Circular 1.33 (feet) ☐ rectangular ____ length (feet) ____ width (feet)

9. Exhaust flow rate:

Normal 3750 (ACFM) Maximum 5000 (ACFM)

10. Exhaust gas temperature (normal): 95 (°F)

11. Exhaust gas moisture content: Normal unk volume percent Maximum ____ volume percent

12. Exhaust gas discharge direction: ☑ Up ☐ Down ☐ Horizontal

13. Is this stack equipped with a rainhat or any obstruction to the free flow of the exhaust gases from the stack? ☐ Yes ☑ No

***** Complete the appropriate Air Permit Application Forms(s) 4530-104, 106, 107, 108 or 109 for each Unit ***** exhausting through this stack.

STACK IDENTIFICATION -- Form 4530-103
AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

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One form must be completed for each stack (or release point such as roof vent, wall vent, etc.).

Item 1 Provide the facility name.

Item 2 Provide the facility identification (FID) number that appears on the annual emissions inventory reports.

Item 3 Assign a three-character identification number for this stack (e.g., S01). Use the existing identification number from the Air Emissions Inventory.

Item 4 List the identification(s) for the emissions unit(s) that will vent through this stack. Use the existing identification number(s) from the Air Emissions Inventory. Use this number on the appropriate forms 4530-104, -106, -107, -108 or -109 for the unit(s). Examples: Boiler No. 1 can be "B01," Process No. 3 can be "P03" (see instruction booklet for details).

Item 5 Identify this stack or release point on the required plot plan.

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In some cases the current emissions inventory (EI) groups several actual stacks into one fictitious stack, or several fugitive emission points are grouped into a single fictitious stack for accounting purposes. In such a situation, please retain the existing stack grouping from the EI for the purpose of completing your permit application and explain this on an attachment (Form 4530-135 may be used for this purpose).

Where groupings don't already exist, you may wish to combine several actual stacks into one fictitious stack. This would allow you to assign all of the emissions from a particular process line having several stacks, such as a manufacturing line involving painting, to a single stack. IF YOU DECIDE TO GROUP STACKS IN A WAY OTHER THAN THE WAY THEY ARE GROUPED ON YOUR EMISSIONS INVENTORY, PLEASE ATTACH FORM 4530-135, SUPPLEMENTAL INFORMATION, TO EXPLAIN THE REVISED STACK GROUPING. IN THIS WAY THE DEPARTMENT WILL BE ABLE TO RECONCILE THE APPLICATION AND THE EMISSIONS INVENTORY FOR YOUR PLANT.

Item 7 Provide the height (in feet) at which the stack discharges above ground level.

Item 8 Check appropriate shape of the stack. For circular shapes provide the diameter (in feet), and for rectangular shapes provide the length (L) and width (W) (in feet).

Item 9 Provide the normal exhaust flow rate in units of actual cubic feet per minute (ACFM) and the maximum exhaust flow rate expected (in ACFM).

Item 10 Provide the normal exhaust gas temperature (in ^{o}F).

Item 11 Provide the normal and maximum moisture content.

Item 12 Check appropriate discharge direction. If the direction of discharge is at an angle, check the nearest direction.

Item 13 Check the appropriate box.

***** For each emissions unit that vents through this stack, complete and attach the appropriate form(s) 4530-104 through -109. After doing so, start your second stack form, if you have additional stacks, and its associated emissions unit(s), control equipment, and compliance demonstration form(s).

State of Wisconsin
Department of Natural Resources

STACK IDENTIFICATION
AIR POLLUTION CONTROL PERMIT APPLICATION
Form 4530-103 11-93 Information attached? __ (y/n)

SEE INSTRUCTIONS ON REVERSE SIDE

1. Facility name:	2. Facility identification number:	3. Stack identification number:
Veolia ES Technical Solutions, L.L.C.	246076050	S15 (existing configuration)

4. Exhausting Unit(s), use Unit identification number from appropriate Form(s) 4530-104, 106, 107, 108 and/or 109

4530-104 4530-106 4530-107 4530-108 4530-109 P12

5. Identify this stack on the plot plan required on Form 4530-101

6. Indicate by checking:
☐ This stack has an actual exhaust point. ☐ This stack serves to identify fugitive emissions.

This stack discharges into the retort room/C10

If this stack has an actual exhaust point, then provide the following stack parameters

7. Discharge height above ground level: __ (feet)

8. Inside dimensions at outlet (check one and complete):

☑ Circular 0.33 (feet) ☐ rectangular ____ length (feet) ____ width (feet)

9. Exhaust flow rate:

Normal 60 (ACFM) Maximum 90 (ACFM)

10. Exhaust gas temperature (normal): 70 (°F)

11. Exhaust gas moisture content: Normal unk volume percent Maximum ____ volume percent

12. Exhaust gas discharge direction: ☐ Up ☐ Down ☑ Horizontal

13. Is this stack equipped with a rainhat or any obstruction to the free flow of the exhaust gases from the stack? ☐ Yes ☑ No

***** Complete the appropriate Air Permit Application Forms(s) 4530-104, 106, 107, 108 or 109 for each Unit ***** exhausting through this stack.

STACK IDENTIFICATION -- Form 4530-103

AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

NOTE: Use of this form is required by the Department for any air pollution control permit application filed pursuant to ss. 285.61, 285.62 or 285.66, Wis. Stats. Completion of this form is mandatory. The Department will not consider or act upon your application unless you complete and submit this application form. It is not the Department's intention to use any personally identifiable information from this form for any other purpose.

One form must be completed for each stack (or release point such as roof vent, wall vent, etc.).

Item 1 Provide the facility name.

Item 2 Provide the facility identification (FID) number that appears on the annual emissions inventory reports.

Item 3 Assign a three-character identification number for this stack (e.g., S01). Use the existing identification number from the Air Emissions Inventory.

Item 4 List the identification(s) for the emissions unit(s) that will vent through this stack. Use the existing identification number(s) from the Air Emissions Inventory. Use this number on the appropriate forms 4530-104, -106, -107, -108 or -109 for the unit(s). Examples: Boiler No. 1 can be "B01," Process No. 3 can be "P03" (see instruction booklet for details).

Item 5 Identify this stack or release point on the required plot plan.

Item 6 An "actual exhaust point" is a real stack that may be described by the physical parameters listed in items 7 through 13 of this form. "Fugitive emissions" means emissions from any emissions point within a facility (the buildings plus the grounds) other than a flue or stack. If you check "this stack serves to identify fugitive emissions," you do not need to complete the rest of the form.

In some cases the current emissions inventory (EI) groups several actual stacks into one fictitious stack, or several fugitive emission points are grouped into a single fictitious stack for accounting purposes. In such a situation, please retain the existing stack grouping from the EI for the purpose of completing your permit application and explain this on an attachment (Form 4530-135 may be used for this purpose).

Where groupings don't already exist, you may wish to combine several actual stacks into one fictitious stack. This would allow you to assign all of the emissions from a particular process line having several stacks, such as a manufacturing line involving painting, to a single stack. IF YOU DECIDE TO GROUP STACKS IN A WAY OTHER THAN THE WAY THEY ARE GROUPED ON YOUR EMISSIONS INVENTORY, PLEASE ATTACH FORM 4530-135, SUPPLEMENTAL INFORMATION, TO EXPLAIN THE REVISED STACK GROUPING. IN THIS WAY THE DEPARTMENT WILL BE ABLE TO RECONCILE THE APPLICATION AND THE EMISSIONS INVENTORY FOR YOUR PLANT.

Item 7 Provide the height (in feet) at which the stack discharges above ground level.

Item 8 Check appropriate shape of the stack. For circular shapes provide the diameter (in feet), and for rectangular shapes provide the length (L) and width (W) (in feet).

Item 9 Provide the normal exhaust flow rate in units of actual cubic feet per minute (ACFM) and the maximum exhaust flow rate expected (in ACFM).

Item 10 Provide the normal exhaust gas temperature (in ^{o}F).

Item 11 Provide the normal and maximum moisture content.

Item 12 Check appropriate discharge direction. If the direction of discharge is at an angle, check the nearest direction.

Item 13 Check the appropriate box.

***** For each emissions unit that vents through this stack, complete and attach the appropriate form(s) 4530-104 through -109. After doing so, start your second stack form, if you have additional stacks, and its associated emissions unit(s), control equipment, and compliance demonstration form(s).

State of Wisconsin
Department of Natural Resources

STACK IDENTIFICATION
AIR POLLUTION CONTROL PERMIT APPLICATION
Form 4530-103 11-93 Information attached? __ (y/n)

SEE INSTRUCTIONS ON REVERSE SIDE

1. Facility name:	2. Facility identification number:	3. Stack identification number:
Veolia ES Technical Solutions, L.L.C.	246076050	S15 (Proposed configuration)

4. Exhausting Unit(s), use Unit identification number from appropriate Form(s) 4530-104, 106, 107, 108 and/or 109

4530-104 4530-106 4530-107 4530-108 4530-109 P14

5. Identify this stack on the plot plan required on Form 4530-101

6. Indicate by checking:
☐ This stack has an actual exhaust point. ☐ This stack serves to identify fugitive emissions.

This stack discharges into the retort room/C10

If this stack has an actual exhaust point, then provide the following stack parameters

7. Discharge height above ground level: __ (feet)

8. Inside dimensions at outlet (check one and complete):

☑ Circular 0.33 (feet) ☐ rectangular ____ length (feet) ____ width (feet)

9. Exhaust flow rate:

Normal 60 (ACFM) Maximum 90 (ACFM)

10. Exhaust gas temperature (normal): 70 (°F)

11. Exhaust gas moisture content: Normal unk volume percent Maximum ____ volume percent

12. Exhaust gas discharge direction: ☐ Up ☐ Down ☑ Horizontal

13. Is this stack equipped with a rainhat or any obstruction to the free flow of the exhaust gases from the stack? ☐ Yes ☑ No

***** Complete the appropriate Air Permit Application Forms(s) 4530-104, 106, 107, 108 or 109 for each Unit ***** exhausting through this stack.

STACK IDENTIFICATION -- Form 4530-103

AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

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One form must be completed for each stack (or release point such as roof vent, wall vent, etc.).

Item 1 Provide the facility name.

Item 2 Provide the facility identification (FID) number that appears on the annual emissions inventory reports.

Item 3 Assign a three-character identification number for this stack (e.g., S01). Use the existing identification number from the Air Emissions Inventory.

Item 4 List the identification(s) for the emissions unit(s) that will vent through this stack. Use the existing identification number(s) from the Air Emissions Inventory. Use this number on the appropriate forms 4530-104, -106, -107, -108 or -109 for the unit(s). Examples: Boiler No. 1 can be "B01," Process No. 3 can be "P03" (see instruction booklet for details).

Item 5 Identify this stack or release point on the required plot plan.

Item 6 An "actual exhaust point" is a real stack that may be described by the physical parameters listed in items 7 through 13 of this form. "Fugitive emissions" means emissions from any emissions point within a facility (the buildings plus the grounds) other than a flue or stack. If you check "this stack serves to identify fugitive emissions," you do not need to complete the rest of the form.

In some cases the current emissions inventory (EI) groups several actual stacks into one fictitious stack, or several fugitive emission points are grouped into a single fictitious stack for accounting purposes. In such a situation, please retain the existing stack grouping from the EI for the purpose of completing your permit application and explain this on an attachment (Form 4530-135 may be used for this purpose).

Where groupings don't already exist, you may wish to combine several actual stacks into one fictitious stack. This would allow you to assign all of the emissions from a particular process line having several stacks, such as a manufacturing line involving painting, to a single stack. IF YOU DECIDE TO GROUP STACKS IN A WAY OTHER THAN THE WAY THEY ARE GROUPED ON YOUR EMISSIONS INVENTORY, PLEASE ATTACH FORM 4530-135, SUPPLEMENTAL INFORMATION, TO EXPLAIN THE REVISED STACK GROUPING. IN THIS WAY THE DEPARTMENT WILL BE ABLE TO RECONCILE THE APPLICATION AND THE EMISSIONS INVENTORY FOR YOUR PLANT.

Item 7 Provide the height (in feet) at which the stack discharges above ground level.

Item 8 Check appropriate shape of the stack. For circular shapes provide the diameter (in feet), and for rectangular shapes provide the length (L) and width (W) (in feet).

Item 9 Provide the normal exhaust flow rate in units of actual cubic feet per minute (ACFM) and the maximum exhaust flow rate expected (in ACFM).

Item 10 Provide the normal exhaust gas temperature (in ^{o}F).

Item 11 Provide the normal and maximum moisture content.

Item 12 Check appropriate discharge direction. If the direction of discharge is at an angle, check the nearest direction.

Item 13 Check the appropriate box.

***** For each emissions unit that vents through this stack, complete and attach the appropriate form(s) 4530-104 through -109. After doing so, start your second stack form, if you have additional stacks, and its associated emissions unit(s), control equipment, and compliance demonstration form(s).

State of Wisconsin
Department of Natural Resources

STACK IDENTIFICATION
AIR POLLUTION CONTROL PERMIT APPLICATION
Form 4530-103 11-93 Information attached? __ (y/n)

SEE INSTRUCTIONS ON REVERSE SIDE

1. Facility name:	2. Facility identification number:	3. Stack identification number:
Veolia ES Technical Solutions, L.L.C.	246076050	S16

4. Exhausting Unit(s), use Unit identification number from appropriate Form(s) 4530-104, 106, 107, 108 and/or 109

4530-104 4530-106 4530-107 4530-108 4530-109 P13

5. Identify this stack on the plot plan required on Form 4530-101

6. Indicate by checking:
☑ This stack has an actual exhaust point. ☐ This stack serves to identify fugitive emissions.

If this stack has an actual exhaust point, then provide the following stack parameters

7. Discharge height above ground level: 12 (feet)

8. Inside dimensions at outlet (check one and complete): Diesel engine equipped with a dual exhaust system. Each exhaust stack has a six inch diameter exhaust outlet.

☑ Circular 0.5 (feet) x 2 ☐ rectangular ____ length (feet) ____ width (feet)

9. Exhaust flow rate:

Normal 5357 (ACFM) Maximum 5357 (ACFM)

10. Exhaust gas temperature (normal): 1300 (°F)

11. Exhaust gas moisture content: Normal unk volume percent Maximum ____ volume percent

12. Exhaust gas discharge direction: ☑ Up ☐ Down ☐ Horizontal

13. Is this stack equipped with a rainhat or any obstruction to the free flow of the exhaust gases from the stack? ☐ Yes ☑ No

***** Complete the appropriate Air Permit Application Forms(s) 4530-104, 106, 107, 108 or 109 for each Unit ***** exhausting through this stack.

STACK IDENTIFICATION -- Form 4530-103
AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

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One form must be completed for each stack (or release point such as roof vent, wall vent, etc.).

Item 1 Provide the facility name.

Item 2 Provide the facility identification (FID) number that appears on the annual emissions inventory reports.

Item 3 Assign a three-character identification number for this stack (e.g., S01). Use the existing identification number from the Air Emissions Inventory.

Item 4 List the identification(s) for the emissions unit(s) that will vent through this stack. Use the existing identification number(s) from the Air Emissions Inventory. Use this number on the appropriate forms 4530-104, -106, -107, -108 or -109 for the unit(s). Examples: Boiler No. 1 can be "B01," Process No. 3 can be "P03" (see instruction booklet for details).

Item 5 Identify this stack or release point on the required plot plan.

Item 6 An "actual exhaust point" is a real stack that may be described by the physical parameters listed in items 7 through 13 of this form. "Fugitive emissions" means emissions from any emissions point within a facility (the buildings plus the grounds) other than a flue or stack. If you check "this stack serves to identify fugitive emissions," you do not need to complete the rest of the form.

In some cases the current emissions inventory (EI) groups several actual stacks into one fictitious stack, or several fugitive emission points are grouped into a single fictitious stack for accounting purposes. In such a situation, please retain the existing stack grouping from the EI for the purpose of completing your permit application and explain this on an attachment (Form 4530-135 may be used for this purpose).

Where groupings don't already exist, you may wish to combine several actual stacks into one fictitious stack. This would allow you to assign all of the emissions from a particular process line having several stacks, such as a manufacturing line involving painting, to a single stack. IF YOU DECIDE TO GROUP STACKS IN A WAY OTHER THAN THE WAY THEY ARE GROUPED ON YOUR EMISSIONS INVENTORY, PLEASE ATTACH FORM 4530-135, SUPPLEMENTAL INFORMATION, TO EXPLAIN THE REVISED STACK GROUPING. IN THIS WAY THE DEPARTMENT WILL BE ABLE TO RECONCILE THE APPLICATION AND THE EMISSIONS INVENTORY FOR YOUR PLANT.

Item 7 Provide the height (in feet) at which the stack discharges above ground level.

Item 8 Check appropriate shape of the stack. For circular shapes provide the diameter (in feet), and for rectangular shapes provide the length (L) and width (W) (in feet).

Item 9 Provide the normal exhaust flow rate in units of actual cubic feet per minute (ACFM) and the maximum exhaust flow rate expected (in ACFM).

Item 10 Provide the normal exhaust gas temperature (in ^{o}F).

Item 11 Provide the normal and maximum moisture content.

Item 12 Check appropriate discharge direction. If the direction of discharge is at an angle, check the nearest direction.

Item 13 Check the appropriate box.

***** For each emissions unit that vents through this stack, complete and attach the appropriate form(s) 4530-104 through -109. After doing so, start your second stack form, if you have additional stacks, and its associated emissions unit(s), control equipment, and compliance demonstration form(s).

State of Wisconsin
Department of Natural Resources

STACK IDENTIFICATION
AIR POLLUTION CONTROL PERMIT APPLICATION

Form 4530-103 11-93 Information attached? __ (y/n)

SEE INSTRUCTIONS ON REVERSE SIDE

1. Facility name:	2. Facility identification number:	3. Stack identification number:
Veolia ES Technical Solutions, L.L.C.	246076050	S17

4. Exhausting Unit(s), use Unit identification number from appropriate Form(s) 4530-104, 106, 107, 108 and/or 109

4530-104 4530-106 4530-107 4530-108 4530-109 P14

5. Identify this stack on the plot plan required on Form 4530-101

6. Indicate by checking:
☑ This stack has an actual exhaust point. ☐ This stack serves to identify fugitive emissions.

If this stack has an actual exhaust point, then provide the following stack parameters

7. Discharge height above ground level: 20 (feet)

8. Inside dimensions at outlet (check one and complete):

☑ Circular 0.5 (feet) ☐ rectangular ____ length (feet) ____ width (feet)

9. Exhaust flow rate:

Normal 2500 (ACFM) Maximum __ (ACFM)

10. Exhaust gas temperature (normal): 500 (°F) average

11. Exhaust gas moisture content: Normal unk volume percent Maximum ____ volume percent

12. Exhaust gas discharge direction: ☑ Up ☐ Down ☐ Horizontal

13. Is this stack equipped with a rainhat or any obstruction to the free flow of the exhaust gases from the stack? ☐ Yes ☑ No

***** Complete the appropriate Air Permit Application Forms(s) 4530-104, 106, 107, 108 or 109 for each Unit ***** exhausting through this stack.

STACK IDENTIFICATION -- Form 4530-103
AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

NOTE: Use of this form is required by the Department for any air pollution control permit application filed pursuant to ss. 285.61, 285.62 or 285.66, Wis. Stats. Completion of this form is mandatory. The Department will not consider or act upon your application unless you complete and submit this application form. It is not the Department's intention to use any personally identifiable information from this form for any other purpose.

One form must be completed for each stack (or release point such as roof vent, wall vent, etc.).

Item 1 Provide the facility name.

Item 2 Provide the facility identification (FID) number that appears on the annual emissions inventory reports.

Item 3 Assign a three-character identification number for this stack (e.g., S01). Use the existing identification number from the Air Emissions Inventory.

Item 4 List the identification(s) for the emissions unit(s) that will vent through this stack. Use the existing identification number(s) from the Air Emissions Inventory. Use this number on the appropriate forms 4530-104, -106, -107, -108 or -109 for the unit(s). Examples: Boiler No. 1 can be "B01," Process No. 3 can be "P03" (see instruction booklet for details).

Item 5 Identify this stack or release point on the required plot plan.

Item 6 An "actual exhaust point" is a real stack that may be described by the physical parameters listed in items 7 through 13 of this form. "Fugitive emissions" means emissions from any emissions point within a facility (the buildings plus the grounds) other than a flue or stack. If you check "this stack serves to identify fugitive emissions," you do not need to complete the rest of the form.

In some cases the current emissions inventory (EI) groups several actual stacks into one fictitious stack, or several fugitive emission points are grouped into a single fictitious stack for accounting purposes. In such a situation, please retain the existing stack grouping from the EI for the purpose of completing your permit application and explain this on an attachment (Form 4530-135 may be used for this purpose).

Where groupings don't already exist, you may wish to combine several actual stacks into one fictitious stack. This would allow you to assign all of the emissions from a particular process line having several stacks, such as a manufacturing line involving painting, to a single stack. IF YOU DECIDE TO GROUP STACKS IN A WAY OTHER THAN THE WAY THEY ARE GROUPED ON YOUR EMISSIONS INVENTORY, PLEASE ATTACH FORM 4530-135, SUPPLEMENTAL INFORMATION, TO EXPLAIN THE REVISED STACK GROUPING. IN THIS WAY THE DEPARTMENT WILL BE ABLE TO RECONCILE THE APPLICATION AND THE EMISSIONS INVENTORY FOR YOUR PLANT.

Item 7 Provide the height (in feet) at which the stack discharges above ground level.

Item 8 Check appropriate shape of the stack. For circular shapes provide the diameter (in feet), and for rectangular shapes provide the length (L) and width (W) (in feet).

Item 9 Provide the normal exhaust flow rate in units of actual cubic feet per minute (ACFM) and the maximum exhaust flow rate expected (in ACFM).

Item 10 Provide the normal exhaust gas temperature (in ^{o}F).

Item 11 Provide the normal and maximum moisture content.

Item 12 Check appropriate discharge direction. If the direction of discharge is at an angle, check the nearest direction.

Item 13 Check the appropriate box.

***** For each emissions unit that vents through this stack, complete and attach the appropriate form(s) 4530-104 through -109. After doing so, start your second stack form, if you have additional stacks, and its associated emissions unit(s), control equipment, and compliance demonstration form(s).

State of Wisconsin
Department of Natural Resources

MISCELLANEOUS PROCESSES
AIR POLLUTION CONTROL PERMIT APPLICATION
Form 4530-109 11-93

Information attached? __ (y/n)

SEE INSTRUCTIONS ON REVERSE SIDE

1. Facility name: Veolia ES Technical Solutions	2. Facility identification number: 246076050
3. Stack identification number: S01	4. Process number: P01

4a. Unit description: Model 2000 Lamp Recycler

5. Indicate the control technology status. ☐ Uncontrolled ☑ Controlled

If the process is controlled, enter the control device number(s) from the appropriate form(s):

4530-110 ____ 4530-111 ____ 4530-112 C02 4530-113 ____
4530-114 ____ 4530-115 ____ 4530-116 ____ 4530-117 C01

6. Source Classification Code (SCC):

7. Date of construction or last modification: 1/7/1993

8. Normal operating schedule: 16 hrs./day 5 days/wk. 260 days/yr.

9. Describe this process (please attach a flow diagram of the process). Fluorescent lamp recycling machine - dry separation of fluorescent lamp components (aluminum end caps, glass, plastic lamp bases, phosphor powder).	Attached?

10. List the types and amounts of raw materials used in this process:

Material	Storage/material handling process	Average usage	Units	Maximum usage	Units
Fluorescent Lamps	Fiber boxes, drum and wooden crated	375	lb/hr	1250	lb/hr
Other (specify)					

11. List the types and amounts of finished products:

Material	Storage/material handling process	Average amount produced	Units	Maximum amount produced	Units
Glass	30 yd roll-off container located in processing room	288	Lb/hr	1125	Lb/hr
Aluminum	1 yd hoppers located in processing room and transferred to 20 yd roll-off container for shipment	16	Lb/hr	63	Lb/hr
Plastic lamp bases	1 yd fiber boxes	55	Lb/hr	725	Lb/hr
Phosphor Powder	55 gallon steel drums	16	Lb/hr	62	Lb/hr

12. Process fuel usage:

Type of fuel	Maximum heat input to process million BTU/hr.	Average usage	Units	Maximum usage	Units

13. Describe any fugitive emissions associated with this process, such as outdoor storage piles, unpaved roads, open conveyors, etc.:	Attached?

***** For this emissions unit, identify the method(s) of compliance demonstration by completing Form 4530-118, ***** DESCRIPTION OF METHODS USED FOR DETERMINING COMPLIANCE. Attach Form 4530-118 and its attachment(s) to this form. This is not a requirement of non-Part 70 sources.

***** Please complete the Air Pollution Control Permit Application Forms 4530-126 and 4530-128 for this Unit. *****

MISCELLANEOUS PROCESSES -- Form 4530-109
AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

NOTE: Use of this form is required by the Department for any air pollution control permit application filed pursuant to ss. 285.61, 285.62 or 285.66, Wis. Stats. Completion of this form is mandatory. The Department will not consider or act upon your application unless you complete and submit this application form. It is not the Department's intention to use any personally identifiable information from this form for any other purpose.

Complete one form for each significant miscellaneous process.

Item 1 Provide the name of the facility.

Item 2 Provide the facility identification (FID) number that appears on the annual emission inventory reports.

Item 3 Provide the identification number for the stack exhausting this process. Use the same number used on form 4530-103.

Item 4 Assign an identification number to this process (e.g., P21). Use the existing identification number from the Air Emissions Inventory. Use this number on other forms related to this operation.

Item 4a Provide a brief description of this unit. List the manufacturer and model number.

Item 5 If this process is controlled, assign a control device number (e.g., C30) to the air pollution control device associated with it. Use this number on the appropriate form(s) 4530-110 through -117.

Item 6 The Source Classification Code is an eight-digit number used by the EPA to estimate emissions from specific types of industrial processes. This number is listed on the Air Emission Inventory for each individual process and fuel. If you do not know the number, the Department will fill this in.

Item 7 Record the date of installation or last modification of the emissions unit. Provide the month and date if possible. Write in "00" if unknown (e.g., 00/00/56). Indicate if this is a new source.

Item 8 Provide the normal operating schedule.

Item 9 Briefly describe the process, including types of operations involved, end product of the process and use of the product. Attach a flow diagram of the process, identifying major pieces of equipment; pickup points for dusts, fumes and vapors; control and collection devices; exhaust stack and vents; where raw materials enter the process; and where finished products exit. Indicate if the process is batch or continuous. Use form 4530-135 for additional information, and mark the box "attached."

Item 10 List all of the materials put into the process and the average and maximum amounts used (in pounds per hour or tons per hour). This is the process weight rate. List any solvents, additives, cleaners, etc. (in gallons per hour or per year) used with this process. If the process produces more than one product, include a list of the raw materials used to produce each product. Describe any storage and materials handling processes. If the process has no "raw materials" per se, write "NA" or " - " in each field across the first line of item 10.

Item 11 List the types of finished products and the average and maximum amounts produced. Describe any storage and material handling processes. If the process has no "finished products" per se, write "NA" or " - " in each field across the first line of item 11.

Item 12 List all of the fuels that the process uses or is capable of using. Provide the average and maximum amount of fuel used per hour of operation of the process. Provide the maximum heat input capacity for the fuel burner for the process. Provide an analysis of the fuel used, including at a minimum heat content, sulfur content and density. Coal, residual (#5 and #6) oils, sludge, waste oils, refuse derived fuels, etc., will require the submittal of an analysis of hazardous contaminants. Please attach these analyses to this form.

If the process uses no process fuels, write "none" under "type of fuel" and "NA" or " - " in the remaining fields of the first line of item 12.

Item 13 Briefly describe the fugitive sources. Include size of storage piles, material stored, length of roads, and any control measures used. Attach detailed information as appropriate. If you've used this form to describe a source of fugitive emissions, write "see above."

State of Wisconsin
Department of Natural Resources

MISCELLANEOUS PROCESSES
AIR POLLUTION CONTROL PERMIT APPLICATION
Form 4530-109 11-93 Information attached? __ (y/n)

SEE INSTRUCTIONS ON REVERSE SIDE

1. Facility name: Veolia ES Technical Solutions	2. Facility identification number: 246076050
3. Stack identification number: S08	4. Process number: P08

4a. Unit description: Model LSS1 Lamp Recycler

5. Indicate the control technology status. ☐ Uncontrolled ☑ Controlled

If the process is controlled, enter the control device number(s) from the appropriate form(s):

4530-110 ____ 4530-111 ____ 4530-112 C05 4530-113 ____
4530-114 ____ 4530-115 ____ 4530-116 ____ 4530-117 C04

6. Source Classification Code (SCC):

7. Date of construction or last modification: 6/1/2004

8. Normal operating schedule: 18 hrs./day 5 days/wk. 260 days/yr.

9. Describe this process (please attach a flow diagram of the process). Fluorescent lamp recycling machine - dry separation of fluorescent lamp components (aluminum end caps, glass, phosphor powder).	Attached?

10. List the types and amounts of raw materials used in this process:

Material	Storage/material handling process	Average usage	Units	Maximum usage	Units
Fluorescent Lamps	Fiber boxes, drum and wooden crated	675	lb/hr	2200	lb/hr
Clean-up solvents					
Other (specify)					

11. List the types and amounts of finished products:

Material	Storage/material handling process	Average amount produced	Units	Maximum amount produced	Units
Glass	30 yd roll-off container located in processing room	605	Lb/hr	1980	Lb/hr
Aluminum	1 yd hoppers located in processing room and transferred to 20 yd roll-off container for shipment	30	Lb/hr	100	Lb/hr
Plastic lamp bases	1 yd fiber boxes	10	Lb/hr	20	Lb/hr
Phosphor Powder	55 gallon steel drums	30	Lb/hr	100	Lb/hr

12. Process fuel usage:

Type of fuel	Maximum heat input to process million BTU/hr.	Average usage	Units	Maximum usage	Units

13. Describe any fugitive emissions associated with this process, such as outdoor storage piles, unpaved roads, open conveyors, etc.:	Attached?

***** For this emissions unit, identify the method(s) of compliance demonstration by completing Form 4530-118, ***** DESCRIPTION OF METHODS USED FOR DETERMINING COMPLIANCE. Attach Form 4530-118 and its attachment(s) to this form. This is not a requirement of non-Part 70 sources.

***** Please complete the Air Pollution Control Permit Application Forms 4530-126 and 4530-128 for this Unit. *****

MISCELLANEOUS PROCESSES -- Form 4530-109
AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

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Complete one form for each significant miscellaneous process.

Item 1 Provide the name of the facility.

Item 2 Provide the facility identification (FID) number that appears on the annual emission inventory reports.

Item 3 Provide the identification number for the stack exhausting this process. Use the same number used on form 4530-103.

Item 4 Assign an identification number to this process (e.g., P21). Use the existing identification number from the Air Emissions Inventory. Use this number on other forms related to this operation.

Item 4a Provide a brief description of this unit. List the manufacturer and model number.

Item 5 If this process is controlled, assign a control device number (e.g., C30) to the air pollution control device associated with it. Use this number on the appropriate form(s) 4530-110 through -117.

Item 6 The Source Classification Code is an eight-digit number used by the EPA to estimate emissions from specific types of industrial processes. This number is listed on the Air Emission Inventory for each individual process and fuel. If you do not know the number, the Department will fill this in.

Item 7 Record the date of installation or last modification of the emissions unit. Provide the month and date if possible. Write in "00" if unknown (e.g., 00/00/56). Indicate if this is a new source.

Item 8 Provide the normal operating schedule.

Item 9 Briefly describe the process, including types of operations involved, end product of the process and use of the product. Attach a flow diagram of the process, identifying major pieces of equipment; pickup points for dusts, fumes and vapors; control and collection devices; exhaust stack and vents; where raw materials enter the process; and where finished products exit. Indicate if the process is batch or continuous. Use form 4530-135 for additional information, and mark the box "attached."

Item 10 List all of the materials put into the process and the average and maximum amounts used (in pounds per hour or tons per hour). This is the process weight rate. List any solvents, additives, cleaners, etc. (in gallons per hour or per year) used with this process. If the process produces more than one product, include a list of the raw materials used to produce each product. Describe any storage and materials handling processes. If the process has no "raw materials" per se, write "NA" or " - " in each field across the first line of item 10.

Item 11 List the types of finished products and the average and maximum amounts produced. Describe any storage and material handling processes. If the process has no "finished products" per se, write "NA" or " - " in each field across the first line of item 11.

Item 12 List all of the fuels that the process uses or is capable of using. Provide the average and maximum amount of fuel used per hour of operation of the process. Provide the maximum heat input capacity for the fuel burner for the process. Provide an analysis of the fuel used, including at a minimum heat content, sulfur content and density. Coal, residual (#5 and #6) oils, sludge, waste oils, refuse derived fuels, etc., will require the submittal of an analysis of hazardous contaminants. Please attach these analyses to this form.

If the process uses no process fuels, write "none" under "type of fuel" and "NA" or " - " in the remaining fields of the first line of item 12.

Item 13 Briefly describe the fugitive sources. Include size of storage piles, material stored, length of roads, and any control measures used. Attach detailed information as appropriate. If you've used this form to describe a source of fugitive emissions, write "see above."

State of Wisconsin
Department of Natural Resources

MISCELLANEOUS PROCESSES
AIR POLLUTION CONTROL PERMIT APPLICATION
Form 4530-109 11-93 Information attached? __ (y/n)

SEE INSTRUCTIONS ON REVERSE SIDE

1. Facility name: Veolia ES Technical Solutions	2. Facility identification number: 246076050
3. Stack identification number: S11 to C10/S14	4. Process number: P10

4a. Unit description: RipSys Retort

5. Indicate the control technology status. ☐ Uncontrolled ☑ Controlled

If the process is controlled, enter the control device number(s) from the appropriate form(s):

4530-110 ____ 4530-111 ____ 4530-112 C09 4530-113 ____
4530-114 ____ 4530-115 ____ 4530-116 ____ 4530-117

6. Source Classification Code (SCC):

7. Date of construction or last modification: 5/30/2002

8. Normal operating schedule: 24 hrs./day 7 days/wk. 350 days/yr.

9. Describe this process (please attach a flow diagram of the process). Retort operation recovering elemental mercury from mercury containing wastes. Process capable of processing 4x55 gallon drums per batch. Batch processing times range from 24 hours to 72 hours.	Attached?

10. List the types and amounts of raw materials used in this process:

Material	Storage/material handling process	Average usage	Units	Maximum usage	Units
Mercury bearing wastes	55 gallon drums	85	lb/hr	125	lb/hr
Clean-up solvents					
Other (specify)					

11. List the types and amounts of finished products:

Material	Storage/material handling process	Average amount produced	Units	Maximum amount produced	Units
Processed residuals	55 gallon drums	85	Lb/hr	125	Lb/hr
Elemental Mercury	Metric ton steel flasks	0.05	Lb/hr	1	Lb/hr

12. Process fuel usage:

Type of fuel	Maximum heat input to process million BTU/hr.	Average usage	Units	Maximum usage	Units

13. Describe any fugitive emissions associated with this process, such as outdoor storage piles, unpaved roads, open conveyors, etc.:	Attached?

***** For this emissions unit, identify the method(s) of compliance demonstration by completing Form 4530-118, ***** DESCRIPTION OF METHODS USED FOR DETERMINING COMPLIANCE. Attach Form 4530-118 and its attachment(s) to this form. This is not a requirement of non-Part 70 sources.

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MISCELLANEOUS PROCESSES -- Form 4530-109
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Complete one form for each significant miscellaneous process.

Item 1 Provide the name of the facility.

Item 2 Provide the facility identification (FID) number that appears on the annual emission inventory reports.

Item 3 Provide the identification number for the stack exhausting this process. Use the same number used on form 4530-103.

Item 4 Assign an identification number to this process (e.g., P21). Use the existing identification number from the Air Emissions Inventory. Use this number on other forms related to this operation.

Item 4a Provide a brief description of this unit. List the manufacturer and model number.

Item 5 If this process is controlled, assign a control device number (e.g., C30) to the air pollution control device associated with it. Use this number on the appropriate form(s) 4530-110 through -117.

Item 6 The Source Classification Code is an eight-digit number used by the EPA to estimate emissions from specific types of industrial processes. This number is listed on the Air Emission Inventory for each individual process and fuel. If you do not know the number, the Department will fill this in.

Item 7 Record the date of installation or last modification of the emissions unit. Provide the month and date if possible. Write in "00" if unknown (e.g., 00/00/56). Indicate if this is a new source.

Item 8 Provide the normal operating schedule.

Item 9 Briefly describe the process, including types of operations involved, end product of the process and use of the product. Attach a flow diagram of the process, identifying major pieces of equipment; pickup points for dusts, fumes and vapors; control and collection devices; exhaust stack and vents; where raw materials enter the process; and where finished products exit. Indicate if the process is batch or continuous. Use form 4530-135 for additional information, and mark the box "attached."

Item 10 List all of the materials put into the process and the average and maximum amounts used (in pounds per hour or tons per hour). This is the process weight rate. List any solvents, additives, cleaners, etc. (in gallons per hour or per year) used with this process. If the process produces more than one product, include a list of the raw materials used to produce each product. Describe any storage and materials handling processes. If the process has no "raw materials" per se, write "NA" or " - " in each field across the first line of item 10.

Item 11 List the types of finished products and the average and maximum amounts produced. Describe any storage and material handling processes. If the process has no "finished products" per se, write "NA" or " - " in each field across the first line of item 11.

Item 12 List all of the fuels that the process uses or is capable of using. Provide the average and maximum amount of fuel used per hour of operation of the process. Provide the maximum heat input capacity for the fuel burner for the process. Provide an analysis of the fuel used, including at a minimum heat content, sulfur content and density. Coal, residual (#5 and #6) oils, sludge, waste oils, refuse derived fuels, etc., will require the submittal of an analysis of hazardous contaminants. Please attach these analyses to this form.

If the process uses no process fuels, write "none" under "type of fuel" and "NA" or " - " in the remaining fields of the first line of item 12.

Item 13 Briefly describe the fugitive sources. Include size of storage piles, material stored, length of roads, and any control measures used. Attach detailed information as appropriate. If you've used this form to describe a source of fugitive emissions, write "see above."

State of Wisconsin
Department of Natural Resources

MISCELLANEOUS PROCESSES
AIR POLLUTION CONTROL PERMIT APPLICATION
Form 4530-109 11-93

Information attached? __ (y/n)

SEE INSTRUCTIONS ON REVERSE SIDE

1. Facility name: Veolia ES Technical Solutions	2. Facility identification number: 246076050
3. Stack identification number: S11 to C10/S14	4. Process number: P11

4a. Unit description: Magna Drum Retort

5. Indicate the control technology status. ☐ Uncontrolled ☑ Controlled

If the process is controlled, enter the control device number(s) from the appropriate form(s):

4530-110 ____ 4530-111 ____ 4530-112 C09 4530-113 ____
4530-114 ____ 4530-115 ____ 4530-116 ____ 4530-117

6. Source Classification Code (SCC):

7. Date of construction or last modification: 5/30/2002

8. Normal operating schedule: 24 hrs./day 7 days/wk. 350 days/yr.

9. Describe this process (please attach a flow diagram of the process). Retort operation recovering elemental mercury from mercury containing wastes. Process capable of processing one (1) Magna Kettle or 6x55 gallon drums per batch. Batch processing times range from 24 hours to 72 hours.	Attached?

10. List the types and amounts of raw materials used in this process:

Material	Storage/material handling process	Average usage	Units	Maximum usage	Units
Mercury bearing wastes	55 gallon drums	150	lb/hr	200	lb/hr
Clean-up solvents					
Other (specify)					

11. List the types and amounts of finished products:

Material	Storage/material handling process	Average amount produced	Units	Maximum amount produced	Units
Processed residuals	55 gallon drums	150	Lb/hr	200	Lb/hr
Elemental Mercury	Metric ton steel flasks	0.2	Lb/hr	2	Lb/hr

12. Process fuel usage:

Type of fuel	Maximum heat input to process million BTU/hr.	Average usage	Units	Maximum usage	Units

13. Describe any fugitive emissions associated with this process, such as outdoor storage piles, unpaved roads, open conveyors, etc.:	Attached?

***** For this emissions unit, identify the method(s) of compliance demonstration by completing Form 4530-118, ***** DESCRIPTION OF METHODS USED FOR DETERMINING COMPLIANCE. Attach Form 4530-118 and its attachment(s) to this form. This is not a requirement of non-Part 70 sources.

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Complete one form for each significant miscellaneous process.

Item 1 Provide the name of the facility.

Item 2 Provide the facility identification (FID) number that appears on the annual emission inventory reports.

Item 3 Provide the identification number for the stack exhausting this process. Use the same number used on form 4530-103.

Item 4 Assign an identification number to this process (e.g., P21). Use the existing identification number from the Air Emissions Inventory. Use this number on other forms related to this operation.

Item 4a Provide a brief description of this unit. List the manufacturer and model number.

Item 5 If this process is controlled, assign a control device number (e.g., C30) to the air pollution control device associated with it. Use this number on the appropriate form(s) 4530-110 through -117.

Item 6 The Source Classification Code is an eight-digit number used by the EPA to estimate emissions from specific types of industrial processes. This number is listed on the Air Emission Inventory for each individual process and fuel. If you do not know the number, the Department will fill this in.

Item 7 Record the date of installation or last modification of the emissions unit. Provide the month and date if possible. Write in "00" if unknown (e.g., 00/00/56). Indicate if this is a new source.

Item 8 Provide the normal operating schedule.

Item 9 Briefly describe the process, including types of operations involved, end product of the process and use of the product. Attach a flow diagram of the process, identifying major pieces of equipment; pickup points for dusts, fumes and vapors; control and collection devices; exhaust stack and vents; where raw materials enter the process; and where finished products exit. Indicate if the process is batch or continuous. Use form 4530-135 for additional information, and mark the box "attached."

Item 10 List all of the materials put into the process and the average and maximum amounts used (in pounds per hour or tons per hour). This is the process weight rate. List any solvents, additives, cleaners, etc. (in gallons per hour or per year) used with this process. If the process produces more than one product, include a list of the raw materials used to produce each product. Describe any storage and materials handling processes. If the process has no "raw materials" per se, write "NA" or " - " in each field across the first line of item 10.

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Item 12 List all of the fuels that the process uses or is capable of using. Provide the average and maximum amount of fuel used per hour of operation of the process. Provide the maximum heat input capacity for the fuel burner for the process. Provide an analysis of the fuel used, including at a minimum heat content, sulfur content and density. Coal, residual (#5 and #6) oils, sludge, waste oils, refuse derived fuels, etc., will require the submittal of an analysis of hazardous contaminants. Please attach these analyses to this form.

If the process uses no process fuels, write "none" under "type of fuel" and "NA" or " - " in the remaining fields of the first line of item 12.

Item 13 Briefly describe the fugitive sources. Include size of storage piles, material stored, length of roads, and any control measures used. Attach detailed information as appropriate. If you've used this form to describe a source of fugitive emissions, write "see above."

State of Wisconsin
Department of Natural Resources

MISCELLANEOUS PROCESSES
AIR POLLUTION CONTROL PERMIT APPLICATION
Form 4530-109 11-93 Information attached? __ (y/n)

SEE INSTRUCTIONS ON REVERSE SIDE

1. Facility name: Veolia ES Technical Solutions	2. Facility identification number: 246076050
3. Stack identification number: S12 to C10/S14	4. Process number: P12

4a. Unit description: ASE MR25 Retort

5. Indicate the control technology status. ☐ Uncontrolled ☑ Controlled

If the process is controlled, enter the control device number(s) from the appropriate form(s):

4530-110 ____ 4530-111 ____ 4530-112 C11 4530-113 ____
4530-114 ____ 4530-115 ____ 4530-116 ____ 4530-117

6. Source Classification Code (SCC):

7. Date of construction or last modification: 8/1/2003

8. Normal operating schedule: 24 hrs./day 5 days/wk. 260 days/yr.

9. Describe this process (please attach a flow diagram of the process). Retort operation recovering elemental mercury from mercury containing wastes. Process capable of processing the equivalent 3x55 gallon drums per batch in each of 2 ovens. Batch processing times range from 24 hours to 72 hours.	Attached?

10. List the types and amounts of raw materials used in this process:

Material	Storage/material handling process	Average usage	Units	Maximum usage	Units
Mercury bearing wastes	55 gallon drums and metal trays	75	lb/hr	175	lb/hr
Clean-up solvents					
Other (specify)					

11. List the types and amounts of finished products:

Material	Storage/material handling process	Average amount produced	Units	Maximum amount produced	Units
Processed residuals	55 gallon drums	75	Lb/hr	175	Lb/hr
Elemental Mercury	Metric ton steel flasks	0.05	Lb/hr	2	Lb/hr

12. Process fuel usage:

Type of fuel	Maximum heat input to process million BTU/hr.	Average usage	Units	Maximum usage	Units

13. Describe any fugitive emissions associated with this process, such as outdoor storage piles, unpaved roads, open conveyors, etc.:	Attached?

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Item 1 Provide the name of the facility.

Item 2 Provide the facility identification (FID) number that appears on the annual emission inventory reports.

Item 3 Provide the identification number for the stack exhausting this process. Use the same number used on form 4530-103.

Item 4 Assign an identification number to this process (e.g., P21). Use the existing identification number from the Air Emissions Inventory. Use this number on other forms related to this operation.

Item 4a Provide a brief description of this unit. List the manufacturer and model number.

Item 5 If this process is controlled, assign a control device number (e.g., C30) to the air pollution control device associated with it. Use this number on the appropriate form(s) 4530-110 through -117.

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Item 7 Record the date of installation or last modification of the emissions unit. Provide the month and date if possible. Write in "00" if unknown (e.g., 00/00/56). Indicate if this is a new source.

Item 8 Provide the normal operating schedule.

Item 9 Briefly describe the process, including types of operations involved, end product of the process and use of the product. Attach a flow diagram of the process, identifying major pieces of equipment; pickup points for dusts, fumes and vapors; control and collection devices; exhaust stack and vents; where raw materials enter the process; and where finished products exit. Indicate if the process is batch or continuous. Use form 4530-135 for additional information, and mark the box "attached."

Item 10 List all of the materials put into the process and the average and maximum amounts used (in pounds per hour or tons per hour). This is the process weight rate. List any solvents, additives, cleaners, etc. (in gallons per hour or per year) used with this process. If the process produces more than one product, include a list of the raw materials used to produce each product. Describe any storage and materials handling processes. If the process has no "raw materials" per se, write "NA" or " - " in each field across the first line of item 10.

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Item 12 List all of the fuels that the process uses or is capable of using. Provide the average and maximum amount of fuel used per hour of operation of the process. Provide the maximum heat input capacity for the fuel burner for the process. Provide an analysis of the fuel used, including at a minimum heat content, sulfur content and density. Coal, residual (#5 and #6) oils, sludge, waste oils, refuse derived fuels, etc., will require the submittal of an analysis of hazardous contaminants. Please attach these analyses to this form.

If the process uses no process fuels, write "none" under "type of fuel" and "NA" or " - " in the remaining fields of the first line of item 12.

Item 13 Briefly describe the fugitive sources. Include size of storage piles, material stored, length of roads, and any control measures used. Attach detailed information as appropriate. If you've used this form to describe a source of fugitive emissions, write "see above."

State of Wisconsin
Department of Natural Resources

MISCELLANEOUS PROCESSES
AIR POLLUTION CONTROL PERMIT APPLICATION
Form 4530-109 11-93

Information attached? __ (y/n)

SEE INSTRUCTIONS ON REVERSE SIDE

1. Facility name: Veolia ES Technical Solutions	2. Facility identification number: 246076050
3. Stack identification number: S16	4. Process number: P13

4a. Unit description: Emergency Generator

5. Indicate the control technology status. ☒ Uncontrolled ☐ Controlled

If the process is controlled, enter the control device number(s) from the appropriate form(s):

4530-110 ____ 4530-111 ____ 4530-112 ____ 4530-113 ____
4530-114 ____ 4530-115 ____ 4530-116 ____ 4530-117

6. Source Classification Code (SCC): 20300101

7. Date of construction or last modification: 9/1/2010

8. Normal operating schedule: 0.5 hrs./day 1 days/wk. 12 days/yr.

9. Describe this process (please attach a flow diagram of the process).	Attached?
500 Kilowatt emergency generator for use in event of a power outage. Fuel type – Diesel.	

10. List the types and amounts of raw materials used in this process:

Material	Storage/material handling process	Average usage	Units	Maximum usage	Units
None					
Clean-up solvents					
Other (specify)					

11. List the types and amounts of finished products:

Material	Storage/material handling process	Average amount produced	Units	Maximum amount produced	Units
None					

12. Process fuel usage:

Type of fuel	Maximum heat input to process million BTU/hr.	Average usage	Units	Maximum usage	Units
Diesel		16	Gal/hr	33	Gal/hr

13. Describe any fugitive emissions associated with this process, such as outdoor storage piles, unpaved roads, open conveyors, etc.:None	Attached?

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Item 1 Provide the name of the facility.

Item 2 Provide the facility identification (FID) number that appears on the annual emission inventory reports.

Item 3 Provide the identification number for the stack exhausting this process. Use the same number used on form 4530-103.

Item 4 Assign an identification number to this process (e.g., P21). Use the existing identification number from the Air Emissions Inventory. Use this number on other forms related to this operation.

Item 4a Provide a brief description of this unit. List the manufacturer and model number.

Item 5 If this process is controlled, assign a control device number (e.g., C30) to the air pollution control device associated with it. Use this number on the appropriate form(s) 4530-110 through -117.

Item 6 The Source Classification Code is an eight-digit number used by the EPA to estimate emissions from specific types of industrial processes. This number is listed on the Air Emission Inventory for each individual process and fuel. If you do not know the number, the Department will fill this in.

Item 7 Record the date of installation or last modification of the emissions unit. Provide the month and date if possible. Write in "00" if unknown (e.g., 00/00/56). Indicate if this is a new source.

Item 8 Provide the normal operating schedule.

Item 9 Briefly describe the process, including types of operations involved, end product of the process and use of the product. Attach a flow diagram of the process, identifying major pieces of equipment; pickup points for dusts, fumes and vapors; control and collection devices; exhaust stack and vents; where raw materials enter the process; and where finished products exit. Indicate if the process is batch or continuous. Use form 4530-135 for additional information, and mark the box "attached."

Item 10 List all of the materials put into the process and the average and maximum amounts used (in pounds per hour or tons per hour). This is the process weight rate. List any solvents, additives, cleaners, etc. (in gallons per hour or per year) used with this process. If the process produces more than one product, include a list of the raw materials used to produce each product. Describe any storage and materials handling processes. If the process has no "raw materials" per se, write "NA" or " - " in each field across the first line of item 10.

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Item 12 List all of the fuels that the process uses or is capable of using. Provide the average and maximum amount of fuel used per hour of operation of the process. Provide the maximum heat input capacity for the fuel burner for the process. Provide an analysis of the fuel used, including at a minimum heat content, sulfur content and density. Coal, residual (#5 and #6) oils, sludge, waste oils, refuse derived fuels, etc., will require the submittal of an analysis of hazardous contaminants. Please attach these analyses to this form.

If the process uses no process fuels, write "none" under "type of fuel" and "NA" or " - " in the remaining fields of the first line of item 12.

Item 13 Briefly describe the fugitive sources. Include size of storage piles, material stored, length of roads, and any control measures used. Attach detailed information as appropriate. If you've used this form to describe a source of fugitive emissions, write "see above."

State of Wisconsin
Department of Natural Resources

MISCELLANEOUS PROCESSES
AIR POLLUTION CONTROL PERMIT APPLICATION
Form 4530-109 11-93

Information attached? __ (y/n)

SEE INSTRUCTIONS ON REVERSE SIDE

1. Facility name: Veolia ES Technical Solutions	2. Facility identification number: 246076050
3. Stack identification number: S15 to C10/S14	4. Process number: P14

4a. Unit description: Wisconsin Oven Retort System

5. Indicate the control technology status. ☐ Uncontrolled ☑ Controlled

If the process is controlled, enter the control device number(s) from the appropriate form(s):

4530-110 ____ 4530-111 ____ 4530-112 C11 4530-113 ____
4530-114 ____ 4530-115 ____ 4530-116 ____ 4530-117

6. Source Classification Code (SCC): 30500203

7. Date of construction or last modification: anticipated date of installation 3/1/2014

8. Normal operating schedule: 24 hrs./day 7 days/wk. 350 days/yr.

9. Describe this process (please attach a flow diagram of the process). Retort operation recovering elemental mercury from mercury containing wastes. Process capable of processing four (4) Retort vessels or 9x55 gallon drums per batch. Batch processing times range from 24 hours to 72 hours.	Attached?

10. List the types and amounts of raw materials used in this process:

Material	Storage/material handling process	Average usage	Units	Maximum usage	Units
Mercury bearing wastes	55 gallon drums	170	lb/hr	330	lb/hr
Clean-up solvents					
Other (specify)					

11. List the types and amounts of finished products:

Material	Storage/material handling process	Average amount produced	Units	Maximum amount produced	Units
Processed residuals	55 gallon drums	170	Lb/hr	330	Lb/hr
Elemental Mercury	Metric ton steel flasks	0.2	Lb/hr	20	Lb/hr

12. Process fuel usage:

Type of fuel	Maximum heat input to process million BTU/hr.	Average usage	Units	Maximum usage	Units
Natural Gas	1.5 million BTU/hr	0.00055	10^6 scf/hr	0.0011	10^6 scf/hr

13. Describe any fugitive emissions associated with this process, such as outdoor storage piles, unpaved roads, open conveyors, etc.: None	Attached?

***** For this emissions unit, identify the method(s) of compliance demonstration by completing Form 4530-118, ***** DESCRIPTION OF METHODS USED FOR DETERMINING COMPLIANCE. Attach Form 4530-118 and its attachment(s) to this form. This is not a requirement of non-Part 70 sources.

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MISCELLANEOUS PROCESSES -- Form 4530-109
AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

NOTE: Use of this form is required by the Department for any air pollution control permit application filed pursuant to ss. 285.61, 285.62 or 285.66, Wis. Stats. Completion of this form is mandatory. The Department will not consider or act upon your application unless you complete and submit this application form. It is not the Department's intention to use any personally identifiable information from this form for any other purpose.

Complete one form for each significant miscellaneous process.

Item 1 Provide the name of the facility.

Item 2 Provide the facility identification (FID) number that appears on the annual emission inventory reports.

Item 3 Provide the identification number for the stack exhausting this process. Use the same number used on form 4530-103.

Item 4 Assign an identification number to this process (e.g., P21). Use the existing identification number from the Air Emissions Inventory. Use this number on other forms related to this operation.

Item 4a Provide a brief description of this unit. List the manufacturer and model number.

Item 5 If this process is controlled, assign a control device number (e.g., C30) to the air pollution control device associated with it. Use this number on the appropriate form(s) 4530-110 through -117.

Item 6 The Source Classification Code is an eight-digit number used by the EPA to estimate emissions from specific types of industrial processes. This number is listed on the Air Emission Inventory for each individual process and fuel. If you do not know the number, the Department will fill this in.

Item 7 Record the date of installation or last modification of the emissions unit. Provide the month and date if possible. Write in "00" if unknown (e.g., 00/00/56). Indicate if this is a new source.

Item 8 Provide the normal operating schedule.

Item 9 Briefly describe the process, including types of operations involved, end product of the process and use of the product. Attach a flow diagram of the process, identifying major pieces of equipment; pickup points for dusts, fumes and vapors; control and collection devices; exhaust stack and vents; where raw materials enter the process; and where finished products exit. Indicate if the process is batch or continuous. Use form 4530-135 for additional information, and mark the box "attached."

Item 10 List all of the materials put into the process and the average and maximum amounts used (in pounds per hour or tons per hour). This is the process weight rate. List any solvents, additives, cleaners, etc. (in gallons per hour or per year) used with this process. If the process produces more than one product, include a list of the raw materials used to produce each product. Describe any storage and materials handling processes. If the process has no "raw materials" per se, write "NA" or " - " in each field across the first line of item 10.

Item 11 List the types of finished products and the average and maximum amounts produced. Describe any storage and material handling processes. If the process has no "finished products" per se, write "NA" or " - " in each field across the first line of item 11.

Item 12 List all of the fuels that the process uses or is capable of using. Provide the average and maximum amount of fuel used per hour of operation of the process. Provide the maximum heat input capacity for the fuel burner for the process. Provide an analysis of the fuel used, including at a minimum heat content, sulfur content and density. Coal, residual (#5 and #6) oils, sludge, waste oils, refuse derived fuels, etc., will require the submittal of an analysis of hazardous contaminants. Please attach these analyses to this form.

If the process uses no process fuels, write "none" under "type of fuel" and "NA" or " - " in the remaining fields of the first line of item 12.

Item 13 Briefly describe the fugitive sources. Include size of storage piles, material stored, length of roads, and any control measures used. Attach detailed information as appropriate. If you've used this form to describe a source of fugitive emissions, write "see above."

State of Wisconsin
Department of Natural Resources

CONTROL EQUIPMENT-ADSORBERS
AIR POLLUTION CONTROL PERMIT APPLICATION
Form 4530-112 11-93

Information attached? _ (y/n)

SEE INSTRUCTIONS ON REVERSE SIDE

Section A

1. Facility name: Veolia ES Technical Solutions
2. Facility identification number: 246076050
3. Stack identification number: S01
4. Unit identification number: P01
5. Control device number: C02
6. Manufacturer and model number:
7. Date of installation: 7/1/1994

8. Describe the adsorber to be used. Attach a diagram of the system. Attached?
Carbon adsorber containing sulfur impregnated activated carbon is installed for the control or mercury vapors.

9. List the pollutants to be controlled by this equipment and the expected control efficiency for each pollutant on the table below.
☑ Documentation is attached

Pollutant	Inlet pollutant concentration		Hood capture efficiency (%)	Outlet pollutant concentration		Efficiency (%)
	gr/acf	ppmv		gr/acf	ppmv	
Mercury						>98%

10. Gas flow rate (ACFM): 400
11. Gas temperature at the inlet (°F): 70
12. Bed operating temperature (°F): 70

13. Discuss how the collected material will be handled for reuse or disposal.
Spent carbon will be processed in one of the on-site retort systems for mercury recovery.

14. Prepare a malfunction prevention and abatement plan (if required under s. NR 439.11) for this pollution control system. Please include the following:
   a. Identification of the individuals(s), by title, responsible for inspecting, maintaining and repairing this device.
   b. Operation variables such as temperature that will be monitored in order to detect a malfunction or breakthrough, the correct operating range of these variables, and a detailed description of monitoring or surveillance procedures that will be used to show compliance.
   c. What type of monitoring equipment will be provided (temperature sensors, pressure sensors, CEMs).
   d. An inspection schedule and items or conditions that will be inspected.
   e. A listing of materials and spare parts that will be maintained in inventory.
   f. Is this plan available for review? Yes

Section B

The following questions must be answered by sources installing new equipment or existing Units which cannot document control efficiency of this device by other means.

15. Describe gas pretreatment methods:

16. Breakthrough capacity in lb. vapor/lb. adsorbent:
17. Partial pressure(s) of all pollutants in the inlet gas:
18. Describe the adsorption medium: Sulfur impregnated activated carbon
19. Bed void space (ft^3):
20. Dimensions of the adsorption bed (ft.):
21. Porosity (%):
22. Maximum gas velocity through the device (ft./min):
23. Indicate if the bed material is disposable. Discuss method of disposal or regeneration method. Provide a schedule of bed replacement or regeneration. Activated carbon replaced based on results of stack monitoring for mercury. Spent carbon is then retorted on-site for recovery of mercury.

CONTROL EQUIPMENT - ADSORBERS -- Form 4530-112
AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

NOTE: Use of this form is required by the Department for any air pollution control permit application filed pursuant to ss. 285.61, 285.62 or 285.66, Wis. Stats. Completion of this form is mandatory. The Department will not consider or act upon your application unless you complete and submit this application form. It is not the Department's intention to use any personally identifiable information from this form for any other purpose.

Complete one form for each control device used to reduce air pollution emissions from the air pollution sources to be covered by the permit.

Item 1 Provide the name of the facility.

Item 2 Provide facility identification (FID) number that appears on the annual emissions inventory reports.

Item 3 Provide the identification number of the stack exhausting this device. Use the same number used on Form 4530-103.

Item 4 Provide the identification number from the appropriate source Form 4530-104, -105, -106, -107, -108, or -109 completed for the emissions unit(s) that will have its emissions reduced by this control equipment.

Item 5 Assign an identification number to this control equipment such as C01. Use this number when referring to this device throughout the rest of your application.

Item 6 Indicate the equipment manufacturer and its model number.

Item 7 Provide the installation date of this device. If this is a new device, indicate that it is new.

Item 8 Describe the device in detail indicating whether it uses a fixed, moving or fluidized bed, if it involves multiple beds, if solvent is recycled (for fluidized beds), and any other relevant information. Also include calculations and design parameters used to determine adsorber type and size. Attach a blueprint or diagram of the device which clearly shows all equipment parts necessary for successful operation. Manufacturer's literature may be used. (Attach extra sheets if needed; Form 4530-135 may be used for this purpose.)

Item 9 For each pollutant controlled, enter the inlet pollutant concentration, hood capture efficiency, outlet pollutant concentration, and the overall efficiency of the control device for each pollutant emitted. Data entered in this table MUST BE DOCUMENTED, either by stack test or manufacturer supplied guarantees or by other means approved by the Department. Please indicate (by checking the box) that this information is attached to this form. If you cannot complete this table or fail to provide sufficient documentation, you will have to fill out section B of this form or your permit application will be considered incomplete.

Item 10 Indicate the volumetric gas flow rate in actual cubic feet per minute.

Item 11 Give the gas temperature at the inlet in degrees fahrenheit.

Item 12 Give the operating temperature range of the bed in degrees fahrenheit.

Item 13 Discuss the fate of the collected material how it will be contained, transported, and its ultimate destination for disposal. Examples of ultimate disposal include the local wastewater treatment plant or landfill. Describe any waste recycling or reuse.

Item 14 Prepare a malfunction prevention and abatement plan according to sec. NR 439.11, Wis. Adm. Code. Please be as detailed as possible, keeping in mind that the rule contains more detail than appears at Item 14 of this form. While it is not necessary to submit this plan with the permit application, the Department may at any time request a copy of this plan from the facility.

Section B - This section must be completed by sources installing new equipment or by existing sources which cannot otherwise document the control efficiency of this device (such as with current stack test results). IF YOU HAVE ALREADY SUBSTANTIATED THE CONTROL EFFICIENCY OF THE DEVICE AT ITEM 9 ABOVE, YOU DO NOT NEED TO COMPLETE SECTION B.

Item 15 Describe any gas pretreatment methods, such as heating, cooling, or passing gas through a dust collection device prior to adsorption.

Item 16 Give the breakthrough capacity in pounds of vapor per pound of adsorbent. This is the capacity of the bed at which unreacted vapors begin to be exhausted.

Item 17 Describe the composition of the inlet gas stream. Give the partial pressures of each component.

Item 18 Describe the chemical composition of the bed material. Include manufacturer's literature if available.

Item 19 Give the void volume of the bed in cubic feet. This is the empty space between the bed particles.

Item 20 Give the dimensions of the adsorber bed, either length, width, and height, or bed depth and radius, in feet. If only the bed volume is available, the bed depth must also be indicated. This is the dimension parallel to the gas flow.

Item 21 Give the porosity of the bed particles. This is the percent of the total particle volume that is pore space.

Item 22 Indicate the maximum gas velocity through the device in feet per minute.

Item 23 Indicate your plan for disposal of spent bed material and/or your method and schedule of bed regeneration.

State of Wisconsin
Department of Natural Resources

CONTROL EQUIPMENT-ADSORBERS
AIR POLLUTION CONTROL PERMIT APPLICATION
Form 4530-112 11-93

Information attached? _ (y/n)

SEE INSTRUCTIONS ON REVERSE SIDE

Section A

1. Facility name: Veolia ES Technical Solutions
2. Facility identification number: 246076050
3. Stack identification number: S08
4. Unit identification number: P08
5. Control device number: C05
6. Manufacturer and model number:
7. Date of installation: 6/1/2004

8. Describe the adsorber to be used. Attach a diagram of the system. Attached?
Carbon adsorber containing sulfur impregnated activated carbon is installed for the control or mercury vapors.

9. List the pollutants to be controlled by this equipment and the expected control efficiency for each pollutant on the table below.
☑ Documentation is attached

Pollutant	Inlet pollutant concentration		Hood capture efficiency (%)	Outlet pollutant concentration		Efficiency (%)
	gr/acf	ppmv		gr/acf	ppmv	
Mercury						>98%

10. Gas flow rate (ACFM): 500
11. Gas temperature at the inlet (°F): 70
12. Bed operating temperature (°F): 70

13. Discuss how the collected material will be handled for reuse or disposal.
Spent carbon will be processed in one of the on-site retort systems for mercury recovery.

14. Prepare a malfunction prevention and abatement plan (if required under s. NR 439.11) for this pollution control system. Please include the following:
   a. Identification of the individuals(s), by title, responsible for inspecting, maintaining and repairing this device.
   b. Operation variables such as temperature that will be monitored in order to detect a malfunction or breakthrough, the correct operating range of these variables, and a detailed description of monitoring or surveillance procedures that will be used to show compliance.
   c. What type of monitoring equipment will be provided (temperature sensors, pressure sensors, CEMs).
   d. An inspection schedule and items or conditions that will be inspected.
   e. A listing of materials and spare parts that will be maintained in inventory.
   f. Is this plan available for review? Yes

Section B

The following questions must be answered by sources installing new equipment or existing Units which cannot document control efficiency of this device by other means.

15. Describe gas pretreatment methods:

16. Breakthrough capacity in lb. vapor/lb. adsorbent:
17. Partial pressure(s) of all pollutants in the inlet gas:
18. Describe the adsorption medium: Sulfur impregnated activated carbon
19. Bed void space (ft^3):
20. Dimensions of the adsorption bed (ft.):
21. Porosity (%):
22. Maximum gas velocity through the device (ft./min):

23. Indicate if the bed material is disposable. Discuss method of disposal or regeneration method. Provide a schedule of bed replacement or regeneration. Activated carbon is replaced based on results of stack monitoring for mercury. Spent carbon is then retorted on-site for recovery of mercury.

CONTROL EQUIPMENT - ADSORBERS -- Form 4530-112
AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

NOTE: Use of this form is required by the Department for any air pollution control permit application filed pursuant to ss. 285.61, 285.62 or 285.66, Wis. Stats. Completion of this form is mandatory. The Department will not consider or act upon your application unless you complete and submit this application form. It is not the Department's intention to use any personally identifiable information from this form for any other purpose.

Complete one form for each control device used to reduce air pollution emissions from the air pollution sources to be covered by the permit.

Item 1 Provide the name of the facility.

Item 2 Provide facility identification (FID) number that appears on the annual emissions inventory reports.

Item 3 Provide the identification number of the stack exhausting this device. Use the same number used on Form 4530-103.

Item 4 Provide the identification number from the appropriate source Form 4530-104, -105, -106, -107, -108, or -109 completed for the emissions unit(s) that will have its emissions reduced by this control equipment.

Item 5 Assign an identification number to this control equipment such as C01. Use this number when referring to this device throughout the rest of your application.

Item 6 Indicate the equipment manufacturer and its model number.

Item 7 Provide the installation date of this device. If this is a new device, indicate that it is new.

Item 8 Describe the device in detail indicating whether it uses a fixed, moving or fluidized bed, if it involves multiple beds, if solvent is recycled (for fluidized beds), and any other relevant information. Also include calculations and design parameters used to determine adsorber type and size. Attach a blueprint or diagram of the device which clearly shows all equipment parts necessary for successful operation. Manufacturer's literature may be used. (Attach extra sheets if needed; Form 4530-135 may be used for this purpose.)

Item 9 For each pollutant controlled, enter the inlet pollutant concentration, hood capture efficiency, outlet pollutant concentration, and the overall efficiency of the control device for each pollutant emitted. Data entered in this table MUST BE DOCUMENTED, either by stack test or manufacturer supplied guarantees or by other means approved by the Department. Please indicate (by checking the box) that this information is attached to this form. If you cannot complete this table or fail to provide sufficient documentation, you will have to fill out section B of this form or your permit application will be considered incomplete.

Item 10 Indicate the volumetric gas flow rate in actual cubic feet per minute.

Item 11 Give the gas temperature at the inlet in degrees fahrenheit.

Item 12 Give the operating temperature range of the bed in degrees fahrenheit.

Item 13 Discuss the fate of the collected material how it will be contained, transported, and its ultimate destination for disposal. Examples of ultimate disposal include the local wastewater treatment plant or landfill. Describe any waste recycling or reuse.

Item 14 Prepare a malfunction prevention and abatement plan according to sec. NR 439.11, Wis. Adm. Code. Please be as detailed as possible, keeping in mind that the rule contains more detail than appears at Item 14 of this form. While it is not necessary to submit this plan with the permit application, the Department may at any time request a copy of this plan from the facility.

Section B - This section must be completed by sources installing new equipment or by existing sources which cannot otherwise document the control efficiency of this device (such as with current stack test results). IF YOU HAVE ALREADY SUBSTANTIATED THE CONTROL EFFICIENCY OF THE DEVICE AT ITEM 9 ABOVE, YOU DO NOT NEED TO COMPLETE SECTION B.

Item 15 Describe any gas pretreatment methods, such as heating, cooling, or passing gas through a dust collection device prior to adsorption.

Item 16 Give the breakthrough capacity in pounds of vapor per pound of adsorbent. This is the capacity of the bed at which unreacted vapors begin to be exhausted.

Item 17 Describe the composition of the inlet gas stream. Give the partial pressures of each component.

Item 18 Describe the chemical composition of the bed material. Include manufacturer's literature if available.

Item 19 Give the void volume of the bed in cubic feet. This is the empty space between the bed particles.

Item 20 Give the dimensions of the adsorber bed, either length, width, and height, or bed depth and radius, in feet. If only the bed volume is available, the bed depth must also be indicated. This is the dimension parallel to the gas flow.

Item 21 Give the porosity of the bed particles. This is the percent of the total particle volume that is pore space.

Item 22 Indicate the maximum gas velocity through the device in feet per minute.

Item 23 Indicate your plan for disposal of spent bed material and/or your method and schedule of bed regeneration.

State of Wisconsin
Department of Natural Resources

CONTROL EQUIPMENT-ADSORBERS
AIR POLLUTION CONTROL PERMIT APPLICATION
Form 4530-112 11-93

Information attached? _ (y/n)

SEE INSTRUCTIONS ON REVERSE SIDE

Section A

1. Facility name: Veolia ES Technical Solutions,
2. Facility identification number: 246076050
3. Stack identification number: S11 to C10/S14
4. Unit identification number: P10, P11
5. Control device number: C09
6. Manufacturer and model number:
7. Date of installation: 5/30/2002
8. Describe the adsorber to be used. Attach a diagram of the system. Attached?
   Carbon adsorber containing sulfur impregnated activated carbon is installed for the control or mercury vapors.

9. List the pollutants to be controlled by this equipment and the expected control efficiency for each pollutant on the table below.
   ☑ Documentation is attached

Pollutant	Inlet pollutant concentration		Hood capture efficiency (%)	Outlet pollutant concentration		Efficiency (%)
	gr/acf	ppmv		gr/acf	ppmv	
Mercury						50%

10. Gas flow rate (ACFM): 125
11. Gas temperature at the inlet (°F): 90
12. Bed operating temperature (°F): 70
13. Discuss how the collected material will be handled for reuse or disposal.
    Spent carbon will be processed in one of the on-site retort systems for mercury recovery.

14. Prepare a malfunction prevention and abatement plan (if required under s. NR 439.11) for this pollution control system. Please include the following:
    a. Identification of the individuals(s), by title, responsible for inspecting, maintaining and repairing this device.
    b. Operation variables such as temperature that will be monitored in order to detect a malfunction or breakthrough, the correct operating range of these variables, and a detailed description of monitoring or surveillance procedures that will be used to show compliance.
    c. What type of monitoring equipment will be provided (temperature sensors, pressure sensors, CEMs).
    d. An inspection schedule and items or conditions that will be inspected.
    e. A listing of materials and spare parts that will be maintained in inventory.
    f. Is this plan available for review? Yes

Section B

The following questions must be answered by sources installing new equipment or existing Units which cannot document control efficiency of this device by other means.

15. Describe gas pretreatment methods:

16. Breakthrough capacity in lb. vapor/lb. adsorbent:
17. Partial pressure(s) of all pollutants in the inlet gas:
18. Describe the adsorption medium: Sulfur impregnated activated carbon
19. Bed void space (ft^3):
20. Dimensions of the adsorption bed (ft.):
21. Porosity (%):
22. Maximum gas velocity through the device (ft./min):
23. Indicate if the bed material is disposable. Discuss method of disposal or regeneration method. Provide a schedule of bed replacement or regeneration. Activated carbon is replaced based on results of stack monitoring for mercury. Spent carbon is then retorted on-site for recovery of mercury.

CONTROL EQUIPMENT - ADSORBERS -- Form 4530-112
AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

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Complete one form for each control device used to reduce air pollution emissions from the air pollution sources to be covered by the permit.

Item 1 Provide the name of the facility.

Item 2 Provide facility identification (FID) number that appears on the annual emissions inventory reports.

Item 3 Provide the identification number of the stack exhausting this device. Use the same number used on Form 4530-103.

Item 4 Provide the identification number from the appropriate source Form 4530-104, -105, -106, -107, -108, or -109 completed for the emissions unit(s) that will have its emissions reduced by this control equipment.

Item 5 Assign an identification number to this control equipment such as C01. Use this number when referring to this device throughout the rest of your application.

Item 6 Indicate the equipment manufacturer and its model number.

Item 7 Provide the installation date of this device. If this is a new device, indicate that it is new.

Item 8 Describe the device in detail indicating whether it uses a fixed, moving or fluidized bed, if it involves multiple beds, if solvent is recycled (for fluidized beds), and any other relevant information. Also include calculations and design parameters used to determine adsorber type and size. Attach a blueprint or diagram of the device which clearly shows all equipment parts necessary for successful operation. Manufacturer's literature may be used. (Attach extra sheets if needed; Form 4530-135 may be used for this purpose.)

Item 9 For each pollutant controlled, enter the inlet pollutant concentration, hood capture efficiency, outlet pollutant concentration, and the overall efficiency of the control device for each pollutant emitted. Data entered in this table MUST BE DOCUMENTED, either by stack test or manufacturer supplied guarantees or by other means approved by the Department. Please indicate (by checking the box) that this information is attached to this form. If you cannot complete this table or fail to provide sufficient documentation, you will have to fill out section B of this form or your permit application will be considered incomplete.

Item 10 Indicate the volumetric gas flow rate in actual cubic feet per minute.

Item 11 Give the gas temperature at the inlet in degrees fahrenheit.

Item 12 Give the operating temperature range of the bed in degrees fahrenheit.

Item 13 Discuss the fate of the collected material how it will be contained, transported, and its ultimate destination for disposal. Examples of ultimate disposal include the local wastewater treatment plant or landfill. Describe any waste recycling or reuse.

Item 14 Prepare a malfunction prevention and abatement plan according to sec. NR 439.11, Wis. Adm. Code. Please be as detailed as possible, keeping in mind that the rule contains more detail than appears at Item 14 of this form. While it is not necessary to submit this plan with the permit application, the Department may at any time request a copy of this plan from the facility.

Section B - This section must be completed by sources installing new equipment or by existing sources which cannot otherwise document the control efficiency of this device (such as with current stack test results). IF YOU HAVE ALREADY SUBSTANTIATED THE CONTROL EFFICIENCY OF THE DEVICE AT ITEM 9 ABOVE, YOU DO NOT NEED TO COMPLETE SECTION B.

Item 15 Describe any gas pretreatment methods, such as heating, cooling, or passing gas through a dust collection device prior to adsorption.

Item 16 Give the breakthrough capacity in pounds of vapor per pound of adsorbent. This is the capacity of the bed at which unreacted vapors begin to be exhausted.

Item 17 Describe the composition of the inlet gas stream. Give the partial pressures of each component.

Item 18 Describe the chemical composition of the bed material. Include manufacturer's literature if available.

Item 19 Give the void volume of the bed in cubic feet. This is the empty space between the bed particles.

Item 20 Give the dimensions of the adsorber bed, either length, width, and height, or bed depth and radius, in feet. If only the bed volume is available, the bed depth must also be indicated. This is the dimension parallel to the gas flow.

Item 21 Give the porosity of the bed particles. This is the percent of the total particle volume that is pore space.

Item 22 Indicate the maximum gas velocity through the device in feet per minute.

Item 23 Indicate your plan for disposal of spent bed material and/or your method and schedule of bed regeneration.

State of Wisconsin
Department of Natural Resources

CONTROL EQUIPMENT-ADSORBERS
AIR POLLUTION CONTROL PERMIT APPLICATION
Form 4530-112 11-93

Information attached? _ (y/n)

SEE INSTRUCTIONS ON REVERSE SIDE

Section A

1. Facility name: Veolia ES Technical Solutions,	2. Facility identification number: 246076050
3. Stack identification number: S14	4. Unit identification number: P10, P11, P14

5. Control device number: C10

6. Manufacturer and model number:

7. Date of installation: 8/1/2003

8. Describe the adsorber to be used. Attach a diagram of the system. Attached?
Carbon adsorber containing sulfur impregnated activated carbon is installed for the control or mercury vapors from stacks S11, S12 and ambient air from the retort room.

9. List the pollutants to be controlled by this equipment and the expected control efficiency for each pollutant on the table below.
☑ Documentation is attached

Pollutant	Inlet pollutant concentration		Hood capture efficiency (%)	Outlet pollutant concentration		Efficiency (%)
	gr/acf	ppmv		gr/acf	ppmv	
Mercury						80%

10. Gas flow rate (ACFM): 5000	11. Gas temperature at the inlet (°F): 70

12. Bed operating temperature (°F): 70

13. Discuss how the collected material will be handled for reuse or disposal.
Spent carbon will be processed in one of the on-site retort systems for mercury recovery.

14. Prepare a malfunction prevention and abatement plan (if required under s. NR 439.11) for this pollution control system. Please include the following:
   a. Identification of the individuals(s), by title, responsible for inspecting, maintaining and repairing this device.
   b. Operation variables such as temperature that will be monitored in order to detect a malfunction or breakthrough, the correct operating range of these variables, and a detailed description of monitoring or surveillance procedures that will be used to show compliance.
   c. What type of monitoring equipment will be provided (temperature sensors, pressure sensors, CEMs).
   d. An inspection schedule and items or conditions that will be inspected.
   e. A listing of materials and spare parts that will be maintained in inventory.
   f. Is this plan available for review? Yes

Section B

The following questions must be answered by sources installing new equipment or existing Units which cannot document control efficiency of this device by other means.

15. Describe gas pretreatment methods:

16. Breakthrough capacity in lb. vapor/lb. adsorbent:	17. Partial pressure(s) of all pollutants in the inlet gas:

18. Describe the adsorption medium: Sulfur impregnated carbon

19. Bed void space (ft^3):	20. Dimensions of the adsorption bed (ft.):
21. Porosity (%):	22. Maximum gas velocity through the device (ft./min):

23. Indicate if the bed material is disposable. Discuss method of disposal or regeneration method. Provide a schedule of bed replacement or regeneration. Activated carbon replaced based on results of stack monitoring for mercury. Spent carbon is then retorted on-site for recovery of mercury.

CONTROL EQUIPMENT - ADSORBERS -- Form 4530-112
AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

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Complete one form for each control device used to reduce air pollution emissions from the air pollution sources to be covered by the permit.

Item 1 Provide the name of the facility.

Item 2 Provide facility identification (FID) number that appears on the annual emissions inventory reports.

Item 3 Provide the identification number of the stack exhausting this device. Use the same number used on Form 4530-103.

Item 4 Provide the identification number from the appropriate source Form 4530-104, -105, -106, -107, -108, or -109 completed for the emissions unit(s) that will have its emissions reduced by this control equipment.

Item 5 Assign an identification number to this control equipment such as C01. Use this number when referring to this device throughout the rest of your application.

Item 6 Indicate the equipment manufacturer and its model number.

Item 7 Provide the installation date of this device. If this is a new device, indicate that it is new.

Item 8 Describe the device in detail indicating whether it uses a fixed, moving or fluidized bed, if it involves multiple beds, if solvent is recycled (for fluidized beds), and any other relevant information. Also include calculations and design parameters used to determine adsorber type and size. Attach a blueprint or diagram of the device which clearly shows all equipment parts necessary for successful operation. Manufacturer's literature may be used. (Attach extra sheets if needed; Form 4530-135 may be used for this purpose.)

Item 9 For each pollutant controlled, enter the inlet pollutant concentration, hood capture efficiency, outlet pollutant concentration, and the overall efficiency of the control device for each pollutant emitted. Data entered in this table MUST BE DOCUMENTED, either by stack test or manufacturer supplied guarantees or by other means approved by the Department. Please indicate (by checking the box) that this information is attached to this form. If you cannot complete this table or fail to provide sufficient documentation, you will have to fill out section B of this form or your permit application will be considered incomplete.

Item 10 Indicate the volumetric gas flow rate in actual cubic feet per minute.

Item 11 Give the gas temperature at the inlet in degrees fahrenheit.

Item 12 Give the operating temperature range of the bed in degrees fahrenheit.

Item 13 Discuss the fate of the collected material how it will be contained, transported, and its ultimate destination for disposal. Examples of ultimate disposal include the local wastewater treatment plant or landfill. Describe any waste recycling or reuse.

Item 14 Prepare a malfunction prevention and abatement plan according to sec. NR 439.11, Wis. Adm. Code. Please be as detailed as possible, keeping in mind that the rule contains more detail than appears at Item 14 of this form. While it is not necessary to submit this plan with the permit application, the Department may at any time request a copy of this plan from the facility.

Section B - This section must be completed by sources installing new equipment or by existing sources which cannot otherwise document the control efficiency of this device (such as with current stack test results). IF YOU HAVE ALREADY SUBSTANTIATED THE CONTROL EFFICIENCY OF THE DEVICE AT ITEM 9 ABOVE, YOU DO NOT NEED TO COMPLETE SECTION B.

Item 15 Describe any gas pretreatment methods, such as heating, cooling, or passing gas through a dust collection device prior to adsorption.

Item 16 Give the breakthrough capacity in pounds of vapor per pound of adsorbent. This is the capacity of the bed at which unreacted vapors begin to be exhausted.

Item 17 Describe the composition of the inlet gas stream. Give the partial pressures of each component.

Item 18 Describe the chemical composition of the bed material. Include manufacturer's literature if available.

Item 19 Give the void volume of the bed in cubic feet. This is the empty space between the bed particles.

Item 20 Give the dimensions of the adsorber bed, either length, width, and height, or bed depth and radius, in feet. If only the bed volume is available, the bed depth must also be indicated. This is the dimension parallel to the gas flow.

Item 21 Give the porosity of the bed particles. This is the percent of the total particle volume that is pore space.

Item 22 Indicate the maximum gas velocity through the device in feet per minute.

Item 23 Indicate your plan for disposal of spent bed material and/or your method and schedule of bed regeneration.

State of Wisconsin
Department of Natural Resources

CONTROL EQUIPMENT-ADSORBERS
AIR POLLUTION CONTROL PERMIT APPLICATION
Form 4530-112 11-93

Information attached? _ (y/n)

SEE INSTRUCTIONS ON REVERSE SIDE

Section A

1. Facility name: Veolia ES Technical Solutions,
2. Facility identification number: 246076050
3. Stack identification number: S15 to C10/S14
4. Unit identification number: P12
5. Control device number: C11
6. Manufacturer and model number:
7. Date of installation: 8/1/2003
8. Describe the adsorber to be used. Attach a diagram of the system. Attached?
Carbon adsorber containing sulfur impregnated activated carbon is installed for the control or mercury vapors.

9. List the pollutants to be controlled by this equipment and the expected control efficiency for each pollutant on the table below.
☑ Documentation is attached

Pollutant	Inlet pollutant concentration		Hood capture efficiency (%)	Outlet pollutant concentration		Efficiency (%)
	gr/acf	ppmv		gr/acf	ppmv	
Mercury						50%

10. Gas flow rate (ACFM): 30
11. Gas temperature at the inlet (°F): 70
12. Bed operating temperature (°F): 70
13. Discuss how the collected material will be handled for reuse or disposal.
Spent carbon will be processed in one of the on-site retort systems for mercury recovery.

14. Prepare a malfunction prevention and abatement plan (if required under s. NR 439.11) for this pollution control system. Please include the following:
   a. Identification of the individuals(s), by title, responsible for inspecting, maintaining and repairing this device.
   b. Operation variables such as temperature that will be monitored in order to detect a malfunction or breakthrough, the correct operating range of these variables, and a detailed description of monitoring or surveillance procedures that will be used to show compliance.
   c. What type of monitoring equipment will be provided (temperature sensors, pressure sensors, CEMs).
   d. An inspection schedule and items or conditions that will be inspected.
   e. A listing of materials and spare parts that will be maintained in inventory.
   f. Is this plan available for review? Yes

Section B

The following questions must be answered by sources installing new equipment or existing Units which cannot document control efficiency of this device by other means.

15. Describe gas pretreatment methods:

16. Breakthrough capacity in lb. vapor/lb. adsorbent:
17. Partial pressure(s) of all pollutants in the inlet gas:
18. Describe the adsorption medium: Sulfur impregnated activated carbon
19. Bed void space (ft^3):
20. Dimensions of the adsorption bed (ft.):
21. Porosity (%):
22. Maximum gas velocity through the device (ft./min):
23. Indicate if the bed material is disposable. Discuss method of disposal or regeneration method. Provide a schedule of bed replacement or regeneration. Activated carbon is replaced based on results of stack monitoring for mercury. Spent carbon is then retorted on-site for recovery of mercury.

CONTROL EQUIPMENT - ADSORBERS -- Form 4530-112
AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

NOTE: Use of this form is required by the Department for any air pollution control permit application filed pursuant to ss. 285.61, 285.62 or 285.66, Wis. Stats. Completion of this form is mandatory. The Department will not consider or act upon your application unless you complete and submit this application form. It is not the Department's intention to use any personally identifiable information from this form for any other purpose.

Complete one form for each control device used to reduce air pollution emissions from the air pollution sources to be covered by the permit.

Item 1 Provide the name of the facility.

Item 2 Provide facility identification (FID) number that appears on the annual emissions inventory reports.

Item 3 Provide the identification number of the stack exhausting this device. Use the same number used on Form 4530-103.

Item 4 Provide the identification number from the appropriate source Form 4530-104, -105, -106, -107, -108, or -109 completed for the emissions unit(s) that will have its emissions reduced by this control equipment.

Item 5 Assign an identification number to this control equipment such as C01. Use this number when referring to this device throughout the rest of your application.

Item 6 Indicate the equipment manufacturer and its model number.

Item 7 Provide the installation date of this device. If this is a new device, indicate that it is new.

Item 8 Describe the device in detail indicating whether it uses a fixed, moving or fluidized bed, if it involves multiple beds, if solvent is recycled (for fluidized beds), and any other relevant information. Also include calculations and design parameters used to determine adsorber type and size. Attach a blueprint or diagram of the device which clearly shows all equipment parts necessary for successful operation. Manufacturer's literature may be used. (Attach extra sheets if needed; Form 4530-135 may be used for this purpose.)

Item 9 For each pollutant controlled, enter the inlet pollutant concentration, hood capture efficiency, outlet pollutant concentration, and the overall efficiency of the control device for each pollutant emitted. Data entered in this table MUST BE DOCUMENTED, either by stack test or manufacturer supplied guarantees or by other means approved by the Department. Please indicate (by checking the box) that this information is attached to this form. If you cannot complete this table or fail to provide sufficient documentation, you will have to fill out section B of this form or your permit application will be considered incomplete.

Item 10 Indicate the volumetric gas flow rate in actual cubic feet per minute.

Item 11 Give the gas temperature at the inlet in degrees fahrenheit.

Item 12 Give the operating temperature range of the bed in degrees fahrenheit.

Item 13 Discuss the fate of the collected material how it will be contained, transported, and its ultimate destination for disposal. Examples of ultimate disposal include the local wastewater treatment plant or landfill. Describe any waste recycling or reuse.

Item 14 Prepare a malfunction prevention and abatement plan according to sec. NR 439.11, Wis. Adm. Code. Please be as detailed as possible, keeping in mind that the rule contains more detail than appears at Item 14 of this form. While it is not necessary to submit this plan with the permit application, the Department may at any time request a copy of this plan from the facility.

Section B - This section must be completed by sources installing new equipment or by existing sources which cannot otherwise document the control efficiency of this device (such as with current stack test results). IF YOU HAVE ALREADY SUBSTANTIATED THE CONTROL EFFICIENCY OF THE DEVICE AT ITEM 9 ABOVE, YOU DO NOT NEED TO COMPLETE SECTION B.

Item 15 Describe any gas pretreatment methods, such as heating, cooling, or passing gas through a dust collection device prior to adsorption.

Item 16 Give the breakthrough capacity in pounds of vapor per pound of adsorbent. This is the capacity of the bed at which unreacted vapors begin to be exhausted.

Item 17 Describe the composition of the inlet gas stream. Give the partial pressures of each component.

Item 18 Describe the chemical composition of the bed material. Include manufacturer's literature if available.

Item 19 Give the void volume of the bed in cubic feet. This is the empty space between the bed particles.

Item 20 Give the dimensions of the adsorber bed, either length, width, and height, or bed depth and radius, in feet. If only the bed volume is available, the bed depth must also be indicated. This is the dimension parallel to the gas flow.

Item 21 Give the porosity of the bed particles. This is the percent of the total particle volume that is pore space.

Item 22 Indicate the maximum gas velocity through the device in feet per minute.

Item 23 Indicate your plan for disposal of spent bed material and/or your method and schedule of bed regeneration.

State of Wisconsin
Department of Natural Resources

CONTROL EQUIPMENT-BAGHOUSE/FABRIC FILTERS
AIR POLLUTION CONTROL PERMIT APPLICATION
Form 4530-117 11-93 Information attached? __ (y/n)

SEE INSTRUCTIONS ON REVERSE SIDE

Section A

1. Facility name: Veolia ES Technical Solutions, L.L.C.	2. Facility identification number: 246076050
3. Stack identification number: S01	4. Unit identification number: P01
5. Control device number: C01	
6. Manufacturer and model number: Donaldson – Torit TD cartridge filter system	
7. Date of installation: 7/27/1993	
8. Describe in detail the control system. Attach a blueprint or diagram of the system. Attached? yes	

9. List the pollutants to be controlled by this equipment and the expected control efficiency for each pollutant on the table below.
☑ Documentation is attached

Pollutant	Inlet pollutant concentration		Outlet pollutant concentration		Efficiency (%)
	gr/acf	Ppmv	gr/acf	ppmv	
Particulate Matter					99.9%

10. Discuss how the collected material will be handled for reuse or disposal.
Collected particulate matter will be recycled on-site.

11. Pressure drop across the filter (inches of H_2O): 0.4 to 6.0

12. Prepare a malfunction prevention and abatement plan (if required under s. NR 439.11) for this pollution control system. Please include the following:
   a. Identification of the individuals(s), by title, responsible for inspecting, maintaining and repairing this device.
   b. Bag cleaning techniques and frequency of cleaning or replacement schedule for filters.
   c. Operation variables that will be monitored in order to detect a malfunction or breakthrough, the correct operating range of these variables, and a detailed description of monitoring or surveillance procedures that will be used to show compliance.
   d. An inspection schedule and items or conditions that will be inspected.
   e. A listing of materials and spare parts that will be maintained in inventory.
   f. Is this plan available for review? Yes

Section B

The following questions must be answered by sources installing new equipment or existing Units which cannot document control efficiency of this device by other means.

13. Filter medium or type of fabric material (if fabric, indicate whether felt or woven): Synthetic filter media on cellulose substrate

14. Maximum inlet gas flow rate (ACFM): 400	15. Maximum inlet gas temperature (°F): 100
16. Number of bags if applicable: 12	17. Dimensions of bags/filters: 60 ft^2
18. Air to cloth ratio ($acfm/ft^2$): 0.556	

CONTROL EQUIPMENT - BAGHOUSE/FABRIC FILTERS -- Form 4530-117
AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

NOTE: Use of this form is required by the Department for any air pollution control permit application filed pursuant to ss. 285.61, 285.62 or 285.66, Wis. Stats. Completion of this form is mandatory. The Department will not consider or act upon your application unless you complete and submit this application form. It is not the Department's intention to use any personally identifiable information from this form for any other purpose.

Complete one form for each control device used to reduce air pollution emissions.

Item 1 Provide the name of the facility.

Item 2 Provide the facility identification (FID) number that appears on the annual emission inventory reports.

Item 3 Provide the identification number for the stack exhausting to this device. Use the same number used on form 4530-103.

Item 4 Provide the identification number from the appropriate form(s) 4530-104, -105, -106, -107, -108, or -109 completed for the emissions unit(s) that will have its emissions reduced by this control equipment.

Item 5 Assign an identification number to this control device (e.g., C01). Use this number when referring to this device throughout the rest of your application.

Item 6 Indicate the equipment manufacturer and its model number.

Item 7 Provide the installation date of this device. If this is a new device, indicate that it is new.

Item 8 Describe the filtering system, including any relevant design information. Attach a blueprint or diagram of the device that clearly shows all equipment parts necessary for successful operation. Manufacturer's literature may be used. Attach extra information on form 4530-135.

Item 9 For each pollutant controlled, enter the inlet pollutant concentration and outlet pollutant concentration (use the same units), hood capture efficiency, and the overall efficiency of the control device. YOU MUST DOCUMENT all data by stack test, manufacturer-supplied guarantees, or by other means approved by the Department. Indicate that data is attached.

Item 10 Discuss how collected material will be contained, transported, and ultimately disposed of. Examples of ultimate disposal include the local wastewater treatment plant or landfill. Describe any waste recycling or reuse.

Item 11 Give the pressure drop across the device (in inches of water).

Item 12 Prepare a malfunction prevention and abatement plan according to sec. NR 439.11, Wis. Adm. Code. Please be as detailed as possible, keeping in mind that the rule contains more detail than appears at Item 12 of this form. While it is not necessary to submit this plan with the permit application, the Department may at any time request a copy of this plan from the facility.

Section B - This section must be completed by sources installing new equipment or by existing sources which cannot otherwise document the control efficiency of this device (such as with current stack test results). IF YOU HAVE ALREADY SUBSTANTIATED THE CONTROL EFFICIENCY OF THE DEVICE AT ITEM 9 ABOVE, YOU DO NOT NEED TO COMPLETE SECTION B.

Item 13 Give the filter medium or the type of fabric used for the bags.

Item 14 Give the maximum inlet flow rate of the gas (in actual cubic feet per minute).

Item 15 Indicate the maximum temperature of the inlet gas (in degrees F).

Item 16 For baghouses, indicate the number of bags in your device. Leave this section blank if using filters.

Item 17 Give the diameter D and length L of each bag, or the length L and height H of each filter.

Item 18 Air to cloth ratio is the ratio of the total area of the filtering media to the gas filtered.

State of Wisconsin
Department of Natural Resources

CONTROL EQUIPMENT-BAGHOUSE/FABRIC FILTERS
AIR POLLUTION CONTROL PERMIT APPLICATION
Form 4530-117 11-93

Information attached? __ (y/n)

SEE INSTRUCTIONS ON REVERSE SIDE

Section A

1. Facility name: Veolia ES Technical Solutions, L.L.C.	2. Facility identification number: 246076050
3. Stack identification number: S08	4. Unit identification number: P08
5. Control device number: C04	

6. Manufacturer and model number: HEPA PM Collector for LSS1 Lamp Recycler

7. Date of installation: 6/1/2004

8. Describe in detail the control system. Attach a blueprint or diagram of the system. Attached? yes
The system is a cartridge dust collector system equivalent to a Torit TD dust collector with a pleated HEPA box filter after the cartridge filter.

9. List the pollutants to be controlled by this equipment and the expected control efficiency for each pollutant on the table below.
☑ Documentation is attached

Pollutant	Inlet pollutant concentration		Outlet pollutant concentration		Efficiency (%)
	gr/acf	ppmv	gr/acf	ppmv	
Particulate Matter					99.90%

10. Discuss how the collected material will be handled for reuse or disposal.
Collected particulate matter will be recycled on-site.

11. Pressure drop across the filter (inches of H_2O): 0.4 to 6.0

12. Prepare a malfunction prevention and abatement plan (if required under s. NR 439.11) for this pollution control system. Please include the following:
a. Identification of the individuals(s), by title, responsible for inspecting, maintaining and repairing this device.
b. Bag cleaning techniques and frequency of cleaning or replacement schedule for filters.
c. Operation variables that will be monitored in order to detect a malfunction or breakthrough, the correct operating range of these variables, and a detailed description of monitoring or surveillance procedures that will be used to show compliance.
d. An inspection schedule and items or conditions that will be inspected.
e. A listing of materials and spare parts that will be maintained in inventory.
f. Is this plan available for review? Yes

Section B

The following questions must be answered by sources installing new equipment or existing Units which cannot document control efficiency of this device by other means.

13. Filter medium or type of fabric material (if fabric, indicate whether felt or woven): Synthetic filter media on cellulose substrate

14. Maximum inlet gas flow rate (ACFM): 500	15. Maximum inlet gas temperature (°F): 100
16. Number of bags if applicable: 9	17. Dimensions of bags/filters: 60 ft^2

18. Air to cloth ratio ($acfm/ft^2$): 0.926

CONTROL EQUIPMENT - BAGHOUSE/FABRIC FILTERS -- Form 4530-117
AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

NOTE: Use of this form is required by the Department for any air pollution control permit application filed pursuant to ss. 285.61, 285.62 or 285.66, Wis. Stats. Completion of this form is mandatory. The Department will not consider or act upon your application unless you complete and submit this application form. It is not the Department's intention to use any personally identifiable information from this form for any other purpose.

Complete one form for each control device used to reduce air pollution emissions.

Item 1 Provide the name of the facility.

Item 2 Provide the facility identification (FID) number that appears on the annual emission inventory reports.

Item 3 Provide the identification number for the stack exhausting to this device. Use the same number used on form 4530-103.

Item 4 Provide the identification number from the appropriate form(s) 4530-104, -105, -106, -107, -108, or -109 completed for the emissions unit(s) that will have its emissions reduced by this control equipment.

Item 5 Assign an identification number to this control device (e.g., C01). Use this number when referring to this device throughout the rest of your application.

Item 6 Indicate the equipment manufacturer and its model number.

Item 7 Provide the installation date of this device. If this is a new device, indicate that it is new.

Item 8 Describe the filtering system, including any relevant design information. Attach a blueprint or diagram of the device that clearly shows all equipment parts necessary for successful operation. Manufacturer's literature may be used. Attach extra information on form 4530-135.

Item 9 For each pollutant controlled, enter the inlet pollutant concentration and outlet pollutant concentration (use the same units), hood capture efficiency, and the overall efficiency of the control device. YOU MUST DOCUMENT all data by stack test, manufacturer-supplied guarantees, or by other means approved by the Department. Indicate that data is attached.

Item 10 Discuss how collected material will be contained, transported, and ultimately disposed of. Examples of ultimate disposal include the local wastewater treatment plant or landfill. Describe any waste recycling or reuse.

Item 11 Give the pressure drop across the device (in inches of water).

Item 12 Prepare a malfunction prevention and abatement plan according to sec. NR 439.11, Wis. Adm. Code. Please be as detailed as possible, keeping in mind that the rule contains more detail than appears at Item 12 of this form. While it is not necessary to submit this plan with the permit application, the Department may at any time request a copy of this plan from the facility.

Section B - This section must be completed by sources installing new equipment or by existing sources which cannot otherwise document the control efficiency of this device (such as with current stack test results). IF YOU HAVE ALREADY SUBSTANTIATED THE CONTROL EFFICIENCY OF THE DEVICE AT ITEM 9 ABOVE, YOU DO NOT NEED TO COMPLETE SECTION B.

Item 13 Give the filter medium or the type of fabric used for the bags.

Item 14 Give the maximum inlet flow rate of the gas (in actual cubic feet per minute).

Item 15 Indicate the maximum temperature of the inlet gas (in degrees F).

Item 16 For baghouses, indicate the number of bags in your device. Leave this section blank if using filters.

Item 17 Give the diameter D and length L of each bag, or the length L and height H of each filter.

Item 18 Air to cloth ratio is the ratio of the total area of the filtering media to the gas filtered.

State of Wisconsin
Department of Natural Resources

COMPLIANCE DEMONSTRATION BY PERIODIC EMISSION MONITORING USING PORTABLE MONITORS
AIR POLLUTION CONTROL PERMIT APPLICATION
Form 4530-120 11-93

Information attached? __ (y/n)

The use of a portable continuous emission monitor (CEM) may be acceptable as a compliance demonstration method. A monitoring plan shall contain the following information: the name and address of the source; the source facility identification number; a general description of the process and the control equipment; the pollutant or diluent being monitored; the manufacturer, model number, and serial number of each portable monitor; the operating principles of each portable monitor; and a schematic of the CEM system showing the sample acquisition point and the location of the monitors while sampling.

SEE INSTRUCTIONS ON REVERSE SIDE

1. Facility name: Veolia ES Technical Solutions, L.L.C.	2. Facility identification number: 246076050
3. Stack identification number: S01	4. Unit identification number: P01
5. Pollutant(s) or diluent(s) being monitored: Mercury	
6. Name of manufacturer: Arizona Instruments	7. Model number: Jerome 431X
8. Is this an existing system? ☐ Yes ☑ No	9. Installation date: Portable units purchased as needed

10. Type: ☑ In situ ☐ Extractive ☐ Dilution ☐ Other (specify)

11. Describe how the monitor works: The Jerome 431X sampling tube is inserted into an opening into the stack and the internal sampling pump on the meter draws a sample which passes over a gold foil detector and the unit calculates a concentration of mercury in the sir stream. This result is displayed on the unit and the result is recorded on the air monitoring logs maintained by the facility.

12. Backup system: The facility also has a Mercury Instruments Model VM3000 meter for back up. In the event neither the Jerome or VM3000 is available the facility may use colorimetric detector rubes.

13. Compliance shall be demonstrated: ☑ Daily ☐ Weekly ☐ Monthly

14. Indicate by checking:

☐ The portable monitor certification is attached for Department approval. ☐ If it is not attached, please submit it within 60 days of the startup of the sampling program. ☐ The certification was submitted to the Department on _____.

☐ A quality assurance/quality control plan for the portable monitor is attached for Department approval. ☐ If the plan is not attached, please submit it within 60 days of the startup of the sampling program. ☐ The plan was submitted to the Department on _____.

***** Any test value over the emission limit shall be reported as an excess emission. *****

COMPLIANCE DEMONSTRATION BY PERIODIC EMISSION MONITORING
USING PORTABLE MONITORS -- Form 4530-120
AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

NOTE: All operation permit applications must include this form except initial applications for existing, non-Part 70 sources and initial applications for new or modified sources for which no construction permit is required. Completion of this form (when it applies) is mandatory. The Department will not consider or act upon your application unless you complete and submit this application form (when it applies to you). It is not the Department's intention to use any personally identifiable information from this form for any other purpose.

Complete one form for each significant emissions unit being monitored.

Item 1 Provide the name of the facility.

Item 2 Provide the facility identification (FID) number that appears on the annual emission inventory reports.

Item 3 Provide the identification number of the stack that exhausts this equipment. Use the same number used on form 4530-103.

Item 4 Provide the identification number from the appropriate form(s) 4530-104, -105, -106, -107, -108, or -109 completed for the emissions unit that will have its emissions monitored.

Item 5 Identify the pollutant(s) or diluent(s) being monitored for this emissions unit.

Item 6 List the name of the monitor manufacturer.

Item 7 List the model number of the monitor.

Item 8 Indicate if this monitor has been previously used for demonstrating compliance for this emissions unit, by checking the appropriate box.

Item 9 Give the date the monitor was installed. If this is a new monitor, list the date it will be installed.

Item 10 Indicate the type of monitor. If "other," give the type.

Item 11 Describe how the monitor works. Form 4530-135 may be attached for this purpose.

Item 12 Describe how emission data will be collected if the monitor fails.

Item 13 Indicate the frequency with which compliance will be demonstrated. Form 4530-118 may be used to provide additional explanation.

Item 14 *Note: The information requested in Item 14 is optional for your application. Whatever information you choose to submit for Item 14 that is acceptable to the Department will be incorporated into any permit issued by the Department. If you do not complete Item 14 the Department will write these elements of the compliance demonstration program into the permit.*

The portable monitor system should be certified as to its precision and relative accuracy. Please submit this certification to the Department with this permit application. If the system is not certified at the time of application, please submit the certification within 60 days following the startup of the system. If the certification has already been submitted to DNR, it is not necessary to submit it again. Please indicate the approximate date of submittal.

You should submit a portable monitor system Quality Assurance/Quality Control (QA/QC) Plan with this permit application. If the QA/QC plan is not submitted with the application, please submit the QA/QC plan within 60 days following the startup of the system. If the plan has already been submitted to DNR, it is not necessary to submit it again. Please indicate the approximate date of submittal.

***** You must report any excess emissions on a regular basis. *****
Please refer to the Department's compliance program guidance for further details.

State of Wisconsin
Department of Natural Resources

COMPLIANCE DEMONSTRATION BY PERIODIC EMISSION MONITORING USING PORTABLE MONITORS
AIR POLLUTION CONTROL PERMIT APPLICATION

Form 4530-120 11-93 Information attached? __ (y/n)

The use of a portable continuous emission monitor (CEM) may be acceptable as a compliance demonstration method. A monitoring plan shall contain the following information: the name and address of the source; the source facility identification number; a general description of the process and the control equipment; the pollutant or diluent being monitored; the manufacturer, model number, and serial number of each portable monitor; the operating principles of each portable monitor; and a schematic of the CEM system showing the sample acquisition point and the location of the monitors while sampling.

SEE INSTRUCTIONS ON REVERSE SIDE

1. Facility name: Veolia ES Technical Solutions, L.L.C.	2. Facility identification number: 246076050
3. Stack identification number: S08	4. Unit identification number: P08
5. Pollutant(s) or diluent(s) being monitored: Mercury	
6. Name of manufacturer: Arizona Instruments	7. Model number: Jerome 431X
8. Is this an existing system? ☐ Yes ☑ No	9. Installation date: Portable units purchased as needed

10. Type: ☑ In situ ☐ Extractive ☐ Dilution ☐ Other (specify)

11. Describe how the monitor works: The Jerome 431X sampling tube is inserted into an opening into the stack and the internal sampling pump on the meter draws a sample which passes over a gold foil detector and the unit calculates a concentration of mercury in the sir stream. This result is displayed on the unit and the result is recorded on the air monitoring logs maintained by the facility.

12. Backup system: The facility also has a Mercury Instruments Model VM3000 meter for back up. In the event neither the Jerome or VM3000 is available the facility may use colorimetric detector rubes.

13. Compliance shall be demonstrated: ☑ Daily ☐ Weekly ☐ Monthly

14. Indicate by checking:

☐ The portable monitor certification is attached for Department approval. ☐ If it is not attached, please submit it within 60 days of the startup of the sampling program. ☐ The certification was submitted to the Department on _____.

☐ A quality assurance/quality control plan for the portable monitor is attached for Department approval. ☐ If the plan is not attached, please submit it within 60 days of the startup of the sampling program. ☐ The plan was submitted to the Department on _____.

***** Any test value over the emission limit shall be reported as an excess emission. *****

COMPLIANCE DEMONSTRATION BY PERIODIC EMISSION MONITORING
USING PORTABLE MONITORS -- Form 4530-120
AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

NOTE: All operation permit applications must include this form except initial applications for existing, non-Part 70 sources and initial applications for new or modified sources for which no construction permit is required. Completion of this form (when it applies) is mandatory. The Department will not consider or act upon your application unless you complete and submit this application form (when it applies to you). It is not the Department's intention to use any personally identifiable information from this form for any other purpose.

Complete one form for each significant emissions unit being monitored.

Item 1 Provide the name of the facility.

Item 2 Provide the facility identification (FID) number that appears on the annual emission inventory reports.

Item 3 Provide the identification number of the stack that exhausts this equipment. Use the same number used on form 4530-103.

Item 4 Provide the identification number from the appropriate form(s) 4530-104, -105, -106, -107, -108, or -109 completed for the emissions unit that will have its emissions monitored.

Item 5 Identify the pollutant(s) or diluent(s) being monitored for this emissions unit.

Item 6 List the name of the monitor manufacturer.

Item 7 List the model number of the monitor.

Item 8 Indicate if this monitor has been previously used for demonstrating compliance for this emissions unit, by checking the appropriate box.

Item 9 Give the date the monitor was installed. If this is a new monitor, list the date it will be installed.

Item 10 Indicate the type of monitor. If "other," give the type.

Item 11 Describe how the monitor works. Form 4530-135 may be attached for this purpose.

Item 12 Describe how emission data will be collected if the monitor fails.

Item 13 Indicate the frequency with which compliance will be demonstrated. Form 4530-118 may be used to provide additional explanation.

Item 14 *Note: The information requested in Item 14 is optional for your application. Whatever information you choose to submit for Item 14 that is acceptable to the Department will be incorporated into any permit issued by the Department. If you do not complete Item 14 the Department will write these elements of the compliance demonstration program into the permit.*

The portable monitor system should be certified as to its precision and relative accuracy. Please submit this certification to the Department with this permit application. If the system is not certified at the time of application, please submit the certification within 60 days following the startup of the system. If the certification has already been submitted to DNR, it is not necessary to submit it again. Please indicate the approximate date of submittal.

You should submit a portable monitor system Quality Assurance/Quality Control (QA/QC) Plan with this permit application. If the QA/QC plan is not submitted with the application, please submit the QA/QC plan within 60 days following the startup of the system. If the plan has already been submitted to DNR, it is not necessary to submit it again. Please indicate the approximate date of submittal.

***** You must report any excess emissions on a regular basis. *****
Please refer to the Department's compliance program guidance for further details.

State of Wisconsin
Department of Natural Resources

COMPLIANCE DEMONSTRATION BY PERIODIC EMISSION MONITORING USING PORTABLE MONITORS
AIR POLLUTION CONTROL PERMIT APPLICATION

Form 4530-120 11-93 Information attached? __ (y/n)

The use of a portable continuous emission monitor (CEM) may be acceptable as a compliance demonstration method. A monitoring plan shall contain the following information: the name and address of the source; the source facility identification number; a general description of the process and the control equipment; the pollutant or diluent being monitored; the manufacturer, model number, and serial number of each portable monitor; the operating principles of each portable monitor; and a schematic of the CEM system showing the sample acquisition point and the location of the monitors while sampling.

SEE INSTRUCTIONS ON REVERSE SIDE

1. Facility name: Veolia ES Technical Solutions, L.L.C.	2. Facility identification number: 246076050
3. Stack identification number: S14	4. Unit identification number: P10, P11, P14, F99
5. Pollutant(s) or diluent(s) being monitored: Mercury	
6. Name of manufacturer: Arizona Instruments	7. Model number: Jerome 431X
8. Is this an existing system? ☐ Yes ☑ No	9. Installation date: Portable units purchased as needed

10. Type: ☑ In situ ☐ Extractive ☐ Dilution ☐ Other (specify)

11. Describe how the monitor works: The Jerome 431X sampling tube is inserted into an opening into the stack and the internal sampling pump on the meter draws a sample which passes over a gold foil detector and the unit calculates a concentration of mercury in the sir stream. This result is displayed on the unit and the result is recorded on the air monitoring logs maintained by the facility.

12. Backup system: The facility also has a Mercury Instruments Model VM3000 meter for back up. In the event neither the Jerome or VM3000 is available the facility may use colorimetric detector rubes.

13. Compliance shall be demonstrated: ☑ Daily ☐ Weekly ☐ Monthly

14. Indicate by checking:

☐ The portable monitor certification is attached for Department approval. ☐ If it is not attached, please submit it within 60 days of the startup of the sampling program. ☐ The certification was submitted to the Department on _____.

☐ A quality assurance/quality control plan for the portable monitor is attached for Department approval. ☐ If the plan is not attached, please submit it within 60 days of the startup of the sampling program. ☐ The plan was submitted to the Department on _____.

***** Any test value over the emission limit shall be reported as an excess emission. *****

COMPLIANCE DEMONSTRATION BY PERIODIC EMISSION MONITORING
USING PORTABLE MONITORS -- Form 4530-120
AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

NOTE: All operation permit applications must include this form except initial applications for existing, non-Part 70 sources and initial applications for new or modified sources for which no construction permit is required. Completion of this form (when it applies) is mandatory. The Department will not consider or act upon your application unless you complete and submit this application form (when it applies to you). It is not the Department's intention to use any personally identifiable information from this form for any other purpose.

Complete one form for each significant emissions unit being monitored.

Item 1 Provide the name of the facility.

Item 2 Provide the facility identification (FID) number that appears on the annual emission inventory reports.

Item 3 Provide the identification number of the stack that exhausts this equipment. Use the same number used on form 4530-103.

Item 4 Provide the identification number from the appropriate form(s) 4530-104, -105, -106, -107, -108, or -109 completed for the emissions unit that will have its emissions monitored.

Item 5 Identify the pollutant(s) or diluent(s) being monitored for this emissions unit.

Item 6 List the name of the monitor manufacturer.

Item 7 List the model number of the monitor.

Item 8 Indicate if this monitor has been previously used for demonstrating compliance for this emissions unit, by checking the appropriate box.

Item 9 Give the date the monitor was installed. If this is a new monitor, list the date it will be installed.

Item 10 Indicate the type of monitor. If "other," give the type.

Item 11 Describe how the monitor works. Form 4530-135 may be attached for this purpose.

Item 12 Describe how emission data will be collected if the monitor fails.

Item 13 Indicate the frequency with which compliance will be demonstrated. Form 4530-118 may be used to provide additional explanation.

Item 14 *Note: The information requested in Item 14 is optional for your application. Whatever information you choose to submit for Item 14 that is acceptable to the Department will be incorporated into any permit issued by the Department. If you do not complete Item 14 the Department will write these elements of the compliance demonstration program into the permit.*

The portable monitor system should be certified as to its precision and relative accuracy. Please submit this certification to the Department with this permit application. If the system is not certified at the time of application, please submit the certification within 60 days following the startup of the system. If the certification has already been submitted to DNR, it is not necessary to submit it again. Please indicate the approximate date of submittal.

You should submit a portable monitor system Quality Assurance/Quality Control (QA/QC) Plan with this permit application. If the QA/QC plan is not submitted with the application, please submit the QA/QC plan within 60 days following the startup of the system. If the plan has already been submitted to DNR, it is not necessary to submit it again. Please indicate the approximate date of submittal.

***** You must report any excess emissions on a regular basis. *****
Please refer to the Department's compliance program guidance for further details.

State of Wisconsin
Department of Natural Resources

COMPLIANCE DEMONSTRATION BY MONITORING CONTROL SYSTEM PARAMETERS OR OPERATING PARAMETERS OF A PROCESS
AIR POLLUTION CONTROL PERMIT APPLICATION
Form 4530-121 11-93

Information attached? __ (y/n)

The monitoring of a control system parameter or a process may be acceptable as a compliance demonstration method provided that a correlation between the parameter value and the emission rate of a particular pollutant is established in the form of a curve of emission rate versus parameter values. Ideally three sets of stack test data, that bracket the emission limit if possible, could be used to define the emission curve. This correlation shall constitute the certification of the system. It should be attached for Department approval. If it is not attached, please submit it within 60 days of the startup of the system.

SEE INSTRUCTIONS ON REVERSE SIDE

1. Facility name: Veolia ES Technical Solutions, L.L.C.	2. Facility identification number: 246076050
3. Stack identification number: S01	4. Unit identification number: P01
5. Pollutant(s) being monitored: Particulate Matter	
6. Name of manufacturer:	7. Model number:
8. Is this an existing system? ☑ Yes ☐ No	9. Installation date: 1/7/1993

10. Method of monitoring description: Measure pressure drop across cartridge filter (C01)

11. Backup system: The facility has a digital manometer which can be used in the event of meter failure or for verification purposes

12. Indicate by checking:

The monitoring system shall be subject to appropriate performance specifications, calibration requirements and quality assurance procedures. ☐ A quality assurance/quality control plan for the monitoring system is attached for Department approval. ☐ If the plan is not attached, please submit it within 60 days of the start-up of the monitoring program. ☐ The plan was submitted to the Department on _____.

13. The applicant shall propose an appropriate averaging period, (i.e., a particular number of continuous hours) for the purpose of defining excess emissions. The Department may approve the proposed averaging period, or other period which the Department determines to be appropriate. Provide the proposed averaging period(s) below.

Parameter	Averaging Period
Pressure drop across cartridge filter in the range of 0.4 – 6.0 inches of water	Once per eight hour shift

COMPLIANCE DEMONSTRATION BY MONITORING CONTROL SYSTEM PARAMETERS OR OPERATING PARAMETERS OF A PROCESS -- Form 4530-121
AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

NOTE: All operation permit applications must include this form except initial applications for existing, non-Part 70 sources and initial applications for new or modified sources for which no construction permit is required. Completion of this form (when it applies) is mandatory. The Department will not consider or act upon your application unless you complete and submit this application form (when it applies to you). It is not the Department's intention to use any personally identifiable information from this form for any other purpose.

Complete one form for each significant emissions unit being monitored.

Item 1 Provide the name of the facility.

Item 2 Provide the facility identification (FID) number that appears on the annual emission inventory reports.

Item 3 Provide the identification number of the stack that exhausts this equipment. Use the same number used on form 4530-103.

Item 4 Provide the identification number from the appropriate form(s) 4530-104, -105, -106, -107, -108, or -109 completed for the emissions unit that will have its emissions monitored.

Item 5 Identify the pollutant(s) being monitored for this emissions unit.

Item 6 List the name of the monitor manufacturer.

Item 7 List the model number of the monitor.

Item 8 Indicate if this monitor has been previously used for demonstrating compliance for this emissions unit, by checking the appropriate box.

Item 9 Give the date the monitor was installed. If this is a new monitor, list the date it will be installed.

Item 10 List all parameters used to characterize this device. Typical design parameters are pressure drop, operating temperature, pressure, volume of device, volumetric flow rate of dirty gas, etc. Indicate the operating range of all parameters and the units (psia, ^{o}F, ft^{3}, ACFM, etc.). Show any calculations.

Describe how the parameter is being measured. Form 4530-135 may be used to provide this explanation. For example, you could indicate that an average value for the parameter shall be determined and recorded every 15 minutes.

Item 11 Describe how parameter data will be collected if this method fails.

Item 12 *Note: The information requested in Items 12 and 13 is optional for your application. Whatever information you choose to submit for Items 12 and 13 that is acceptable to the Department will be incorporated into any permit issued by the Department. If you do not complete Items 12 and 13 the Department will write these elements of the compliance demonstration program into the permit.*

You should submit a parameter monitoring system Quality Assurance/Quality Control (QA/QC) Plan with this permit application. If the QA/QC plan is not submitted with the application, please submit the QA/QC plan within 60 days following the startup of the system. If the plan has already been submitted to DNR, it is not necessary to submit it again. Please indicate the approximate date of submittal.

Item 13 Provide the details of the proposed averaging period for defining excess emissions. Each parameter used to characterize the control system or process must have an appropriate (i.e., approved by the Department) averaging period. For example, you could indicate that any 3-hour rolling average outside of the normal 3"- 6" range of pressure drop across the baghouse shall be reported as an excess emission.

***** You must report any excess emissions on a regular basis. *****
Please refer to the Department's compliance program guidance for further details.

State of Wisconsin
Department of Natural Resources

COMPLIANCE DEMONSTRATION BY MONITORING CONTROL SYSTEM PARAMETERS OR OPERATING PARAMETERS OF A PROCESS AIR POLLUTION CONTROL PERMIT APPLICATION

Form 4530-121 11-93

Information attached? __ (y/n)

The monitoring of a control system parameter or a process may be acceptable as a compliance demonstration method provided that a correlation between the parameter value and the emission rate of a particular pollutant is established in the form of a curve of emission rate versus parameter values. Ideally three sets of stack test data, that bracket the emission limit if possible, could be used to define the emission curve. This correlation shall constitute the certification of the system. It should be attached for Department approval. If it is not attached, please submit it within 60 days of the startup of the system.

SEE INSTRUCTIONS ON REVERSE SIDE

1. Facility name: Veolia ES Technical Solutions, L.L.C.	2. Facility identification number: 246076050
3. Stack identification number: S08	4. Unit identification number: P08
5. Pollutant(s) being monitored: Particulate Matter	
6. Name of manufacturer:	7. Model number:
8. Is this an existing system? ☑ Yes ☐ No	9. Installation date: 6/1/2004

10. Method of monitoring description: Measure pressure drop across cartridge filter (C04)

11. Backup system: The facility has a digital manometer which can be used in the event of meter failure or for verification purposes

12. Indicate by checking:

The monitoring system shall be subject to appropriate performance specifications, calibration requirements and quality assurance procedures. ☐ A quality assurance/quality control plan for the monitoring system is attached for Department approval. ☐ If the plan is not attached, please submit it within 60 days of the start-up of the monitoring program. ☐ The plan was submitted to the Department on _____.

13. The applicant shall propose an appropriate averaging period, (i.e., a particular number of continuous hours) for the purpose of defining excess emissions. The Department may approve the proposed averaging period, or other period which the Department determines to be appropriate. Provide the proposed averaging period(s) below.

Parameter	Averaging Period
Pressure drop across cartridge filter in the range of 0.4 – 6.0 inches of water	Once per eight hour shift

COMPLIANCE DEMONSTRATION BY MONITORING CONTROL SYSTEM PARAMETERS OR OPERATING PARAMETERS OF A PROCESS -- Form 4530-121
AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

NOTE: All operation permit applications must include this form except initial applications for existing, non-Part 70 sources and initial applications for new or modified sources for which no construction permit is required. Completion of this form (when it applies) is mandatory. The Department will not consider or act upon your application unless you complete and submit this application form (when it applies to you). It is not the Department's intention to use any personally identifiable information from this form for any other purpose.

Complete one form for each significant emissions unit being monitored.

Item 1 Provide the name of the facility.

Item 2 Provide the facility identification (FID) number that appears on the annual emission inventory reports.

Item 3 Provide the identification number of the stack that exhausts this equipment. Use the same number used on form 4530-103.

Item 4 Provide the identification number from the appropriate form(s) 4530-104, -105, -106, -107, -108, or -109 completed for the emissions unit that will have its emissions monitored.

Item 5 Identify the pollutant(s) being monitored for this emissions unit.

Item 6 List the name of the monitor manufacturer.

Item 7 List the model number of the monitor.

Item 8 Indicate if this monitor has been previously used for demonstrating compliance for this emissions unit, by checking the appropriate box.

Item 9 Give the date the monitor was installed. If this is a new monitor, list the date it will be installed.

Item 10 List all parameters used to characterize this device. Typical design parameters are pressure drop, operating temperature, pressure, volume of device, volumetric flow rate of dirty gas, etc. Indicate the operating range of all parameters and the units (psia, ^{o}F, ft^{3}, ACFM, etc.). Show any calculations.

Describe how the parameter is being measured. Form 4530-135 may be used to provide this explanation. For example, you could indicate that an average value for the parameter shall be determined and recorded every 15 minutes.

Item 11 Describe how parameter data will be collected if this method fails.

Item 12 *Note: The information requested in Items 12 and 13 is optional for your application. Whatever information you choose to submit for Items 12 and 13 that is acceptable to the Department will be incorporated into any permit issued by the Department. If you do not complete Items 12 and 13 the Department will write these elements of the compliance demonstration program into the permit.*

You should submit a parameter monitoring system Quality Assurance/Quality Control (QA/QC) Plan with this permit application. If the QA/QC plan is not submitted with the application, please submit the QA/QC plan within 60 days following the startup of the system. If the plan has already been submitted to DNR, it is not necessary to submit it again. Please indicate the approximate date of submittal.

Item 13 Provide the details of the proposed averaging period for defining excess emissions. Each parameter used to characterize the control system or process must have an appropriate (i.e., approved by the Department) averaging period. For example, you could indicate that any 3-hour rolling average outside of the normal 3"- 6" range of pressure drop across the baghouse shall be reported as an excess emission.

***** You must report any excess emissions on a regular basis. *****
Please refer to the Department's compliance program guidance for further details.

State of Wisconsin
Department of Natural Resources

EMISSION UNIT HAZARDOUS AIR POLLUTANT SUMMARY
AIR POLLUTION CONTROL PERMIT APPLICATION
Form 4530-126 11-93 Information attached? __ (y/n)

SEE INSTRUCTIONS ON REVERSE SIDE

1. Facility name: Veolia ES Technical Solutions, L.L.C.
2. Facility identification number: 246076050
3. Stack identification number: S01
4. Unit identification number: P01
5. Unit material description: Emissions from Model 2000 Lamp Recycler
6. Complete the following summary of hazardous air emissions from this unit. Attach sample calculations and emission factor references. Attached?

Pollutant CAS	Actual emissions		Maximum theoretical emissions		Potential to emit	
		Units		Units		
Mercury, 7439-97-6	3.68×10^{-6}	Lb/hr	518	Lb/yr	2.43×10^{-3}	TPY
Antimony and compounds as Sb, 7440-36-0	8.14×10^{-5}	Lb/hr	1349	Lb/yr	6.75×10^{-4}	TPY
Cadmium and compounds as Cd, 7440-43-9	2.04×10^{-7}	Lb/hr	337	Lb/yr	1.69×10^{-6}	TPY
Fluoride inorganic as F	8.14×10^{-5}	Lb/hr	1349	Lb/yr	6.75×10^{-4}	TPY
Indium, 7440-74-6	2.85×10^{-5}	Lb/hr	944	Lb/yr	4.72×10^{-4}	TPY
Manganese, elemental and inorganic compounds as Mn, 7439-96-5	1.22×10^{-4}	Lb/hr	4047	Lb/yr	2.02×10^{-3}	TPY
Yttrium metal and compounds as Y, 7440-65-5	2.04×10^{-4}	Lb/hr	6745	Lb/yr	3.37×10^{-3}	TPY
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EMISSION UNIT HAZARDOUS AIR POLLUTANT SUMMARY -- Form 4530-126
AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

NOTE: Use of this form is required by the Department for any air pollution control permit application filed pursuant to ss. 285.61, 285.62 or 285.66, Wis. Stats. Completion of this form is mandatory. The Department will not consider or act upon your application unless you complete and submit this application form. It is not the Department's intention to use any personally identifiable information from this form for any other purpose.

Use one form for each of up to ten materials that release hazardous air emissions from the source. Facilities using ten or more materials that release hazardous air contaminants may use this form to summarize the hazardous air emissions from the unit, as described below. Materials include fuels, inks, coatings, solvents, additives, cleaning solvents, process raw materials and weld rods. Hazardous air contaminants are defined under chapter NR 445, Wis. Adm. Code, and sec. 112, 1990 Clean Air Act Amendments (42 U.S.C. 7412).

Each emissions unit at the facility will have a group of forms 4530-126 (one for each of a small number of materials involved) or a single Form 4530-126 which summarizes the information requested under item 6 of this form for large numbers of materials involved, for that emissions unit. Documentation of all emissions from all materials must be attached to this form for verification purposes. Examples of this reporting are included in the instruction booklet.

Item 1 Provide the name of the facility.

Item 2 Provide the facility identification (FID) number that appears on the annual emission inventory reports.

Item 3 Provide the identification number of the stack that exhausts this equipment. Use the same number used on form 4530-103.

Item 4 Provide the source identification number. The source number should be consistent with Form 4530-104, -105, -106, -107, -108, or -109 as appropriate.

Item 5 Identify each material that is associated with the source identified in item 4 which emits hazardous air pollution (for example, a boiler which fires coal, natural gas, or co-fires coal and gas should list three materials: coal, gas, and coal/gas). Facilities using more than 10 materials that release hazardous air contaminants may submit the required information in tabular format for each source. Describe the source(s) of information about the material (e.g., Material Safety Data Sheet). Form 4530-135 may be used for this purpose.

Item 6 List all hazardous air pollutants released from this material. Use the CAS (Chemical Abstract System) number for each pollutant. If no CAS number has been assigned to a pollutant, write the name of the pollutant.

Estimate the actual emissions and maximum theoretical emissions for each hazardous air contaminant released from this material at this source. For each pollutant, use the same units found on Form 4530-132 to describe the threshold value (i.e., pounds per hour or pounds per year, depending on the hazardous air pollutant). Also estimate the potential to emit, in tons per year, for each hazardous air contaminant released from this material at this source. If you are claiming an exemption or other compliance demonstration, cite the appropriate regulation. **Attach your calculations and an explanation of any exemptions you claim.** For volatile pollutants, you may want to use Equation G (see below) as a guide.

Estimate each hazardous air contaminant's potential to emit (in tons per year) and **attach your calculations.** You may want to use the equations shown below as a guide. Indicate the units (i.e., TPY). These annual emissions are those "emitted" after pollution control equipment. For outdoor emissions (e.g. burn pits, storage tanks) that do not have pollution control equipment, use a "release efficiency" of 100% for the "capture efficiency". Indoor emissions that do not have pollution control equipment and are not directly vented outside (i.e. fugitive indoor emissions) would report an amount generated and no stack emissions. Form 4530-135 may be used to report these fugitive emissions.

EQUATIONS FOR USE WITH **FORM 4530-126, ITEM 6**

Equation A: Emissions after controls (potential to emit)

$$\text{amount of pollutant emitted (after controls)} = \text{amount generated (before)} * \frac{\text{capture efficiency}}{100\%} * \frac{(1 - \text{removal eff.})}{100\%}$$

Equation B: Emissions from fuel combustion (based on stack test data)

$$\text{amount generated (before, lb/hr)} = \text{emissions based on stack test data} * \frac{\text{maximum heat input (BTU/hr)}}{\text{heat input during test (BTU/hr)}}$$

Equation C: Emissions from fuel combustion (based on emission factors)

$$\text{amount generated (before)} = \text{emission factor} * \text{maximum heat input (or fuel use rate)}$$

Equation D: Emissions from coating activities (for volatile pollutants)

$$\text{amount generated (before)} = \text{maximum coating use rate (lbs/hr)} * \frac{\text{pollutant/coating (\% by weight)}}{100\%}$$

Equation E: Emissions from coating activities (for particulates)

$$\text{amount generated (before)} = \text{maximum coating use rate (lbs/hr)} * \frac{\text{pollutant/coating (\% by weight)}}{100\%} * \text{transfer} \left(1 - \frac{\text{efficiency}}{100\%}\right)$$

Equation F: General emissions equation

$$\text{amount generated (before)} = \text{maximum process capacity} * \text{emission factor}$$

Equation G: Potential to Emit (for volatile pollutants)

$$\text{maximum emissions (annual)} = \text{maximum material use (tons/yr)} * \frac{\text{pollutant/material (\% by weight)}}{100\%} * \frac{\text{capture efficiency}}{100\%} * \text{removal} \left(1 - \frac{\text{eff.}}{100\%}\right)$$

State of Wisconsin
Department of Natural Resources

EMISSION UNIT HAZARDOUS AIR POLLUTANT SUMMARY
AIR POLLUTION CONTROL PERMIT APPLICATION
Form 4530-126 11-93 Information attached? __ (y/n)

SEE INSTRUCTIONS ON REVERSE SIDE

1. Facility name: Veolia ES Technical Solutions, L.L.C.
2. Facility identification number: 246076050
3. Stack identification number: S08
4. Unit identification number: P08
5. Unit material description: Emissions from Model LSS1 Lamp Recycler
6. Complete the following summary of hazardous air emissions from this unit. Attach sample calculations and emission factor references. Attached?

Pollutant CAS	Actual emissions		Maximum theoretical emissions		Potential to emit	
		Units		Units		
Mercury, 7439-97-6	2.46×10^{-6}	Lb/hr	829	Lb/yr	3.88×10^{-3}	TPY
Antimony and compounds as Sb, 7440-36-0	2.18×10^{-5}	Lb/hr	2158	Lb/yr	1.08×10^{-4}	TPY
Cadmium and compounds as Cd, 7440-43-9	5.44×10^{-8}	Lb/hr	540	Lb/yr	2.70×10^{-6}	TPY
Fluoride inorganic as F	2.18×10^{-5}	Lb/hr	2158	Lb/yr	1.08×10^{-4}	TPY
Indium, 7440-74-6	7.62×10^{-6}	Lb/hr	1511	Lb/yr	7.55×10^{-4}	TPY
Manganese, elemental and inorganic compounds as Mn, 7439-96-5	3.27×10^{-5}	Lb/hr	6475	Lb/yr	3.24×10^{-3}	TPY
Yttrium metal and compounds as Y, 7440-65-5	5.44×10^{-5}	Lb/hr	10792	Lb/yr	5.40×10^{-3}	TPY
						TPY
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EMISSION UNIT HAZARDOUS AIR POLLUTANT SUMMARY -- Form 4530-126
AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

NOTE: Use of this form is required by the Department for any air pollution control permit application filed pursuant to ss. 285.61, 285.62 or 285.66, Wis. Stats. Completion of this form is mandatory. The Department will not consider or act upon your application unless you complete and submit this application form. It is not the Department's intention to use any personally identifiable information from this form for any other purpose.

Use one form for each of up to ten materials that release hazardous air emissions from the source. Facilities using ten or more materials that release hazardous air contaminants may use this form to summarize the hazardous air emissions from the unit, as described below. Materials include fuels, inks, coatings, solvents, additives, cleaning solvents, process raw materials and weld rods. Hazardous air contaminants are defined under chapter NR 445, Wis. Adm. Code, and sec. 112, 1990 Clean Air Act Amendments (42 U.S.C. 7412).

Each emissions unit at the facility will have a group of forms 4530-126 (one for each of a small number of materials involved) or a single Form 4530-126 which summarizes the information requested under item 6 of this form for large numbers of materials involved, for that emissions unit. Documentation of all emissions from all materials must be attached to this form for verification purposes. Examples of this reporting are included in the instruction booklet.

Item 1 Provide the name of the facility.

Item 2 Provide the facility identification (FID) number that appears on the annual emission inventory reports.

Item 3 Provide the identification number of the stack that exhausts this equipment. Use the same number used on form 4530-103.

Item 4 Provide the source identification number. The source number should be consistent with Form 4530-104, -105, -106, -107, -108, or -109 as appropriate.

Item 5 Identify each material that is associated with the source identified in item 4 which emits hazardous air pollution (for example, a boiler which fires coal, natural gas, or co-fires coal and gas should list three materials: coal, gas, and coal/gas). Facilities using more than 10 materials that release hazardous air contaminants may submit the required information in tabular format for each source. Describe the source(s) of information about the material (e.g., Material Safety Data Sheet). Form 4530-135 may be used for this purpose.

Item 6 List all hazardous air pollutants released from this material. Use the CAS (Chemical Abstract System) number for each pollutant. If no CAS number has been assigned to a pollutant, write the name of the pollutant.

Estimate the actual emissions and maximum theoretical emissions for each hazardous air contaminant released from this material at this source. For each pollutant, use the same units found on Form 4530-132 to describe the threshold value (i.e., pounds per hour or pounds per year, depending on the hazardous air pollutant). Also estimate the potential to emit, in tons per year, for each hazardous air contaminant released from this material at this source. If you are claiming an exemption or other compliance demonstration, cite the appropriate regulation. **Attach your calculations and an explanation of any exemptions you claim.** For volatile pollutants, you may want to use Equation G (see below) as a guide.

Estimate each hazardous air contaminant's potential to emit (in tons per year) and **attach your calculations.** You may want to use the equations shown below as a guide. Indicate the units (i.e., TPY). These annual emissions are those "emitted" after pollution control equipment. For outdoor emissions (e.g. burn pits, storage tanks) that do not have pollution control equipment, use a "release efficiency" of 100% for the "capture efficiency". Indoor emissions that do not have pollution control equipment and are not directly vented outside (i.e. fugitive indoor emissions) would report an amount generated and no stack emissions. Form 4530-135 may be used to report these fugitive emissions.

EQUATIONS FOR USE WITH **FORM 4530-126, ITEM 6**

Equation A: Emissions after controls (potential to emit)

$$\text{amount of pollutant emitted (after controls)} = \text{amount generated (before)} * \frac{\text{capture efficiency}}{100\%} * \frac{(1 - \text{removal eff.})}{100\%}$$

Equation B: Emissions from fuel combustion (based on stack test data)

$$\text{amount generated (before, lb/hr)} = \text{emissions based on stack test data} * \frac{\text{maximum heat input (BTU/hr)}}{\text{heat input during test (BTU/hr)}}$$

Equation C: Emissions from fuel combustion (based on emission factors)

$$\text{amount generated (before)} = \text{emission factor} * \text{maximum heat input (or fuel use rate)}$$

Equation D: Emissions from coating activities (for volatile pollutants)

$$\text{amount generated (before)} = \text{maximum coating use rate (lbs/hr)} * \frac{\text{pollutant/coating (\% by weight)}}{100\%}$$

Equation E: Emissions from coating activities (for particulates)

$$\text{amount generated (before)} = \text{maximum coating use rate (lbs/hr)} * \frac{\text{pollutant/coating (\% by weight)}}{100\%} * \text{transfer} \left(1 - \frac{\text{efficiency}}{100\%}\right)$$

Equation F: General emissions equation

$$\text{amount generated (before)} = \text{maximum process capacity} * \text{emission factor}$$

Equation G: Potential to Emit (for volatile pollutants)

$$\text{maximum emissions (annual)} = \text{maximum material use (tons/yr)} * \frac{\text{pollutant/material (\% by weight)}}{100\%} * \frac{\text{capture efficiency}}{100\%} * \text{removal} \left(1 - \frac{\text{eff.}}{100\%}\right)$$

State of Wisconsin
Department of Natural Resources

EMISSION UNIT HAZARDOUS AIR POLLUTANT SUMMARY
AIR POLLUTION CONTROL PERMIT APPLICATION
Form 4530-126 11-93

Information attached? __ (y/n)

SEE INSTRUCTIONS ON REVERSE SIDE

1. Facility name: Veolia ES Technical Solutions, L.L.C.	2. Facility identification number: 246076050
3. Stack identification number: S12	4. Unit identification number: P10

5. Unit material description: Flue gas from RipSys Retort Oven

6. Complete the following summary of hazardous air emissions from this unit. Attach sample calculations and emission factor references. Attached?

Pollutant CAS	Actual emissions		Maximum theoretical emissions		Potential to emit	
		Units		Units		
No significant HAP emissions from this source						TPY
						TPY
						TPY
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EMISSION UNIT HAZARDOUS AIR POLLUTANT SUMMARY -- Form 4530-126
AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

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Use one form for each of up to ten materials that release hazardous air emissions from the source. Facilities using ten or more materials that release hazardous air contaminants may use this form to summarize the hazardous air emissions from the unit, as described below. Materials include fuels, inks, coatings, solvents, additives, cleaning solvents, process raw materials and weld rods. Hazardous air contaminants are defined under chapter NR 445, Wis. Adm. Code, and sec. 112, 1990 Clean Air Act Amendments (42 U.S.C. 7412).

Each emissions unit at the facility will have a group of forms 4530-126 (one for each of a small number of materials involved) or a single Form 4530-126 which summarizes the information requested under item 6 of this form for large numbers of materials involved, for that emissions unit. Documentation of all emissions from all materials must be attached to this form for verification purposes. Examples of this reporting are included in the instruction booklet.

Item 1 Provide the name of the facility.

Item 2 Provide the facility identification (FID) number that appears on the annual emission inventory reports.

Item 3 Provide the identification number of the stack that exhausts this equipment. Use the same number used on form 4530-103.

Item 4 Provide the source identification number. The source number should be consistent with Form 4530-104, -105, -106, -107, -108, or -109 as appropriate.

Item 5 Identify each material that is associated with the source identified in item 4 which emits hazardous air pollution (for example, a boiler which fires coal, natural gas, or co-fires coal and gas should list three materials: coal, gas, and coal/gas). Facilities using more than 10 materials that release hazardous air contaminants may submit the required information in tabular format for each source. Describe the source(s) of information about the material (e.g., Material Safety Data Sheet). Form 4530-135 may be used for this purpose.

Item 6 List all hazardous air pollutants released from this material. Use the CAS (Chemical Abstract System) number for each pollutant. If no CAS number has been assigned to a pollutant, write the name of the pollutant.

Estimate the actual emissions and maximum theoretical emissions for each hazardous air contaminant released from this material at this source. For each pollutant, use the same units found on Form 4530-132 to describe the threshold value (i.e., pounds per hour or pounds per year, depending on the hazardous air pollutant). Also estimate the potential to emit, in tons per year, for each hazardous air contaminant released from this material at this source. If you are claiming an exemption or other compliance demonstration, cite the appropriate regulation. **Attach your calculations and an explanation of any exemptions you claim.** For volatile pollutants, you may want to use Equation G (see below) as a guide.

Estimate each hazardous air contaminant's potential to emit (in tons per year) and **attach your calculations.** You may want to use the equations shown below as a guide. Indicate the units (i.e., TPY). These annual emissions are those "emitted" after pollution control equipment. For outdoor emissions (e.g. burn pits, storage tanks) that do not have pollution control equipment, use a "release efficiency" of 100% for the "capture efficiency". Indoor emissions that do not have pollution control equipment and are not directly vented outside (i.e. fugitive indoor emissions) would report an amount generated and no stack emissions. Form 4530-135 may be used to report these fugitive emissions.

EQUATIONS FOR USE WITH **FORM 4530-126, ITEM 6**

Equation A: Emissions after controls (potential to emit)

$$\underset{\text{emitted (after controls)}}{\text{amount of pollutant}} = \underset{\text{(before)}}{\text{amount generated}} * \frac{\text{capture efficiency}}{100\%} * \left(1 - \frac{\text{removal eff.}}{100\%}\right)$$

Equation B: Emissions from fuel combustion (based on stack test data)

$$\underset{\text{(before, lb/hr)}}{\text{amount generated}} = \underset{\text{stack test data}}{\text{emissions based on}} * \frac{\text{maximum heat input (BTU/hr)}}{\text{heat input during test (BTU/hr)}}$$

Equation C: Emissions from fuel combustion (based on emission factors)

$$\underset{\text{(before)}}{\text{amount generated}} = \text{emission factor} * \text{maximum heat input (or fuel use rate)}$$

Equation D: Emissions from coating activities (for volatile pollutants)

$$\underset{\text{(before)}}{\text{amount generated}} = \underset{\text{use rate (lbs/hr)}}{\text{maximum coating}} * \frac{\text{pollutant/coating (\% by weight)}}{100\%}$$

Equation E: Emissions from coating activities (for particulates)

$$\underset{\text{(before)}}{\text{amount generated}} = \underset{\text{use rate (lbs/hr)}}{\text{maximum coating}} * \frac{\text{pollutant/coating (\% by weight)}}{100\%} * \text{transfer} \left(1 - \frac{\text{efficiency}}{100\%}\right)$$

Equation F: General emissions equation

$$\underset{\text{(before)}}{\text{amount generated}} = \underset{\text{capacity}}{\text{maximum process}} * \text{emission factor}$$

Equation G: Potential to Emit (for volatile pollutants)

$$\underset{\text{(annual)}}{\text{maximum emissions}} = \underset{\text{use (tons/yr)}}{\text{maximum material}} * \frac{\text{pollutant/material (\% by weight)}}{100\%} * \frac{\text{capture efficiency}}{100\%} * \left(1 - \frac{\text{removal eff.}}{100\%}\right)$$

State of Wisconsin
Department of Natural Resources

EMISSION UNIT HAZARDOUS AIR POLLUTANT SUMMARY
AIR POLLUTION CONTROL PERMIT APPLICATION

Form 4530-126 11-93

Information attached? __ (y/n)

SEE INSTRUCTIONS ON REVERSE SIDE

1. Facility name: Veolia ES Technical Solutions, L.L.C.
2. Facility identification number: 246076050
3. Stack identification number: S13
4. Unit identification number: P11
5. Unit material description: Flue gas from Magna Drum Retort Oven
6. Complete the following summary of hazardous air emissions from this unit. Attach sample calculations and emission factor references. Attached?

Pollutant CAS	Actual emissions		Maximum theoretical emissions		Potential to emit	
		Units		Units		
No significant HAP emissions from this source						TPY
						TPY
						TPY
						TPY
						TPY
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Item 2 Provide the facility identification (FID) number that appears on the annual emission inventory reports.

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Item 4 Provide the source identification number. The source number should be consistent with Form 4530-104, -105, -106, -107, -108, or -109 as appropriate.

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Item 6 List all hazardous air pollutants released from this material. Use the CAS (Chemical Abstract System) number for each pollutant. If no CAS number has been assigned to a pollutant, write the name of the pollutant.

Estimate the actual emissions and maximum theoretical emissions for each hazardous air contaminant released from this material at this source. For each pollutant, use the same units found on Form 4530-132 to describe the threshold value (i.e., pounds per hour or pounds per year, depending on the hazardous air pollutant). Also estimate the potential to emit, in tons per year, for each hazardous air contaminant released from this material at this source. If you are claiming an exemption or other compliance demonstration, cite the appropriate regulation. **Attach your calculations and an explanation of any exemptions you claim.** For volatile pollutants, you may want to use Equation G (see below) as a guide.

Estimate each hazardous air contaminant's potential to emit (in tons per year) and **attach your calculations.** You may want to use the equations shown below as a guide. Indicate the units (i.e., TPY). These annual emissions are those "emitted" after pollution control equipment. For outdoor emissions (e.g. burn pits, storage tanks) that do not have pollution control equipment, use a "release efficiency" of 100% for the "capture efficiency". Indoor emissions that do not have pollution control equipment and are not directly vented outside (i.e. fugitive indoor emissions) would report an amount generated and no stack emissions. Form 4530-135 may be used to report these fugitive emissions.

EQUATIONS FOR USE WITH **FORM 4530-126, ITEM 6**

Equation A: Emissions after controls (potential to emit)

$$\text{amount of pollutant emitted (after controls)} = \text{amount generated (before)} * \frac{\text{capture efficiency}}{100\%} * \frac{(1 - \text{removal eff.})}{100\%}$$

Equation B: Emissions from fuel combustion (based on stack test data)

$$\text{amount generated (before, lb/hr)} = \text{emissions based on stack test data} * \frac{\text{maximum heat input (BTU/hr)}}{\text{heat input during test (BTU/hr)}}$$

Equation C: Emissions from fuel combustion (based on emission factors)

$$\text{amount generated (before)} = \text{emission factor} * \text{maximum heat input (or fuel use rate)}$$

Equation D: Emissions from coating activities (for volatile pollutants)

$$\text{amount generated (before)} = \text{maximum coating use rate (lbs/hr)} * \frac{\text{pollutant/coating (\% by weight)}}{100\%}$$

Equation E: Emissions from coating activities (for particulates)

$$\text{amount generated (before)} = \text{maximum coating use rate (lbs/hr)} * \frac{\text{pollutant/coating (\% by weight)}}{100\%} * \text{transfer} \left(1 - \frac{\text{efficiency}}{100\%}\right)$$

Equation F: General emissions equation

$$\text{amount generated (before)} = \text{maximum process capacity} * \text{emission factor}$$

Equation G: Potential to Emit (for volatile pollutants)

$$\text{maximum emissions (annual)} = \text{maximum material use (tons/yr)} * \frac{\text{pollutant/material (\% by weight)}}{100\%} * \frac{\text{capture efficiency}}{100\%} * \left(1 - \frac{\text{removal eff.}}{100\%}\right)$$

State of Wisconsin
Department of Natural Resources

EMISSION UNIT HAZARDOUS AIR POLLUTANT SUMMARY
AIR POLLUTION CONTROL PERMIT APPLICATION

Form 4530-126 11-93 Information attached? _y_ (y/n)

SEE INSTRUCTIONS ON REVERSE SIDE

1. Facility name: Veolia ES Technical Solutions, L.L.C.	2. Facility identification number: 246076050
3. Stack identification number: S14	4. Unit identification number: P10, P11, P14, F99

5. Unit material description: Emissions from Retort ovens and retort room ventilation

6. Complete the following summary of hazardous air emissions from this unit. Attach sample calculations and emission factor references. Attached?

Pollutant CAS	Actual emissions		Maximum theoretical emissions		Potential to emit	
		Units		Units		
7439-97-6 (Mercury)	3.50×10^{-4}	Lb/hr	812	Lb/yr	0.081	TPY
						TPY
						TPY
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Item 2 Provide the facility identification (FID) number that appears on the annual emission inventory reports.

Item 3 Provide the identification number of the stack that exhausts this equipment. Use the same number used on form 4530-103.

Item 4 Provide the source identification number. The source number should be consistent with Form 4530-104, -105, -106, -107, -108, or -109 as appropriate.

Item 5 Identify each material that is associated with the source identified in item 4 which emits hazardous air pollution (for example, a boiler which fires coal, natural gas, or co-fires coal and gas should list three materials: coal, gas, and coal/gas). Facilities using more than 10 materials that release hazardous air contaminants may submit the required information in tabular format for each source. Describe the source(s) of information about the material (e.g., Material Safety Data Sheet). Form 4530-135 may be used for this purpose.

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Estimate each hazardous air contaminant's potential to emit (in tons per year) and **attach your calculations.** You may want to use the equations shown below as a guide. Indicate the units (i.e., TPY). These annual emissions are those "emitted" after pollution control equipment. For outdoor emissions (e.g. burn pits, storage tanks) that do not have pollution control equipment, use a "release efficiency" of 100% for the "capture efficiency". Indoor emissions that do not have pollution control equipment and are not directly vented outside (i.e. fugitive indoor emissions) would report an amount generated and no stack emissions. Form 4530-135 may be used to report these fugitive emissions.

EQUATIONS FOR USE WITH **FORM 4530-126, ITEM 6**

Equation A: Emissions after controls (potential to emit)

$$\text{amount of pollutant emitted (after controls)} = \text{amount generated (before)} * \frac{\text{capture efficiency}}{100\%} * \frac{(1 - \text{removal eff.})}{100\%}$$

Equation B: Emissions from fuel combustion (based on stack test data)

$$\text{amount generated (before, lb/hr)} = \text{emissions based on stack test data} * \frac{\text{maximum heat input (BTU/hr)}}{\text{heat input during test (BTU/hr)}}$$

Equation C: Emissions from fuel combustion (based on emission factors)

$$\text{amount generated (before)} = \text{emission factor} * \text{maximum heat input (or fuel use rate)}$$

Equation D: Emissions from coating activities (for volatile pollutants)

$$\text{amount generated (before)} = \text{maximum coating use rate (lbs/hr)} * \frac{\text{pollutant/coating (\% by weight)}}{100\%}$$

Equation E: Emissions from coating activities (for particulates)

$$\text{amount generated (before)} = \text{maximum coating use rate (lbs/hr)} * \frac{\text{pollutant/coating (\% by weight)}}{100\%} * \text{transfer} \left(1 - \frac{\text{efficiency}}{100\%}\right)$$

Equation F: General emissions equation

$$\text{amount generated (before)} = \text{maximum process capacity} * \text{emission factor}$$

Equation G: Potential to Emit (for volatile pollutants)

$$\text{maximum emissions (annual)} = \text{maximum material use (tons/yr)} * \frac{\text{pollutant/material (\% by weight)}}{100\%} * \frac{\text{capture efficiency}}{100\%} * \text{removal} \left(1 - \frac{\text{eff.}}{100\%}\right)$$

State of Wisconsin
Department of Natural Resources

EMISSION UNIT HAZARDOUS AIR POLLUTANT SUMMARY
AIR POLLUTION CONTROL PERMIT APPLICATION
Form 4530-126 11-93

Information attached? __ (y/n)

SEE INSTRUCTIONS ON REVERSE SIDE

1. Facility name: Veolia ES Technical Solutions, L.L.C.	2. Facility identification number: 246076050
3. Stack identification number: S16	4. Unit identification number: P16

5. Unit material description: Exhaust gas from back-up emergency generator

6. Complete the following summary of hazardous air emissions from this unit. Attach sample calculations and emission factor references. Attached?

Pollutant CAS	Actual emissions		Maximum theoretical emissions		Potential to emit	
		Units		Units		
No significant HAP emissions from this source						TPY
						TPY
						TPY
						TPY
						TPY
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Item 3 Provide the identification number of the stack that exhausts this equipment. Use the same number used on form 4530-103.

Item 4 Provide the source identification number. The source number should be consistent with Form 4530-104, -105, -106, -107, -108, or -109 as appropriate.

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EQUATIONS FOR USE WITH **FORM 4530-126, ITEM 6**

Equation A: Emissions after controls (potential to emit)

$$\text{amount of pollutant emitted (after controls)} = \text{amount generated (before)} * \frac{\text{capture efficiency}}{100\%} * \frac{(1 - \text{removal eff.})}{100\%}$$

Equation B: Emissions from fuel combustion (based on stack test data)

$$\text{amount generated (before, lb/hr)} = \text{emissions based on stack test data} * \frac{\text{maximum heat input (BTU/hr)}}{\text{heat input during test (BTU/hr)}}$$

Equation C: Emissions from fuel combustion (based on emission factors)

$$\text{amount generated (before)} = \text{emission factor} * \text{maximum heat input (or fuel use rate)}$$

Equation D: Emissions from coating activities (for volatile pollutants)

$$\text{amount generated (before)} = \text{maximum coating use rate (lbs/hr)} * \frac{\text{pollutant/coating (\% by weight)}}{100\%}$$

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Information attached? __ (y/n)

SEE INSTRUCTIONS ON REVERSE SIDE

1. Facility name: Veolia ES Technical Solutions, L.L.C.

2. Facility identification number: 246076050

3. Stack identification number: S17

4. Unit identification number: P14

5. Unit material description: Flue gas from Wisconsin Oven Retort System

6. Complete the following summary of hazardous air emissions from this unit. Attach sample calculations and emission factor references. Attached?

Pollutant CAS	Actual emissions		Maximum theoretical emissions		Potential to emit	
		Units		Units		
No significant HAP emissions from this source						TPY
						TPY
						TPY
						TPY
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EQUATIONS FOR USE WITH **FORM 4530-126, ITEM 6**

Equation A: Emissions after controls (potential to emit)

$$\text{amount of pollutant emitted (after controls)} = \text{amount generated (before)} * \frac{\text{capture efficiency}}{100\%} * \frac{(1 - \text{removal eff.})}{100\%}$$

Equation B: Emissions from fuel combustion (based on stack test data)

$$\text{amount generated (before, lb/hr)} = \text{emissions based on stack test data} * \frac{\text{maximum heat input (BTU/hr)}}{\text{heat input during test (BTU/hr)}}$$

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$$\text{amount generated (before)} = \text{emission factor} * \text{maximum heat input (or fuel use rate)}$$

Equation D: Emissions from coating activities (for volatile pollutants)

$$\text{amount generated (before)} = \text{maximum coating use rate (lbs/hr)} * \frac{\text{pollutant/coating (\% by weight)}}{100\%}$$

Equation E: Emissions from coating activities (for particulates)

$$\text{amount generated (before)} = \text{maximum coating use rate (lbs/hr)} * \frac{\text{pollutant/coating (\% by weight)}}{100\%} * \text{transfer} \left(1 - \frac{\text{efficiency}}{100\%}\right)$$

Equation F: General emissions equation

$$\text{amount generated (before)} = \text{maximum process capacity} * \text{emission factor}$$

Equation G: Potential to Emit (for volatile pollutants)

$$\text{maximum emissions (annual)} = \text{maximum material use (tons/yr)} * \frac{\text{pollutant/material (\% by weight)}}{100\%} * \frac{\text{capture efficiency}}{100\%} * \text{removal} \left(1 - \frac{\text{eff.}}{100\%}\right)$$

State of Wisconsin
Department of Natural Resources

FACILITY HAZARDOUS AIR POLLUTANT SUMMARY
AIR POLLUTION CONTROL PERMIT APPLICATION
Form 4530-127 11-93

Information attached? Y (y/n)

SEE INSTRUCTIONS ON REVERSE SIDE

1. Facility name: Veolia ES Technical Solutions, L.L.C.

2. Facility identification number: 246076050

3. Complete the following emissions summary for all hazardous air emissions at this facility (as defined in ch. NR 445, Wis Adm. Code, and sec. 112, 1990 Clean Air Act Amendments):

Pollutant CAS	Actual emissions		Maximum theoretical emissions		Potential to emit	
		Units		Units		
Mercury, 7439-97-6	3.57×10^{-4}	Lb/hr	2159	Lb/yr	0.087	TPY
Antimony and compounds as Sb, 7440-36-0	1.03×10^{-4}	Lb/hr	3508	Lb/yr	1.75×10^{-3}	TPY
Cadmium and compounds as Cd, 7440-43-9	2.58×10^{-7}	Lb/hr	877	Lb/yr	4.38×10^{-6}	TPY
Fluoride inorganic as F	1.03×10^{-4}	Lb/hr	3508	Lb/yr	1.75×10^{-3}	TPY
Indium, 7440-74-6	3.61×10^{-5}	Lb/hr	2455	lb/yr	1.23×10^{-3}	TPY
Manganese, elemental and inorganic compounds as Mn, 7439-96-5	1.55×10^{-4}	Lb/hr	10523	Lb/yr	5.26×10^{-3}	TPY
Yttrium metal and compounds as Y, 7440-65-5	2.58×10^{-4}	Lb/hr	17538	Lb/yr	8.77×10^{-3}	TPY
						TPY
						TPY
						TPY
						TPY
						TPY
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						TPY
						TPY
						TPY

FACILITY HAZARDOUS AIR POLLUTANT SUMMARY -- Form 4530-127
AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

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Item 1 Provide the name of the facility.

Item 2 Provide the facility identification (FID) number that appears on the annual emission inventory reports.

Item 3 Provide an emissions summary for all hazardous air emission sources at this facility:

- Indicate the hazardous air contaminant's corresponding Chemical Abstract System (CAS) number.
- Determine the total emissions at maximum capacity from all sources. These emissions should be the controlled emissions. Use the same units (i.e., pounds per hour, pounds per year, tons per year, etc.) for the hazardous air contaminants as used for the standard in chapter NR 445, Wis. Adm. Code, or section 112 of the 1990 Clean Air Act Amendments (42 U.S.C. 7412).

State of Wisconsin
Department of Natural Resources

EMISSION UNIT SUMMARY
AIR POLLUTION CONTROL PERMIT APPLICATION
Form 4530-128 11-93

Information attached? Y (y/n)

SEE INSTRUCTIONS ON REVERSE SIDE

1. Facility name: Veolia ES Technical Solutions, L.L.C.	2. Facility identification number: 246076050
3. Stack identification number: S01	4. Unit identification number: P01

5. Complete the following emissions summary for the following pollutants. Attach sample calculations and emission factor references. Attached? Yes

Air pollutant	Actual			Maximum theoretical emissions			Potential to emit		Maximum allowable		
		U	TPY		U	TPY				U	TPY
Particulates	2.91×10^{-3}	1	6.05×10^{-3}	5.50	1	24.1	0.024	TPY			
Sulfur dioxide								TPY			
Organic compounds								TPY			
Carbon monoxide								TPY			
Lead								TPY			
Nitrogen oxides								TPY			
Total reduced sulfur								TPY			
Mercury	3.68×10^{-6}	1	7.5×10^{-6}	0.059	1	0.259	2.43×10^{-3}	TPY			
Asbestos								TPY			
Beryllium								TPY			
Vinyl chloride								TPY			
PM10	5.82×10^{-4}	1	1.21×10^{-3}	1.10	1	4.82	4.82×10^{-3}	TPY			
PM2.5	5.82×10^{-4}	1	1.21×10^{-3}	1.10	1	4.82	4.82×10^{-3}	TPY			
								TPY			
								TPY			
								TPY			

Units (U) should be entered as follows:

1 = lb/hr
2 = lb/mmBTU
3 = grains/dscf
4 = lb/ gallon
5 = ppmdv
6 = other (specify)
7 = other (specify)
8 = other (specify)

EMISSION UNIT SUMMARY -- Form 4530-128
AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

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Item 1 Provide the name of the facility.

Item 2 Provide the facility identification (FID) number that appears on the annual emission inventory reports.

Item 3 Provide the identification number of the stack that exhausts this equipment. Use the same number used on form 4530-103.

Item 4 Provide the identification number from the appropriate form(s) 4530-104, -105, -106, -107, -108, or -109 completed for the emissions unit that will have its emissions summarized on this form.

Item 5 Provide the emission levels for each listed pollutant emitted from this source. The emissions should be presented using the same units as the applicable limits shown on Form 4530-130 and in tons per year (TPY). The list of footnotes found in the lower left corner of this form allows the applicant to specify the units of each reported emission level. To specify the appropriate units, write the appropriate footnote number in the columns headed by the letter "U".

For example: to indicate an emission rate of 3.2 lbs SO_2/MMBTU, write

Sulfur dioxide	3.2	2

on the line for sulfur dioxide (SO_2).

Maximum theoretical emissions should represent emissions at full production capacity of the source before reduction by any pollution control equipment. This is normally 24 hours/day for 365 days/year or 8760 hours/year, although this calculation may account for certain operational constraints such as press down time or scheduled boiler maintenance outage. Please see subsection NR 400.02(53m) for the precise definition of "maximum theoretical emissions." You may want to use emission factors to determine these emissions.

Potential to emit should represent emissions at full production capacity of the source after reduction by any air pollution control equipment. This is normally 24 hours/day for 365 days/year (i.e., 8760 hours/year), although physical or operational limitations that are enforceable by the Administrator of EPA on the capacity of a source to emit air contaminants may be considered in determining potential to emit. Please see subsection NR 400.02(71) for the precise definition of "potential to emit." You may want to use emission factors to determine these emissions.

Maximum allowable emissions should represent the greatest amount of emissions allowed under any permit or applicable standards, taking into consideration the equipment limitations, such as line speed, and pollution control efficiencies of the equipment.

Please remember to:

- Report hazardous air pollutants on Forms 4530-126 and 4530-127.
- State the reference(s) for the calculations. Emission factors may be compiled in published documents, such as EPA's AP-42, or may be based on stack test results. A separate page of numbered references is appropriate and may be attached to form 4530-128. Form 4530-135 may be used for this purpose.

State of Wisconsin
Department of Natural Resources

EMISSION UNIT SUMMARY
AIR POLLUTION CONTROL PERMIT APPLICATION
Form 4530-128 11-93

Information attached? Y (y/n)

SEE INSTRUCTIONS ON REVERSE SIDE

1. Facility name: Veolia ES Technical Solutions, L.L.C.	2. Facility identification number: 246076050
3. Stack identification number: S08	4. Unit identification number: P08

5. Complete the following emissions summary for the following pollutants. Attach sample calculations and emission factor references. Attached? Yes

Air pollutant	Actual			Maximum theoretical emissions			Potential to emit		Maximum allowable		
		U	TPY		U	TPY				U	TPY
Particulates	7.78 x 10^{-4}	1	1.62 x 10^{-3}	8.80	1	38.5	0.039	TPY			
Sulfur dioxide								TPY			
Organic compounds								TPY			
Carbon monoxide								TPY			
Lead								TPY			
Nitrogen oxides								TPY			
Total reduced sulfur								TPY			
Mercury	2.46 x 10^{-6}	1	5.5 x 10^{-6}	0.095	1	0.415	3.88 x 10^{-3}	TPY			
Asbestos								TPY			
Beryllium								TPY			
Vinyl chloride								TPY			
PM10	1.56 x 10^{-4}	1	3.24 x 10^{-4}	1.76	1	7.71	7.71 x 10^{-3}	TPY			
PM2.5	1.56 x 10^{-4}	1	3.24 x 10^{-4}	1.76	1	7.71	7.71 x 10^{-3}	TPY			
								TPY			
								TPY			
								TPY			

Units (U) should be entered as follows:

1 = lb/hr
2 = lb/mmBTU
3 = grains/dscf
4 = lb/ gallon
5 = ppmdv
6 = other (specify)
7 = other (specify)
8 = other (specify)

EMISSION UNIT SUMMARY -- Form 4530-128
AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

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Item 1 Provide the name of the facility.

Item 2 Provide the facility identification (FID) number that appears on the annual emission inventory reports.

Item 3 Provide the identification number of the stack that exhausts this equipment. Use the same number used on form 4530-103.

Item 4 Provide the identification number from the appropriate form(s) 4530-104, -105, -106, -107, -108, or -109 completed for the emissions unit that will have its emissions summarized on this form.

Item 5 Provide the emission levels for each listed pollutant emitted from this source. The emissions should be presented using the same units as the applicable limits shown on Form 4530-130 and in tons per year (TPY). The list of footnotes found in the lower left corner of this form allows the applicant to specify the units of each reported emission level. To specify the appropriate units, write the appropriate footnote number in the columns headed by the letter "U".

For example: to indicate an emission rate of 3.2 lbs SO_2/MMBTU, write

Sulfur dioxide	3.2	2

on the line for sulfur dioxide (SO_2).

Maximum theoretical emissions should represent emissions at full production capacity of the source before reduction by any pollution control equipment. This is normally 24 hours/day for 365 days/year or 8760 hours/year, although this calculation may account for certain operational constraints such as press down time or scheduled boiler maintenance outage. Please see subsection NR 400.02(53m) for the precise definition of "maximum theoretical emissions." You may want to use emission factors to determine these emissions.

Potential to emit should represent emissions at full production capacity of the source after reduction by any air pollution control equipment. This is normally 24 hours/day for 365 days/year (i.e., 8760 hours/year), although physical or operational limitations that are enforceable by the Administrator of EPA on the capacity of a source to emit air contaminants may be considered in determining potential to emit. Please see subsection NR 400.02(71) for the precise definition of "potential to emit." You may want to use emission factors to determine these emissions.

Maximum allowable emissions should represent the greatest amount of emissions allowed under any permit or applicable standards, taking into consideration the equipment limitations, such as line speed, and pollution control efficiencies of the equipment.

Please remember to:

- Report hazardous air pollutants on Forms 4530-126 and 4530-127.
- State the reference(s) for the calculations. Emission factors may be compiled in published documents, such as EPA's AP-42, or may be based on stack test results. A separate page of numbered references is appropriate and may be attached to form 4530-128. Form 4530-135 may be used for this purpose.

State of Wisconsin
Department of Natural Resources

EMISSION UNIT SUMMARY
AIR POLLUTION CONTROL PERMIT APPLICATION
Form 4530-128 11-93

Information attached? __ (y/n)

SEE INSTRUCTIONS ON REVERSE SIDE

1. Facility name: Veolia ES Technical Solutions, L.L.C.	2. Facility identification number: 246076050
3. Stack identification number: S12	4. Unit identification number: P10

5. Complete the following emissions summary for the following pollutants. Attach sample calculations and emission factor references. Attached? Yes

Air pollutant	Actual			Maximum theoretical emissions			Potential to emit		Maximum allowable		
		U	TPY		U	TPY				U	TPY
Particulates	1.49×10^{-3}	1	3.73×10^{-3}	2.98×10^{-3}	1	0.013	0.013	TPY			
Sulfur dioxide	1.18×10^{-4}	1	2.94×10^{-4}	2.35×10^{-4}	1	1.03×10^{-3}	1.03×10^{-3}	TPY			
Organic compounds	0.12	1	0.29	0.230	1	1.01	1.01	TPY			
Carbon monoxide	0.016	1	0.041	0.033	1	0.14	0.14	TPY			
Lead								TPY			
Nitrogen oxides	0.020	1	0.049	0.039	1	0.17	0.17	TPY			
Total reduced sulfur								TPY			
Mercury								TPY			
Asbestos								TPY			
Beryllium								TPY			
Vinyl chloride								TPY			
PM10	1.49×10^{-3}	1	3.73×10^{-3}	2.98×10^{-3}	1	0.013	0.013	TPY			
PM2.5	1.49×10^{-3}	1	3.73×10^{-3}	2.98×10^{-3}	1	0.013	0.013	TPY			
Carbon Dioxide	23.5	1	58.8	47.1	1	206	206	TPY			
Methane	4.51×10^{-4}	1	1.13×10^{-3}	9.02×10^{-4}	1	3.95×10^{-3}	3.95×10^{-3}	TPY			
Nitrous Oxide	4.31×10^{-4}	1	1.08×10^{-3}	8.63×10^{-4}	1	3.78×10^{-3}	3.78×10^{-3}	TPY			

Units (U) should be entered as follows:

1 = lb/hr
2 = lb/mmBTU
3 = grains/dscf
4 = lb/ gallon
5 = ppmdv
6 = other (specify)
7 = other (specify)
8 = other (specify)

EMISSION UNIT SUMMARY -- Form 4530-128
AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

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Item 1 Provide the name of the facility.

Item 2 Provide the facility identification (FID) number that appears on the annual emission inventory reports.

Item 3 Provide the identification number of the stack that exhausts this equipment. Use the same number used on form 4530-103.

Item 4 Provide the identification number from the appropriate form(s) 4530-104, -105, -106, -107, -108, or -109 completed for the emissions unit that will have its emissions summarized on this form.

Item 5 Provide the emission levels for each listed pollutant emitted from this source. The emissions should be presented using the same units as the applicable limits shown on Form 4530-130 and in tons per year (TPY). The list of footnotes found in the lower left corner of this form allows the applicant to specify the units of each reported emission level. To specify the appropriate units, write the appropriate footnote number in the columns headed by the letter "U".

For example: to indicate an emission rate of 3.2 lbs SO_2/MMBTU, write

Sulfur dioxide	3.2	2

on the line for sulfur dioxide (SO_2).

Maximum <u>theoretical</u> emissions should represent emissions at full production capacity of the source before reduction by any pollution control equipment. This is normally 24 hours/day for 365 days/year or 8760 hours/year, although this calculation may account for certain operational constraints such as press down time or scheduled boiler maintenance outage. Please see subsection NR 400.02(53m) for the precise definition of "maximum theoretical emissions." You may want to use emission factors to determine these emissions.

Potential to emit should represent emissions at full production capacity of the source <u>after</u> reduction by any air pollution control equipment. This is normally 24 hours/day for 365 days/year (i.e., 8760 hours/year), although physical or operational limitations that are enforceable by the Administrator of EPA on the capacity of a source to emit air contaminants may be considered in determining potential to emit. Please see subsection NR 400.02(71) for the precise definition of "potential to emit." You may want to use emission factors to determine these emissions.

Maximum allowable emissions should represent the greatest amount of emissions allowed under any permit or applicable standards, taking into consideration the equipment limitations, such as line speed, and pollution control efficiencies of the equipment.

Please remember to:

- Report hazardous air pollutants on Forms 4530-126 and 4530-127.
- State the reference(s) for the calculations. Emission factors may be compiled in published documents, such as EPA's AP-42, or may be based on stack test results. A separate page of numbered references is appropriate and may be attached to form 4530-128. Form 4530-135 may be used for this purpose.

State of Wisconsin
Department of Natural Resources

EMISSION UNIT SUMMARY
AIR POLLUTION CONTROL PERMIT APPLICATION
Form 4530-128 11-93

Information attached? __ (y/n)

SEE INSTRUCTIONS ON REVERSE SIDE

1. Facility name: Veolia ES Technical Solutions, L.L.C.	2. Facility identification number: 246076050
3. Stack identification number: S13	4. Unit identification number: P11

5. Complete the following emissions summary for the following pollutants. Attach sample calculations and emission factor references. Attached? Yes

Air pollutant	Actual			Maximum theoretical emissions			Potential to emit		Maximum allowable		
		U	TPY		U	TPY				U	TPY
Particulates	1.86 x 10^{-3}	1	4.66 x 10^{-3}	3.73 x 10^{-3}	1	0.016	0.016	TPY			
Sulfur dioxide	1.47 x 10^{-4}	1	3.68 x 10^{-4}	2.94 x 10^{-4}	1	1.29 x 10^{-3}	1.29 x 10^{-3}	TPY			
Organic compounds	0.17	1	0.43	0.35	1	1.51	1.51	TPY			
Carbon monoxide	0.021	1	0.051	0.041	1	0.18	0.18	TPY			
Lead								TPY			
Nitrogen oxides	0.025	1	0.061	0.049	1	0.21	0.21	TPY			
Total reduced sulfur								TPY			
Mercury								TPY			
Asbestos								TPY			
Beryllium								TPY			
Vinyl chloride								TPY			
PM10	1.86 x 10^{-3}	1	4.66 x 10^{-3}	3.73 x 10^{-3}	1	0.016	0.016	TPY			
PM2.5	1.86 x 10^{-3}	1	4.66 x 10^{-3}	3.73 x 10^{-3}	1	0.016	0.016	TPY			
Carbon Dioxide	29.4	1	73.5	58.8	1	258	258	TPY			
Methane	5.64 x 10^{-4}	1	1.41 x 10^{-3}	1.13 x 10^{-3}	1	4.94 x 10^{-3}	4.94 x 10^{-3}	TPY			
Nitrous Oxide	5.39 x 10^{-4}	1	1.35 x 10^{-3}	1.08 x 10^{-3}	1	4.72 x 10^{-3}	4.72 x 10^{-3}	TPY			

Units (U) should be entered as follows:

1 = lb/hr
2 = lb/mmBTU
3 = grains/dscf
4 = lb/ gallon
5 = ppmdv
6 = other (specify)
7 = other (specify)
8 = other (specify)

EMISSION UNIT SUMMARY -- Form 4530-128
AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

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Item 1 Provide the name of the facility.

Item 2 Provide the facility identification (FID) number that appears on the annual emission inventory reports.

Item 3 Provide the identification number of the stack that exhausts this equipment. Use the same number used on form 4530-103.

Item 4 Provide the identification number from the appropriate form(s) 4530-104, -105, -106, -107, -108, or -109 completed for the emissions unit that will have its emissions summarized on this form.

Item 5 Provide the emission levels for each listed pollutant emitted from this source. The emissions should be presented using the same units as the applicable limits shown on Form 4530-130 and in tons per year (TPY). The list of footnotes found in the lower left corner of this form allows the applicant to specify the units of each reported emission level. To specify the appropriate units, write the appropriate footnote number in the columns headed by the letter "U".

For example: to indicate an emission rate of 3.2 lbs SO_2/MMBTU, write

Sulfur dioxide	3.2	2

on the line for sulfur dioxide (SO_2).

Maximum theoretical emissions should represent emissions at full production capacity of the source before reduction by any pollution control equipment. This is normally 24 hours/day for 365 days/year or 8760 hours/year, although this calculation may account for certain operational constraints such as press down time or scheduled boiler maintenance outage. Please see subsection NR 400.02(53m) for the precise definition of "maximum theoretical emissions." You may want to use emission factors to determine these emissions.

Potential to emit should represent emissions at full production capacity of the source after reduction by any air pollution control equipment. This is normally 24 hours/day for 365 days/year (i.e., 8760 hours/year), although physical or operational limitations that are enforceable by the Administrator of EPA on the capacity of a source to emit air contaminants may be considered in determining potential to emit. Please see subsection NR 400.02(71) for the precise definition of "potential to emit." You may want to use emission factors to determine these emissions.

Maximum allowable emissions should represent the greatest amount of emissions allowed under any permit or applicable standards, taking into consideration the equipment limitations, such as line speed, and pollution control efficiencies of the equipment.

Please remember to:

- Report hazardous air pollutants on Forms 4530-126 and 4530-127.
- State the reference(s) for the calculations. Emission factors may be compiled in published documents, such as EPA's AP-42, or may be based on stack test results. A separate page of numbered references is appropriate and may be attached to form 4530-128. Form 4530-135 may be used for this purpose.

State of Wisconsin
Department of Natural Resources

EMISSION UNIT SUMMARY
AIR POLLUTION CONTROL PERMIT APPLICATION
Form 4530-128 11-93

Information attached? Y_ (y/n)

SEE INSTRUCTIONS ON REVERSE SIDE

1. Facility name: Veolia ES Technical Solutions, L.L.C.	2. Facility identification number: 246076050
3. Stack identification number: S14	4. Unit identification number: P10, P11, P14 and F99

5. Complete the following emissions summary for the following pollutants. Attach sample calculations and emission factor references. Attached? Yes

Air pollutant	Actual			Maximum theoretical emissions			Potential to emit		Maximum allowable		
		U	TPY		U	TPY				U	TPY
Particulates								TPY			
Sulfur dioxide								TPY			
Organic compounds								TPY			
Carbon monoxide								TPY			
Lead								TPY			
Nitrogen oxides								TPY			
Total reduced sulfur								TPY			
Mercury	3.50×10^{-4}	1	1.55×10^{-3}	0.093	1	0.40	0.081	TPY			
Asbestos								TPY			
Beryllium								TPY			
Vinyl chloride								TPY			
								TPY			
								TPY			
								TPY			
								TPY			
								TPY			

Units (U) should be entered as follows:

1 = lb/hr
2 = lb/mmBTU
3 = grains/dscf
4 = lb/ gallon
5 = ppmdv
6 = other (specify)
7 = other (specify)
8 = other (specify)

EMISSION UNIT SUMMARY -- Form 4530-128
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Item 1 Provide the name of the facility.

Item 2 Provide the facility identification (FID) number that appears on the annual emission inventory reports.

Item 3 Provide the identification number of the stack that exhausts this equipment. Use the same number used on form 4530-103.

Item 4 Provide the identification number from the appropriate form(s) 4530-104, -105, -106, -107, -108, or -109 completed for the emissions unit that will have its emissions summarized on this form.

Item 5 Provide the emission levels for each listed pollutant emitted from this source. The emissions should be presented using the same units as the applicable limits shown on Form 4530-130 and in tons per year (TPY). The list of footnotes found in the lower left corner of this form allows the applicant to specify the units of each reported emission level. To specify the appropriate units, write the appropriate footnote number in the columns headed by the letter "U".

For example: to indicate an emission rate of 3.2 lbs SO_2/MMBTU, write

Sulfur dioxide	3.2	2

on the line for sulfur dioxide (SO_2).

Maximum theoretical emissions should represent emissions at full production capacity of the source before reduction by any pollution control equipment. This is normally 24 hours/day for 365 days/year or 8760 hours/year, although this calculation may account for certain operational constraints such as press down time or scheduled boiler maintenance outage. Please see subsection NR 400.02(53m) for the precise definition of "maximum theoretical emissions." You may want to use emission factors to determine these emissions.

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Maximum allowable emissions should represent the greatest amount of emissions allowed under any permit or applicable standards, taking into consideration the equipment limitations, such as line speed, and pollution control efficiencies of the equipment.

Please remember to:

- Report hazardous air pollutants on Forms 4530-126 and 4530-127.
- State the reference(s) for the calculations. Emission factors may be compiled in published documents, such as EPA's AP-42, or may be based on stack test results. A separate page of numbered references is appropriate and may be attached to form 4530-128. Form 4530-135 may be used for this purpose.

State of Wisconsin
Department of Natural Resources

EMISSION UNIT SUMMARY
AIR POLLUTION CONTROL PERMIT APPLICATION
Form 4530-128 11-93

Information attached? __ (y/n)

SEE INSTRUCTIONS ON REVERSE SIDE

1. Facility name: Veolia ES Technical Solutions, L.L.C.	2. Facility identification number: 246076050
3. Stack identification number: S16	4. Unit identification number: P13

5. Complete the following emissions summary for the following pollutants. Attach sample calculations and emission factor references. Attached? Yes

Air pollutant	Actual			Maximum theoretical emissions			Potential to emit		Maximum allowable		
		U	TPY		U	TPY				U	TPY
Particulates	0.32	1	7.88×10^{-3}	0.32	1	1.38	0.032	TPY			
Sulfur dioxide	6.85×10^{-3}	1	1.71×10^{-4}	6.85×10^{-3}	1	0.030	6.85×10^{-4}	TPY			
Organic compounds	0.41	1	0.010	0.41	1	1.78	0.041	TPY			
Carbon monoxide	3.84	1	0.096	3.84	1	16.8	0.38	TPY			
Lead								TPY			
Nitrogen oxides	14.5	1	0.36	14.5	1	63.4	1.45	TPY			
Total reduced sulfur								TPY			
Mercury								TPY			
Asbestos								TPY			
Beryllium								TPY			
Vinyl chloride								TPY			
PM10	0.32	1	6.48×10^{-3}	0.32	1	1.13	0.026	TPY			
PM2.5	6.85×10^{-3}	1	5.42×10^{-3}	6.85×10^{-3}	1	0.95	0.022	TPY			
Carbon Dioxide	0.41	1	18.7	0.41	1	3268	74.6	TPY			
Methane	3.84	1	9.16×10^{-4}	3.84	1	0.16	3.66×10^{-3}	TPY			
								TPY			

Units (U) should be entered as follows:

1 = lb/hr
2 = lb/mmBTU
3 = grains/dscf
4 = lb/ gallon
5 = ppmdv
6 = other (specify)
7 = other (specify)
8 = other (specify)

EMISSION UNIT SUMMARY -- Form 4530-128
AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

NOTE: Use of this form is required by the Department for any air pollution control permit application filed pursuant to ss. 285.61, 285.62 or 285.66, Wis. Stats. Completion of this form is mandatory. The Department will not consider or act upon your application unless you complete and submit this application form. It is not the Department's intention to use any personally identifiable information from this form for any other purpose.

Item 1 Provide the name of the facility.

Item 2 Provide the facility identification (FID) number that appears on the annual emission inventory reports.

Item 3 Provide the identification number of the stack that exhausts this equipment. Use the same number used on form 4530-103.

Item 4 Provide the identification number from the appropriate form(s) 4530-104, -105, -106, -107, -108, or -109 completed for the emissions unit that will have its emissions summarized on this form.

Item 5 Provide the emission levels for each listed pollutant emitted from this source. The emissions should be presented using the same units as the applicable limits shown on Form 4530-130 and in tons per year (TPY). The list of footnotes found in the lower left corner of this form allows the applicant to specify the units of each reported emission level. To specify the appropriate units, write the appropriate footnote number in the columns headed by the letter "U".

For example: to indicate an emission rate of 3.2 lbs SO_2/MMBTU, write

Sulfur dioxide	3.2	2

on the line for sulfur dioxide (SO_2).

Maximum theoretical emissions should represent emissions at full production capacity of the source before reduction by any pollution control equipment. This is normally 24 hours/day for 365 days/year or 8760 hours/year, although this calculation may account for certain operational constraints such as press down time or scheduled boiler maintenance outage. Please see subsection NR 400.02(53m) for the precise definition of "maximum theoretical emissions." You may want to use emission factors to determine these emissions.

Potential to emit should represent emissions at full production capacity of the source after reduction by any air pollution control equipment. This is normally 24 hours/day for 365 days/year (i.e., 8760 hours/year), although physical or operational limitations that are enforceable by the Administrator of EPA on the capacity of a source to emit air contaminants may be considered in determining potential to emit. Please see subsection NR 400.02(71) for the precise definition of "potential to emit." You may want to use emission factors to determine these emissions.

Maximum allowable emissions should represent the greatest amount of emissions allowed under any permit or applicable standards, taking into consideration the equipment limitations, such as line speed, and pollution control efficiencies of the equipment.

Please remember to:

- Report hazardous air pollutants on Forms 4530-126 and 4530-127.
- State the reference(s) for the calculations. Emission factors may be compiled in published documents, such as EPA's AP-42, or may be based on stack test results. A separate page of numbered references is appropriate and may be attached to form 4530-128. Form 4530-135 may be used for this purpose.

State of Wisconsin
Department of Natural Resources

EMISSION UNIT SUMMARY
AIR POLLUTION CONTROL PERMIT APPLICATION
Form 4530-128 11-93

Information attached? __ (y/n)

SEE INSTRUCTIONS ON REVERSE SIDE

1. Facility name: Veolia ES Technical Solutions, L.L.C.	2. Facility identification number: 246076050
3. Stack identification number: S17	4. Unit identification number: P14

5. Complete the following emissions summary for the following pollutants. Attach sample calculations and emission factor references. Attached? Yes

Air pollutant	Actual			Maximum theoretical emissions			Potential to emit		Maximum allowable		
		U	TPY		U	TPY				U	TPY
Particulates	5.59 x 10^{-3}	1	0.014	0.011	1	0.049	0.049	TPY			
Sulfur dioxide	4.41 x 10^{-4}	1	1.10 x 10^{-3}	8.82 x 10^{-4}	1	3.86 x 10^{-3}	3.86 x 10^{-3}	TPY			
Organic compounds	0.26	1	0.65	0.52	1	2.29	2.29	TPY			
Carbon monoxide	0.062	1	0.15	0.12	1	0.54	0.54	TPY			
Lead								TPY			
Nitrogen oxides	0.074	1	0.18	0.15	1	0.64	0.64	TPY			
Total reduced sulfur								TPY			
Mercury								TPY			
Asbestos								TPY			
Beryllium								TPY			
Vinyl chloride								TPY			
PM10	5.59 x 10^{-3}	1	0.014	0.011	1	0.049	0.049	TPY			
PM2.5	5.59 x 10^{-3}	1	0.014	0.011	1	0.049	0.049	TPY			
Carbon Dioxide	88.2	1	353	176	1	773	773	TPY			
Methane	1.69 x 10^{-3}	1	4.23 x 10^{-3}	3.38 x 10^{-3}	1	0.015	0.015	TPY			
Nitrous Oxide	1.62 x 10^{-3}	1	4.04 x 10^{-3}	3.23 x 10^{-3}	1	0.014	0.014	TPY			

Units (U) should be entered as follows:

1 = lb/hr
2 = lb/mmBTU
3 = grains/dscf
4 = lb/ gallon
5 = ppmdv
6 = other (specify)
7 = other (specify)
8 = other (specify)

EMISSION UNIT SUMMARY -- Form 4530-128
AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

NOTE: Use of this form is required by the Department for any air pollution control permit application filed pursuant to ss. 285.61, 285.62 or 285.66, Wis. Stats. Completion of this form is mandatory. The Department will not consider or act upon your application unless you complete and submit this application form. It is not the Department's intention to use any personally identifiable information from this form for any other purpose.

Item 1 Provide the name of the facility.

Item 2 Provide the facility identification (FID) number that appears on the annual emission inventory reports.

Item 3 Provide the identification number of the stack that exhausts this equipment. Use the same number used on form 4530-103.

Item 4 Provide the identification number from the appropriate form(s) 4530-104, -105, -106, -107, -108, or -109 completed for the emissions unit that will have its emissions summarized on this form.

Item 5 Provide the emission levels for each listed pollutant emitted from this source. The emissions should be presented using the same units as the applicable limits shown on Form 4530-130 and in tons per year (TPY). The list of footnotes found in the lower left corner of this form allows the applicant to specify the units of each reported emission level. To specify the appropriate units, write the appropriate footnote number in the columns headed by the letter "U".

For example: to indicate an emission rate of 3.2 lbs SO_2/MMBTU, write

Sulfur dioxide	3.2	2

on the line for sulfur dioxide (SO_2).

Maximum <u>theoretical</u> emissions should represent emissions at full production capacity of the source before reduction by any pollution control equipment. This is normally 24 hours/day for 365 days/year or 8760 hours/year, although this calculation may account for certain operational constraints such as press down time or scheduled boiler maintenance outage. Please see subsection NR 400.02(53m) for the precise definition of "maximum theoretical emissions." You may want to use emission factors to determine these emissions.

Potential to emit should represent emissions at full production capacity of the source <u>after</u> reduction by any air pollution control equipment. This is normally 24 hours/day for 365 days/year (i.e., 8760 hours/year), although physical or operational limitations that are enforceable by the Administrator of EPA on the capacity of a source to emit air contaminants may be considered in determining potential to emit. Please see subsection NR 400.02(71) for the precise definition of "potential to emit." You may want to use emission factors to determine these emissions.

Maximum allowable emissions should represent the greatest amount of emissions allowed under any permit or applicable standards, taking into consideration the equipment limitations, such as line speed, and pollution control efficiencies of the equipment.

Please remember to:

- Report hazardous air pollutants on Forms 4530-126 and 4530-127.
- State the reference(s) for the calculations. Emission factors may be compiled in published documents, such as EPA's AP-42, or may be based on stack test results. A separate page of numbered references is appropriate and may be attached to form 4530-128. Form 4530-135 may be used for this purpose.

State of Wisconsin
Department of Natural Resources

FACILITY EMISSIONS SUMMARY
AIR POLLUTION CONTROL PERMIT APPLICATION
Form 4530-129 11-93

Information attached? Y (y/n)

SEE INSTRUCTIONS ON REVERSE SIDE

1. Facility name: Veolia ES Technical Solutions, L.L.C.

2. Facility identification number: 246076050

3. Complete the following emissions summary for the listed emissions at this facility.

Air pollutant	Actual	Maximum theoretical emissions	Potential to emit	Maximum allowable
	TPY	TPY	TPY	TPY
Particulates	0.038	64.1	0.17	
Sulfur dioxide	1.94×10^{-3}	0.036	6.87×10^{-3}	
Organic compounds	1.38	6.59	4.85	
Carbon monoxide	0.34	17.7	1.25	
Lead				
Nitrogen oxides	0.66	64.4	2.48	
Total reduced sulfur				
Mercury	1.55×10^{-3}	1.08	0.087	
Asbestos				
Beryllium				
Vinyl chloride				
PM10	0.030	13.7	0.068	
PM2.5	0.029	13.6	0.064	
Carbon Dioxide	504	4504	1311	
Methane	7.68×10^{-3}	0.18	.027	
Nitrous Oxide	6.47×10^{-3}	0.023	.023	

FACILITY EMISSIONS SUMMARY -- Form 4530-129
AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

NOTE: Use of this form is required by the Department for any air pollution control permit application filed pursuant to ss. 285.61, 285.62 or 285.66, Wis. Stats. Completion of this form is mandatory. The Department will not consider or act upon your application unless you complete and submit this application form. It is not the Department's intention to use any personally identifiable information from this form for any other purpose.

Item 1 Provide the name of the facility.

Item 2 Provide the facility identification (FID) number that appears on the annual emission inventory reports.

Item 3 Provide the emission levels in tons per year (TPY). For each pollutant emitted from the facility, sum the annual actual, maximum theoretical, potential to emit, and maximum allowable emission rates (tons per year only) reported for all of the facility's emission units (i.e., on Forms 4530-128). The totals for each pollutant should be reported on Form 4530-129 in tons per year (TPY).

***** Hazardous air pollutant emissions should be reported on Forms 4530-126 and 4530-127. *****

State of Wisconsin
Department of Natural Resources

CURRENT EMISSIONS REQUIREMENTS AND STATUS OF FACILITY
AIR POLLUTION CONTROL PERMIT APPLICATION
Form 4530-132 11-93

Information attached? __ (y/n)

SEE INSTRUCTIONS ON REVERSE SIDE

1. Facility name: Veolia ES Technical Solutions, L.L.C.	2. Facility identification number: 246176050

3. Pollutant	4. Wis. Adm. Code Wis. Stats., 40 CFR	5. State Only	6. Threshold Value	7. Compliance Status (in or out)
No facility wide emission limits all individual units in compliance				

8. Is this facility subject to the provisions governing prevention of accidental releases of hazardous air contaminants contained in section 112(r)(7) of the Clean Air Act? ☐ Yes ☑ No

If you answered yes, please describe how you will achieve compliance with these provisions, including the requirement to formulate a plan for preventing accidental releases (sec. 112(r)(7)(B)(ii)):

9. Other requirements (e.g., malfunction reporting, special operating conditions from an existing permit, etc.)	State Only	Compliance Status (in or out)

CURRENT EMISSIONS REQUIREMENTS AND STATUS OF FACILITY -- Form 4530-132
AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

NOTE: All operation permit applications must include this form except initial applications for existing, non-Part 70 sources and initial applications for new or modified sources for which no construction permit is required. Completion of this form (when it applies) is mandatory. The Department will not consider or act upon your application unless you complete and submit this application form (when it applies to you). It is not the Department's intention to use any personally identifiable information from this form for any other purpose.

Item 1 Provide the name of the facility.

Item 2 Provide the facility identification (FID) number that appears on the annual emission inventory reports.

Item 3 List all emissions regulated on a plant-wide basis from this source. This includes primarily hazardous air pollutants regulated under ch. NR 445, Wis. Adm. Code, or sec. 112, Clean Air Act.

Item 4 List the appropriate citation(s) for the regulated emissions from this source. For your convenience, listed below are some (but not all) Administrative Code chapters which contain many of the citations you will need. The instruction booklet more completely describes the listings of rule citations. Several examples are included within these instructions. You may also want to consult citations found in your current permit.

Item 5 Indicate if the requirement is "State only" by writing an asterisk (*) under the State only column. "State only" means that the requirement is enforceable by the State of Wisconsin, not the U.S. EPA.

Item 6 Provide the applicable threshold value listed in chapter NR 445, Wis. Adm. Code for the hazardous air contaminants significantly emitted from your facility (see instructions booklet).

Item 7 Provide a brief statement (either "in" or "out") indicating the compliance status of this source with the applicable emission limit.

If an exemption is requested, cite the exemption authority and attach the appropriate information on Form 4530-135. Examples:

Virgin Fossil Fuel under s. NR 445.04[(1), (3) or (4)](c)

Good Combustion Technology for Wood under s. NR 445.05(3)(c) 6. :

The Furnace Exit Temperature is ___°F, based on .....
The Furnace Residence Time is ___ seconds, based on .....
The Furnace Exit Carbon Monoxide Concentration (corrected to 7% O_2) is ___ ppmdv, based on.....
The monitoring and recordkeeping shall include .....

Item 8 (Note: Until EPA promulgates the final regulations for prevention of accidental releases, the information requested here is not required to be included with the permit application.)

If you want to plan for the future, refer to section 112(r)(7), Prevention of Accidental Releases, in the Clean Air Act for the provisions which may pertain to this stack. The permit application instruction booklet includes the proposed list of compounds to be specifically regulated under the accidental release program.

Item 9 List any other facility-wide requirements that are applicable to this source. Such requirements include existing permit requirements, such as restrictions on plant operation, total solvent usage, and so on. All requirements from existing permits relating to the plant as a whole must be included somewhere on Form 4530-132. Indicate whether these requirements are "State only" and state the compliance status. List any reporting activities required by permit, order, statute or rule regarding compliance at this source that are not addressed elsewhere in this application. General permit conditions, shown as Part II on existing permits, will be listed on Form 4530-132A.

List activities that are known to be subject to new requirements during the term of the proposed permit. Consider new requirements on emissions, monitoring, recordkeeping, testing or test methods and reporting (e.g. MACT standard to be developed for this source by November 1997).

If you wish your plant to become a synthetic minor source, Item 9 is the place for you to propose the special plant-wide operating conditions necessary to accomplish this goal. A source which is potentially a major source may be able to receive a permit from DNR with federally-enforceable restrictions on operation to "create" a minor source by permit. These restrictions may include limitations on raw material throughputs and emission unit operating hours so as to restrict the level of operation of the emission units at the source so that annual emissions from the plant remain below the major source threshold. Since these operating restrictions do not appear in DNR's rules, it is up to the applicant to propose such special operating conditions.

If you want to propose that special operating conditions apply only to a particular emissions unit at your plant, Item 10 on Form 4530-130 is available for this purpose.

State of Wisconsin
Department of Natural Resources

INDEX OF AIR POLLUTION PERMIT APPLICATION FORMS
Form 4530-134 Rev. 12-99

I.ADMINISTRATION	
This application contains the following forms:	☐Form 4530-100, Facility Identification
	☐Form 4530-101, Facility Plot Plan
	☐Forms 4530-102, -102A, and -102B, Source and Site Descriptions

II. EMISSIONS SOURCE DESCRIPTION		Total Number of This Form
This application contains the following forms (one form for each facility boiler, printing operation, etc.):	☑Form 4530-103, Stack Identification	4
	☐Form 4530-104, Boiler or Furnace Operation	
	☐Form 4530-105, Storage Tanks	
	☐Form 4530-106, Incineration	
	☐Form 4530-107, Printing Operations	
	☐Form 4530-108, Painting and Coating Operations	
	☑Form 4530-109, Miscellaneous Processes	1

III.AIR POLLUTION CONTROL SYSTEM		Total Number of This Form
This application contains the following forms:	☐Form 4530-110, Miscellaneous	
	☐Form 4530-111, Condensers	
	☑Form 4530-112, Adsorbers	2
	☐Form 4530-113, Catalytic or Thermal Oxidation	
	☐Form 4530-114, Cyclones/Settling Chambers	
	☐Form 4530-115, Electrostatic Precipitators	
	☐Form 4530-116, Wet Collection Systems	
	☐Form 4530-117, Baghouses/Fabric Filters	

IV.COMPLIANCE DEMONSTRATION		Total Number of This Form
This application contains the following forms (one for each facility boiler, printing operation, etc.):	☐Form 4530-118, Compliance Certification - Monitoring and Reporting	
	☐Form 4530-119, Continuous Emission Monitoring	
	☐Form 4530-120, Periodic Emission Monitoring Using Portable Monitors	
	☐Form 4530-121, Control System Parameters or Operation Parameters of a Process	
	☐Form 4530-122, Monitoring Maintenance Procedures	
	☐Form 4530-123, Stack Testing	
	☐Form 4530-124, Fuel Sampling and Analysis	
	☐Form 4530-125, Recordkeeping	

V.EMISSION SUMMARY AND COMPLIANCE CERTIFICATION		Total Number of This Form
This application contains the following forms quantifying emissions, certifying compliance with applicable requirements, and developing a compliance plan	☑Form 4530-126, Emission Unit Hazardous Air Pollutant Summary	7
	☑Form 4530-127, Facility Hazardous Air Pollutant Summary	1
	☑Form 4530-128, Emission Unit Summary	7
	☑Form 4530-129, Facility Emissions Summary	1
	☐Form 4530-130, Current Emissions Requirements and Status of Unit	
	☐Form 4530-131, Emission Unit Compliance Plan - Commitments and Schedule	
	☐Form 4530-132, Current Emissions Requirements and Status of Facility	
	☐Form 4530-133, Facility Requirement Compliance Plan Commitments and Schedule	

VI.SIGNATURE OF RESPONSIBLE OFFICIAL

A.STATEMENT OF COMPLETENESS

I have reviewed this application in its entirety and, based on information and belief formed after reasonable inquiry, I certify that the statements and information contained in this application are true, accurate and complete.

B.FOR RENEWALS ONLY

I have reviewed this application, the original operation permit application dated _____, and operation permit number _____in their entirety and, based on information and belief formed after reasonable inquiry, I certify that the statements and information contained in this renewal application are true, accurate and complete.

C.CERTIFICATION OF FACILITY COMPLIANCE STATUS (check one box only)
THIS IS NOT A REQUIREMENT OF NON-PART 70 SOURCES.

☑I certify that the facility described in this air pollution permit application is fully in compliance with all applicable requirements.

☐I certify that the facility described in this air pollution permit application is fully in compliance with all applicable requirements, except for the following emissions unit(s):

_____ .
(list all non-complying units)

Printed or Typed Name: Kevin D Shaver	Title Operations Manager
Signature	Date Signed

SEND ALL MATERIALS TO:

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
BUREAU OF AIR MANAGEMENT
OPERATION PERMIT TEAM LEADER
P.O. BOX 7921
MADISON, WI 53707-7921

State of Wisconsin
Department of Natural Resources

INDEX OF AIR POLLUTION PERMIT APPLICATION FORMS
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	☐Form 4530-115, Electrostatic Precipitators	
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	☐Form 4530-124, Fuel Sampling and Analysis	
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V.EMISSION SUMMARY AND COMPLIANCE CERTIFICATION		Total Number of This Form
This application contains the following forms quantifying emissions, certifying compliance with applicable requirements, and developing a compliance plan	☑Form 4530-126, Emission Unit Hazardous Air Pollutant Summary	1
	☑Form 4530-127, Facility Hazardous Air Pollutant Summary	1
	☑Form 4530-128, Emission Unit Summary	3
	☑Form 4530-129, Facility Emissions Summary	1
	☐Form 4530-130, Current Emissions Requirements and Status of Unit	
	☐Form 4530-131, Emission Unit Compliance Plan - Commitments and Schedule	
	☐Form 4530-132, Current Emissions Requirements and Status of Facility	
	☐Form 4530-133, Facility Requirement Compliance Plan Commitments and Schedule	

VI.SIGNATURE OF RESPONSIBLE OFFICIAL

A.STATEMENT OF COMPLETENESS

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B.FOR RENEWALS ONLY

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☐I certify that the facility described in this air pollution permit application is fully in compliance with all applicable requirements, except for the following emissions unit(s):

_____ .
(list all non-complying units)

Printed or Typed Name: Kevin D Shaver	Title General Manager
Signature	Date Signed

SEND ALL MATERIALS TO:

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
BUREAU OF AIR MANAGEMENT
OPERATION PERMIT TEAM LEADER
P.O. BOX 7921
MADISON, WI 53707-7921

State of Wisconsin
Department of Natural Resources

INDEX OF AIR POLLUTION PERMIT APPLICATION FORMS
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	☐Form 4530-131, Emission Unit Compliance Plan - Commitments and Schedule	
	☐Form 4530-132, Current Emissions Requirements and Status of Facility	
	☐Form 4530-133, Facility Requirement Compliance Plan Commitments and Schedule	

VI.SIGNATURE OF RESPONSIBLE OFFICIAL

A.STATEMENT OF COMPLETENESS

I have reviewed this application in its entirety and, based on information and belief formed after reasonable inquiry, I certify that the statements and information contained in this application are true, accurate and complete.

B.FOR RENEWALS ONLY

I have reviewed this application, the original operation permit application dated _____, and operation permit number _____in their entirety and, based on information and belief formed after reasonable inquiry, I certify that the statements and information contained in this renewal application are true, accurate and complete.

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(list all non-complying units)

Printed or Typed Name: Kevin D Shaver	Title General Manager
Signature	Date Signed

SEND ALL MATERIALS TO:

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
BUREAU OF AIR MANAGEMENT
OPERATION PERMIT TEAM LEADER
P.O. BOX 7921
MADISON, WI 53707-7921

State of Wisconsin
Department of Natural Resources

INDEX OF AIR POLLUTION PERMIT APPLICATION FORMS
Form 4530-134 Rev. 12-99

I.ADMINISTRATION	
This application contains the following forms:	☐Form 4530-100, Facility Identification
	☐Form 4530-101, Facility Plot Plan
	☐Forms 4530-102, -102A, and -102B, Source and Site Descriptions

II. EMISSIONS SOURCE DESCRIPTION		Total Number of This Form
This application contains the following forms (one form for each facility boiler, printing operation, etc.):	☐Form 4530-103, Stack Identification	
	☐Form 4530-104, Boiler or Furnace Operation	
	☐Form 4530-105, Storage Tanks	
	☐Form 4530-106, Incineration	
	☐Form 4530-107, Printing Operations	
	☐Form 4530-108, Painting and Coating Operations	
	☐Form 4530-109, Miscellaneous Processes	

III.AIR POLLUTION CONTROL SYSTEM		Total Number of This Form
This application contains the following forms:	☐Form 4530-110, Miscellaneous	
	☐Form 4530-111, Condensers	
	☑Form 4530-112, Adsorbers	1
	☐Form 4530-113, Catalytic or Thermal Oxidation	
	☐Form 4530-114, Cyclones/Settling Chambers	
	☐Form 4530-115, Electrostatic Precipitators	
	☐Form 4530-116, Wet Collection Systems	
	☐Form 4530-117, Baghouses/Fabric Filters	

IV.COMPLIANCE DEMONSTRATION		Total Number of This Form
This application contains the following forms (one for each facility boiler, printing operation, etc.):	☐Form 4530-118, Compliance Certification - Monitoring and Reporting	
	☐Form 4530-119, Continuous Emission Monitoring	
	☐Form 4530-120, Periodic Emission Monitoring Using Portable Monitors	
	☐Form 4530-121, Control System Parameters or Operation Parameters of a Process	
	☐Form 4530-122, Monitoring Maintenance Procedures	
	☐Form 4530-123, Stack Testing	
	☐Form 4530-124, Fuel Sampling and Analysis	
	☐Form 4530-125, Recordkeeping	

V.EMISSION SUMMARY AND COMPLIANCE CERTIFICATION		Total Number of This Form
This application contains the following forms quantifying emissions, certifying compliance with applicable requirements, and developing a compliance plan	☑Form 4530-126, Emission Unit Hazardous Air Pollutant Summary	1
	☑Form 4530-127, Facility Hazardous Air Pollutant Summary	1
	☑Form 4530-128, Emission Unit Summary	1
	☑Form 4530-129, Facility Emissions Summary	1
	☐Form 4530-130, Current Emissions Requirements and Status of Unit	
	☐Form 4530-131, Emission Unit Compliance Plan - Commitments and Schedule	
	☐Form 4530-132, Current Emissions Requirements and Status of Facility	
	☐Form 4530-133, Facility Requirement Compliance Plan Commitments and Schedule	

VI.SIGNATURE OF RESPONSIBLE OFFICIAL

A.STATEMENT OF COMPLETENESS

I have reviewed this application in its entirety and, based on information and belief formed after reasonable inquiry, I certify that the statements and information contained in this application are true, accurate and complete.

B.FOR RENEWALS ONLY

I have reviewed this application, the original operation permit application dated _____, and operation permit number _____in their entirety and, based on information and belief formed after reasonable inquiry, I certify that the statements and information contained in this renewal application are true, accurate and complete.

C.CERTIFICATION OF FACILITY COMPLIANCE STATUS (check one box only)
THIS IS NOT A REQUIREMENT OF NON-PART 70 SOURCES.

☑I certify that the facility described in this air pollution permit application is fully in compliance with all applicable requirements.

☐I certify that the facility described in this air pollution permit application is fully in compliance with all applicable requirements, except for the following emissions unit(s):

_____ .
(list all non-complying units)

Printed or Typed Name: Kevin D Shaver	Title General Manager
Signature	Date Signed

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	☐Form 4530-104, Boiler or Furnace Operation	
	☐Form 4530-105, Storage Tanks	
	☐Form 4530-106, Incineration	
	☐Form 4530-107, Printing Operations	
	☐Form 4530-108, Painting and Coating Operations	
	☑Form 4530-109, Miscellaneous Processes	6

III.AIR POLLUTION CONTROL SYSTEM		Total Number of This Form
This application contains the following forms:	☐Form 4530-110, Miscellaneous	
	☐Form 4530-111, Condensers	
	☑Form 4530-112, Adsorbers	5
	☐Form 4530-113, Catalytic or Thermal Oxidation	
	☐Form 4530-114, Cyclones/Settling Chambers	
	☐Form 4530-115, Electrostatic Precipitators	
	☐Form 4530-116, Wet Collection Systems	
	☑Form 4530-117, Baghouses/Fabric Filters	2

IV.COMPLIANCE DEMONSTRATION		Total Number of This Form
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	☐Form 4530-119, Continuous Emission Monitoring	
	☑Form 4530-120, Periodic Emission Monitoring Using Portable Monitors	3
	☑Form 4530-121, Control System Parameters or Operation Parameters of a Process	2
	☐Form 4530-122, Monitoring Maintenance Procedures	
	☐Form 4530-123, Stack Testing	
	☐Form 4530-124, Fuel Sampling and Analysis	
	☐Form 4530-125, Recordkeeping	

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	☑Form 4530-127, Facility Hazardous Air Pollutant Summary	1
	☑Form 4530-128, Emission Unit Summary	6
	☑Form 4530-129, Facility Emissions Summary	1
	☐Form 4530-130, Current Emissions Requirements and Status of Unit	
	☐Form 4530-131, Emission Unit Compliance Plan - Commitments and Schedule	
	☑Form 4530-132, Current Emissions Requirements and Status of Facility	1
	☐Form 4530-133, Facility Requirement Compliance Plan Commitments and Schedule	

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B.FOR RENEWALS ONLY

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_____ .
(list all non-complying units)

Printed or Typed Name: Kevin D Shaver	Title Operations Manager
Signature	Date Signed

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BUREAU OF AIR MANAGEMENT
OPERATION PERMIT TEAM LEADER
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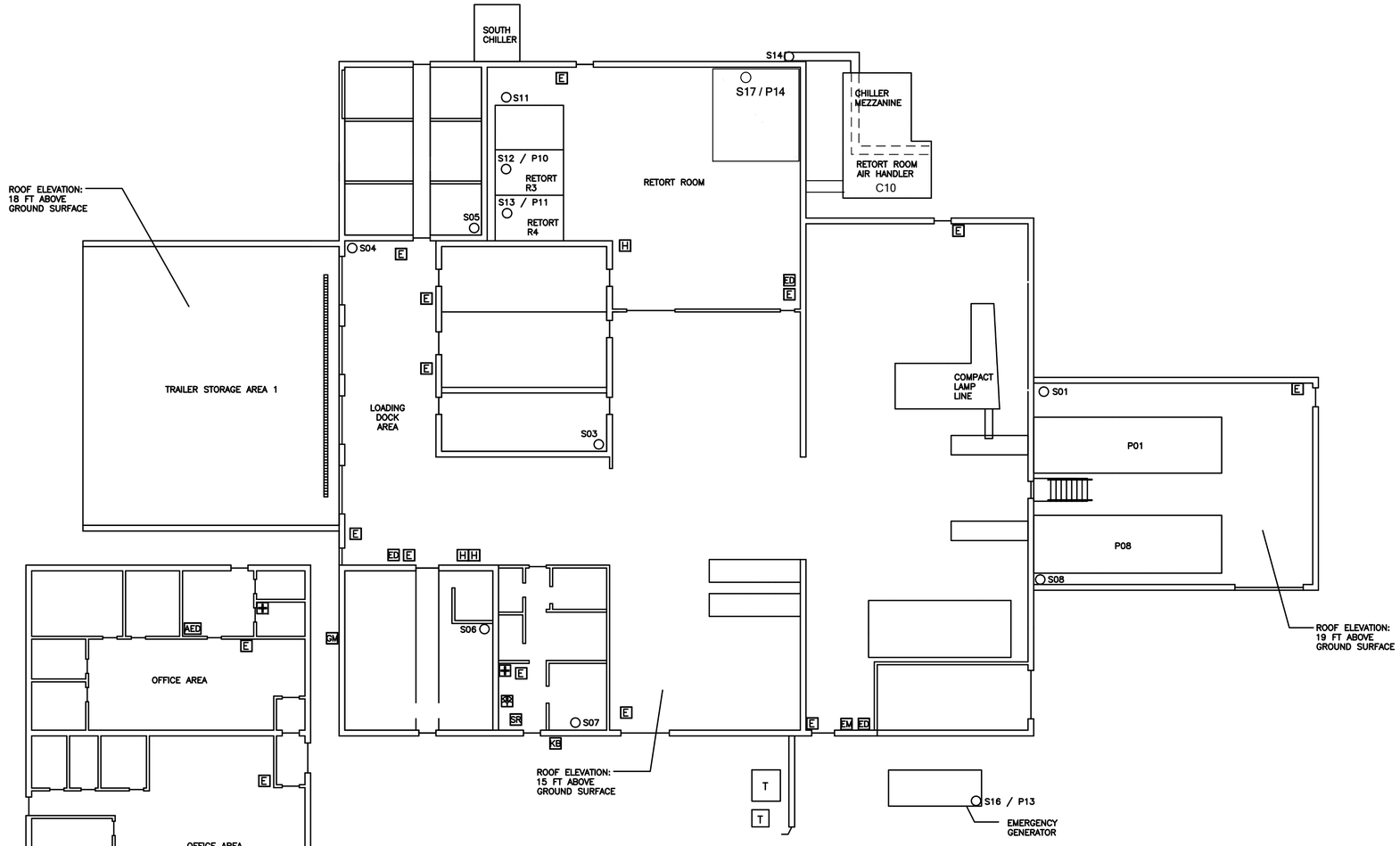

Stack Descriptions

External Discharge Stacks – Discharging to ambient	
Stack Number	Description
S01	Model 2000 Fluorescent Lamp Processing Machine (P01)
S08	Model LSS1 Fluorescent Lamp Processing Machine (P08)
S12	Flue Stack – Rip/Sys Retort Oven (P10)
S13	Flue Stack – Magna Drum Retort Oven (P11)
S14	Carbon Adsorber for Retort Room (C10)
S16	Exhaust Stack – Emergency Generator (P13)
S17	Flue Stack – Wisconsin Oven Retort System (P14)
Stacks – Insignificant Sources	
Stack Number	Description
S03	Consolidation of lab packs, Hazardous waste storage
S04	Loading Dock Operations Area
S05	Consolidation of lab packs, Hazardous waste storage
S06	Consolidation of lab packs, Hazardous waste storage
S07	Laboratory Operations
Internal Process Stacks – Discharging to Retort Room (C10, S14)	
Stack Number	Description
S11	Rip/Sys and Magna Drum Retort (P10, P11)
S15	Wisconsin Oven Retort (P14)

north

0 10 20
SCALE IN FEET

QUALITY CONTROL	Graphic Standards	MAB	8-13-13	Technical Review	Management Review
	Last Reviewed	MAB	8-13-13	Project Manager	

Issuances/Revisions		Date	By	Approvd.	
Releases					

Developed By MAB
Drawn By PGD
Approved By
Date 12/05/2013
Reference 12720061.01180101-03
Consultants

FACILITY STACK LAYOUT Form 4530-101 - Proposed Configuration

FEASIBILITY AND PLAN OF OPERATION REPORT
HAZARDOUS WASTE STORAGE FACILITY
VEOLIA ES TECHNICAL SOLUTIONS, L.L.C.
1275 MINERAL SPRINGS DRIVE
PORT WASHINGTON, WISCONSIN

Printed

Sheet Number
1 of 1

Drawing Number
2082500
01120101 D1

Veolia ES Technical Solutions, L.L.C.
Facility Emission Summary
Attachment to 4530-127 and 4530-129

MTE lb/hr								
Stack/Process	S01/P01	S08/P08	S12/P10	S13/P11	S16/P13	S17/P14	S14/P10, P11, P14 & F99	Total
PM	5.50	8.80	2.98E-03	3.73E-03	0.32	0.011		14.6
PM_{10}	1.10	1.76	2.98E-03	3.73E-03	0.26	0.011		3.14
$PM_{2.5}$	1.10	1.76	2.98E-03	3.73E-03	0.22	0.011		3.09
CO			0.033	0.041	3.84	0.12		4.04
NO_x			0.039	0.049	14.5	0.15		14.7
ROG			0.23	0.35	0.41	0.52		1.50
SO_x			2.35E-04	2.94E-04	6.85E-03	8.82E-04		8.26E-03
CO_2			47.1	58.8	746	176		1028
Methane			9.02E-04	1.13E-03	0.037	3.38E-03		0.042
N_2O			8.63E-04	1.08E-03		3.23E-03		5.18E-03
CO_2 Equivalents			47.3	59.2	747	177		1031
Mercury (Vapor)	0.055	0.088					0.093	0.24
Mercury (in particulates)	4.13E-03	6.06E-03						0.011
Mercury (Combined)	0.059	0.095					0.093	0.25
Antimony Cmpds	0.15	0.25						0.40
Cadmium Cmpds	3.85E-04	6.16E-04						1.0E-03
Fluoride Cmpds	0.15	0.25						0.40
Indium Cmpds	0.11	0.17						0.28
Manganese Cmpds	0.46	0.74						1.20
Yttrium Cmpds	0.77	1.23						2.00

Veolia ES Technical Solutions, L.L.C.
Facility Emission Summary
Attachment to 4530-127 and 4530-129

MTE tons/yr								
Stack/Process	S01/P01	S08/P08	S12/P10	S13/P11	S16/P13	S17/P14	S14/P10, P11, P14 & F99	Total
PM	24.1	38.5	0.013	0.16	1.38	0.049		64.1
PM_{10}	4.82	7.71	0.013	0.16	1.13	0.049		13.7
$PM_{2.5}$	4.82	7.71	0.013	0.16	0.95	0.049		13.6
CO			0.14	0.18	16.8	0.54		17.7
NO_x			0.17	0.21	63.4	0.64		64.4
ROG			1.01	1.51	1.78	2.29		6.59
SO_x			1.03E-03	1.29E-03	0.030	3.86E-03		0.036
CO_2			206	258	3268	773		4504
Methane			3.95E-03	4.94E-03	0.16	0.015		0.18
N_2O			3.78E-03	4.72E-03		0.014		0.023
CO_2 Equivalents			207	259	3271	777		4515

MTE lb/yr								
Stack/Process	S01/P01	S08/P08	S12/P10	S13/P11	S16/P13	S17/P14	S14/P10, P11, P14 & F99	Total
Mercury (Vapor)	482	771					812	2065
Mercury (in particulates)	36.1	57.8						94.0
Mercury (Combined)	518	807					812	2159
Antimony Cmpds	1349	2158						3508
Cadmium Cmpds	337	540						877
Fluoride Cmpds	1349	2158						3508
Indium Cmpds	944	1511						2455
Manganese Cmpds	4047	6475						10523
Yttrium Cmpds	6745	10792						17538

Veolia ES Technical Solutions, L.L.C.
Facility Emission Summary
Attachment to 4530-127 and 4530-129

PTE tons/yr								
Stack/Process	S01/P01	S08/P08	S12/P10	S13/P11	S16/P13	S17/P14	S14/P10, P11, P14 & F99	Total
PM	0.024	0.039	0.013	0.016	0.032	0.049		0.17
PM_{10}	4.82E-03	7.71E-03	0.013	0.016	0.026			0.068
$PM_{2.5}$	4.82E-03	7.71E-03	0.013	0.016	0.022			0.064
CO			0.14	0.18	0.38	0.54		1.25
NO_x			0.17	0.21	1.45	0.64		2.48
ROG			1.01	1.51	0.041	2.29		4.85
SO_x			1.03E-03	1.29E-03	6.85E-04	3.86E-03		6.87E-03
CO_2			206	258	74.6	773		1311
Methane			3.95E-03	4.94E-03	3.66E-03	0.015		0.027
N_2O			3.78E-03	4.72E-03		0.014		0.023
CO_2 Equivalents			207	259	74.7	777		1318
Mercury (Vapor)	2.41E-03	3.85E-03					0.081	0.209
Mercury (in particulates)	1.81E-05	2.89E-05						4.70E-05
Mercury (Combined)	2.43E-03	3.88E-03					0.081	0.087
Antimony Cmpds	6.75E-04	1.08E-03						1.75E-03
Cadmium Cmpds	1.69E-06	2.70E-06						4.38E-06
Fluoride Cmpds	6.75E-04	1.08E-03						1.75E-03
Indium Cmpds	4.72E-04	7.55E-04						1.23E-03
Manganese Cmpds	2.02E-03	3.24E-03						5.26E-03
Yttrium Cmpds	3.37E-03	5.40E-03						8.77E-03

Veolia ES Technical Solutions, L.L.C.
Facility Emission Summary
Attachment to 4530-127 and 4530-129

PTE lb/hr								
Stack/Process	S01/P01	S08/P08	S12/P10	S13/P11	S16/P13	S17/P14	S14/P10, P11, P14 & F99	Total
PM	5.50E-03	8.80E-03	2.98E-03	3.73E-03	0.32	0.011		0.35
PM_{10}	1.10E-03	1.76E-03	2.98E-03	3.73E-03	0.26	0.011		0.28
$PM_{2.5}$	1.10E-03	1.76E-03	2.98E-03	3.73E-03	0.22	0.011		0.24
CO			0.033	0.041	3.84	0.12		4.04
NO_x			0.039	0.049	14.5	0.15		14.7
ROG			0.23	0.35	0.41	0.52		1.50
SO_x			2.35E-04	2.94E-04	6.85E-03	8.82E-04		8.26E-03
CO_2			47.1	58.8	746	176		1028
Methane			9.02E-04	1.13E-03	0.037	3.38E-03		0.042
N_2O			8.63E-04	1.08E-03		3.23E-03		5.18E-03
CO_2 Equivalents			47.3	59.2	747	177		1031
Mercury (Vapor)	5.50E-04	8.80E-04					0.019	0.020
Mercury (in particulates)	4.13E-06	6.60E-06						1.07E-05
Mercury (Combined)	5.54E-04	8.87E-04					0.019	0.020
Antimony Cmpds	1.54E-04	2.46E-04						4.00E-04
Cadmium Cmpds	3.85E-07	6.16E-07						1.00E-06
Fluoride Cmpds	1.54E-04	2.46E-04						4.00E-04
Indium Cmpds	1.08E-04	1.72E-04						2.80E-04
Manganese Cmpds	4.62E-04	7.39E-04						1.20E-03
Yttrium Cmpds	7.07E-04	1.23E-03						2.00E-03

Veolia ES Technical Solutions, L.L.C.
Facility Emission Summary
Attachment to 4530-127 and 4530-129

Actual lb/hr								
Stack/Process	S01/P01	S08/P08	S12/P10	S13/P11	S16/P13	S17/P14	S14/P10, P11, P14 & F99	Total
PM	2.91E-03	7.78E-04	1.49E-03	1.86E-03	0.32	5.59E-03		0.33
PM_{10}	5.82E-04	1.56E-04	1.49E-03	1.86E-03	0.26	5.59E-03		0.27
$PM_{2.5}$	5.82E-04	1.56E-04	1.49E-03	1.86E-03	0.22	5.59E-03		0.23
CO			0.016	0.021	3.84	0.062		3.94
NO_x			0.020	0.025	14.5	0.074		14.6
ROG			0.12	0.17	0.41	0.26		0.96
SO_x			1.18E-04	1.47E-04	6.85E-03	4.41E-04		7.56E-03
CO_2			23.5	29.4	746	88.2		887
Methane			4.51E-04	5.64E-04	0.037	1.69E-03		0.039
N_2O			4.31E-04	5.39E-04		1.62E-03		2.59E-03
CO_2 Equivalents			23.7	29.6	747	88.7		889
Mercury (Vapor)	1.50E-06	1.88E-06					3.50E-04	3.54E-04
Mercury (in particulates)	2.18E-06	5.83E-07						2.76E-06
Mercury (Combined)	3.68E-06	2.46E-06					3.50E-04	3.57E-04
Antimony Cmpds	8.14E-05	2.18E-05						1.03E-04
Cadmium Cmpds	2.04E-07	5.44E-08						2.58E-07
Fluoride Cmpds	8.14E-05	2.18E-05						1.03E-04
Indium Cmpds	2.85E-05	7.62E-06						3.61E-05
Manganese Cmpds	1.22E-04	3.27E-05						1.55E-04
Yttrium Cmpds	2.04E-04	5.44E-05						2.58E-04

Veolia ES Technical Solutions, L.L.C.
Facility Emission Summary
Attachment to 4530-127 and 4530-129

Actual Tons/yr								
Stack/Process	S01/P01	S08/P08	S12/P10	S13/P11	S16/P13	S17/P14	S14/P10, P11, P14 & F99	Total
PM	6.05E-03	1.62E-03	3.73E-03	4.66E-03	7.88E-03	0.014		0.038
PM_{10}	1.21E-03	3.24E-04	3.73E-03	4.66E-03	6.48E-03	0.014		0.030
$PM_{2.5}$	1.21E-03	3.24E-04	3.73E-03	4.66E-03	5.42E-03	0.014		0.029
CO			0.041	0.051	0.096	0.15		0.34
NO_x			0.049	0.061	0.36	0.18		0.66
ROG			0.29	0.43	0.010	0.65		1.38
SO_x			2.94E-04	3.68E-04	1.71E-04	1.10E-03		1.94E-03
CO_2			58.8	73.5	18.7	353		504
Methane			1.13E-03	1.41E-03	9.16E-04	4.23E-03		7.68E-03
N_2O			1.08E-03	1.35E-03		4.04E-03		6.47E-03
CO_2 Equivalents			59.2	74.0	18.7	354		506

Actual lb/yr								
Stack/Process	S01/P01	S08/P08	S12/P10	S13/P11	S16/P13	S17/P14	S14/P10, P11, P14 & F99	Total
Mercury (Vapor)	6.25E-03	8.79E-03					3.07	3.08
Mercury (in particulates)	9.07E-03	2.43E-03						0.011
Mercury (Combined)	0.015	0.011					3.07	3.10
Antimony Cmpds	0.34	0.091						0.43
Cadmium Cmpds	8.47E-04	2.26E-04						1.07E-03
Fluoride Cmpds	0.34	0.091						0.43
Indium Cmpds	0.12	0.032						0.15
Manganese Cmpds	0.51	0.14						0.64
Yttrium Cmpds	0.85	0.23						1.07

Veolia ES Technical Solutions, L.L.C.
Emission Summary and Calculations
Stack S01 – Mercury Vapor
Attachment to 4530-126 and 4530-128

Maximum Theoretical Emissions

Max. Throughput lamps/hr	Hg Concentration mg/lamp	MTE lb/hr	MTE lb/yr
2500	10	0.055	482

lb./hr. emissions = 2500 lamps/hr * 10 mg/lamp * (2.2 lb/kg / 1000000 mg/kg)

lb./yr. emissions = lb./hr. emission * 8760 hours

Based on manufacturer data the average concentration of mercury within a fluorescent lamp is <10 mg/lamp

The majority of mercury contained in lamps being recycled is contained within the phosphor powder collected for retort processing.

Although the majority of mercury is collected with the powder for the purpose of calculating the maximum theoretical emissions it will be assumed that 100% of the mercury is in the vapor state.

Actual Emissions

Actual emissions were calculated based on monitoring the stack using a direct reading mercury monitoring instrument.

Average mercury concentration in exhaust is below 0.001 mg/m3, the detection limit of the instrument.

0.001 mg/m3 * 400 cfm * 0.028316847 m3/ft3 * 60 min/hr * (2.21 lb/kg / 1000000 mg/kg) = 1.50E-06 b/hr

1.50E-06 lb/hr * 4160 hr/yr = 6.25E-03 lb/yr

Potential to Emit

Potential to Emit calculated using manufacturer specified efficiencies for control device C02, as contained in Operating Permit 01-DJH-339-OP.

Control efficiency specified for C02 by the manufacturer is equal to 99.9% at start up and drops to 98% at 180 days at an input of 32 mg/cu.ft Hg and 400 CFM

Maximum mercury vapor concentration based on above calculations for MTE is equal to 1.04 mg/cu.ft [2500 lamp/hr * 10 mg/lamp / 400 CFM *60 minutes]

Based on inputs to the system, control efficiency drops to 98% at 5538 days (15.17 years)

Based on the above a the control efficiency will be assumed to be greater than 99%

lb./hr. PTE = 0.055 lb./hr. MTE * (1-0.99) = 5.50E-04 lb./hr.

lb./yr. PTE = lb./hr. PTE *8760 hours = 4.82 lb./yr.

Tons/yr. PTE = lb./yr. PTE / 2000 lb./ton = 2.41E-03 ton/yr.

Veolia ES Technical Solutions, L.L.C.
Emission Summary and Calculations
Stack S01
Process P01 – Model 2000 Lamp Processor
Attachment to 4530-126 and 4530-128

Particulate Emissions

Actual Throughput lb/hr	Actual Throughput lb/yr	Maximum Throughput lb/hr	Maximum Throughput lb/yr	PM Emission Factor (before controls) lb PM/lb lamps	PM Emission Factor (after 99.9%controls) lb PM/lb Lamps	Actual Emission Rate lb PM/lb Lamps
A	B	C	D	E	F	K
400	1664000	1375	12045000	0.004	0.000004	0.00000727

Actual PM Emission Rate lb/hr	Actual Emission Rate lb/yr	Actual PM_{10} Emission Rate lb/hr	Actual PM_{10} Emission Rate lb/yr	Actual $PM_{2.5}$ Emission Rate lb/hr	Actual $PM_{2.5}$ Emission Rate lb/yr
G	H	R	S	T	U
2.91E-03	12.09	5.82E-04	2.42	5.82E-04	2.42
	tons/yr		tons/yr		tons/yr
	6.05E-03		1.21E-03		1.21E-03

Maximum PM Emission Rate (MTE) lb/hr	Maximum PM Emission Rate (MTE) lb/yr	MTE PM_{10} Emission Rate lb/hr	MTE PM_{10} Emission Rate lb/yr	MTE $PM_{2.5}$ Emission Rate lb/hr	MTE $PM_{2.5}$ Emission Rate lb/yr
I	J	R	S	T	U
5.50	48180	1.10	9636	1.10	9636
	tons/yr		tons/yr		tons/yr
	24.1		4.82		4.82

Veolia ES Technical Solutions, L.L.C.
Emission Summary and Calculations
Stack S01
Process P01 – Model 2000 Lamp Processor
Attachment to 4530-126 and 4530-128

Potential to Emit PM lb/hr	PTE PM Emission Rate lb/yr	Potential to Emit PM_{10} lb/hr	PTE PM_{10} Emission Rate lb/yr	Potential to Emit $PM_{2.5}$ lb/hr	PTE $PM_{2.5}$ Emission Rate lb/yr
K	M	N	O	P	Q
5.50E-03	48.2	1.10E-03	9.64	1.10E-03	9.64
	tons/yr		tons/yr		tons/yr
	0.024		4.82E-03		4.82E-03

Calculations
B = A * 4160 hr/yr
C = 2500 lamp/hr * 0.55 lb/lamp
D = C * 8760 hr/yr
F = E*(1.0-0.999)
G = A * F
H = G * 4160 hr/yr
I = C * E
J = I * 8760 hr/yr
R = I * 20%
S = R * 8760
T = R
U = T * 8760
Actual Operating Schedule = 16 hr/day, 5 days/wk, 260 days/yr (4160 hr/yr)
Maximum Operating Hours = 8760 hr/yr

Maximum Throughput based on manufacturer rating of 2500 lamps/hr at 0.55 lb/lamp
Actual Throughput based on 2012 processing data.
Actual Emission Rate (K) equal 0.009 lb/hr at 2250 lamps/hr based on stack testing (Swanson Env. 9/29/95)
PM Emission Factor before controls (E) equal 0.4 percent of process inputs. Assuming the process collects greater than 85% of the phosphor powder contained in lamps and the phosphor powder comprises 2.5% of the overall weight of the lamps.

Veolia ES Technical Solutions, L.L.C.
Emission Summary and Calculations
Stack S01
Process P01 – Model 2000 Lamp Processor
Attachment to 4530-126 and 4530-128

Potential to Emit Calculations
K = C * F
M = K * D
N = K * 20%
O = N * 8760
P = N
Q = O

PM_{10} equal to 20 percent of total PM based on sieve analysis performed on powder performed by Colorado School of Mines

$PM_{2.5}$ is assumed to equal PM_{10} for purposes of this calculation as data is not currently available to quantify $PM_{2.5}$

Hazardous Air Pollutants

	Concentration	Concentration in PM	Actual lb/hr	Actual lb/yr	MTE lb/hr	MTE lb/yr	PTE lb/hr	PTE tons/yr
Phosphor Powder	2.50%							
Antimony Cmpds	0.10%	2.80%	8.14E-05	0.34	0.15	1349	1.54E-04	6.75E-04
Cadmium Cmpds	0.025%	0.70%	2.04E-07	8.47E-04	3.85E-04	337	3.85E-07	1.69E-06
Fluoride Cmpds	0.10%	2.80%	8.14E-05	0.34	0.15	1349	1.54E-04	6.75E-04
Indium Cmpds	0.07%	1.96%	2.85E-05	0.12	0.11	944	1.08E-04	4.72E-04
Manganese Cmpds	0.30%	8.40%	1.22E-04	0.51	0.46	4047	4.62E-04	2.02E-03
Yttrium Cmpds	0.50%	14.00%	2.04E-04	0.85	0.77	6745	7.70E-04	3.37E-03
Mercury Cmpds	750 mg/kg		2.18E-06	9.07E-03	4.13E-03	36.1	4.13E-06	1.81E-05

Actual lb/hr = G * Concentration in PM
Actual lb/yr = H * Concentration in PM
MTE lb/hr = I * Concentration in PM
MTE lb/yr = J * Concentration in PM
PTE lb/hr = K * Concentration in PM
PTE tons/yr = M * Concentration in PM

Assumptions

Based on manufacturer MSDSs, the above listed compounds may be contained in one or more model of lamps.

Based on analytical data the composition of the PM is approximately 30% glass fines and 70% phosphor powder.

The concentration listed for each HAP is the percent weight of the entire lamp and each lamp will contain approximately 2.5% phosphor powder.

The concentration listed is the maximum amount listed on any of the MSDS sheets reviewed.

Based on manufacutrer data, lamps manufactured prior to 1988 contained as much as one percent Cadmium compounds in the phosphor powder.

In order to maintain a consistent method of calculating HAPs contained in the PM, the cadmium concentration has been adjusted to reflect the percent cadmium contained in a lamp as oppsosed to the percent cadmium contained in the powder (1% * 2.5% = 0.025%)

Indium, manganese and yttrium have recently been introduced as ingredients in the phospohor powder for high efficiency fluorescent lighting.

To date these lamps have constituted a small percentage of lamps received for recycling. Going forwarded this type of lamp will comprise a higher percentage of lamps.

To calculate actual emissions it was assumed that 50% of current lamps being recycled contain indium, manganese or yttrium.

To calculate actual emissions, maximum theoretical emissions and potential to emit, it is being assumed that 1% of current lamps being recycled contain cadmium.

MTE calculations for indium, manganese and yttrium have been calculated at 100% high efficiency lamps being recycled.

Based on analytical data the concentration of mercury in collected phosphor powder from the lamp recycling machines ranges from 250 mg/kg to 750 mg/kg.

For the purposes of calculating emission rates the high end of the range was used (750 mg/kg).

Veolia ES Technical Solutions, L.L.C.
Emission Summary and Calculations
Stack S08 – Mercury Vapor
Attachment to 4530-126 and 4530-128

Maximum Theoretical Emissions

Max. Throughput lamps/hr	Hg Concentration mg/lamp	MTE lb/hr	MTE lb/yr
4000	10	0.088	771

lb./hr. emissions = 2500 lamps/hr * 10 mg/lamp * (2.2 lb/kg / 1000000 mg/kg)
lb./yr. emissions = lb./hr. emission * 8760 hours

Based on manufacturer data the average concentration of mercury within a fluorescent lamp is <10 mg/lamp
The majority of mercury contained in lamps being recycled is contained within the phosphor powder collected for retort processing.
Although the majority of mercury is collected with the powder for the pupose of calculating the maximum theoretical emissions it will be assumed that 100% of the mercury is in the vapor state.

Actual Emissions
Actual emissions were calculated based on monitoring the stack using a direct reading mercury monitoring instrument.
Average mercury concentration in exhaust are below 0.001 mg/m3, the detection limit of the instrument.
0.001 mg/m3 * 500 cfm * 0.028316847 m3/ft3 * 60 min/hr * (2.21 lb/kg / 1000000 mg/kg) = 1.88E-06 lb/hr
1.88E-06 lb/hr * 4680 hr/yr = 8.79E-03 lb/yr

Potential to Emit
Potential to Emit calculated using manufacturer specified efficiencies for control device C05, as contained in Operating Permit 01-DJH-339-OP.
Control efficiency specified for C05 by the manufacturer is equal to 99.9% at start up and drops to 98% at 180 days at an input of 32 mg/cu.ft Hg and 500 CFM
Maximum mercury vapor concentration based on above calculations for MTE is equal to 1.33 mg/cu.ft [4000 lamp/hr * 10 mg/lamp / 500 CFM *60 minutes]
Based on inputs to the system, control efficiency drops to 98% at 4330 days (11.87 years)
Based on the above a the control efficiency will be assumed to be greater than 99%
lb./hr. PTE = 0.088 lb./hr. MTE * (1-0.99) = 8.80E-04 lb./hr.
lb./yr. PTE = lb./hr. PTE *8760 hours = 7.71 lb./yr.
Tons/yr. PTE = lb./yr. PTE / 2000 lb./ton = 3.85E-03 tons/yr

Veolia ES Technical Solutions, L.L.C.
Emission Summary and Calculations
Stack S08
Process P08 – Model LSS1 Lamp Processor
Attachment to 4530-126 and 4530-128

Particulate Emissions

Actual Throughput lb/hr	Actual Throughput lb/yr	Maximum Throughput lb/hr	Maximum Throughput lb/yr	PM Emission Factor (before controls) lb PM/lb lamps	PM Emission Factor (after 99.9%controls) lb PM/lb Lamps	Actual Emission Rate lb PM/lb Lamps
A	B	C	D	E	F	K
755	3140800	2200	19272000	0.004	0.000004	0.00000103

Actual PM Emission Rate lb/hr	Actual Emission Rate lb/yr	Actual PM_{10} Emission Rate lb/hr	Actual PM_{10} Emission Rate lb/yr	Actual $PM_{2.5}$ Emission Rate lb/hr	Actual $PM_{2.5}$ Emission Rate lb/yr
G	H	R	S	T	U
7.78E-04	3.24	1.56E-04	0.65	1.56E-04	0.65
	tons/yr		tons/yr		tons/yr
	1.62E-03		3.24E-04		3.24E-04

Maximum PM Emission Rate (MTE) lb/hr	Maximum PM Emission Rate (MTE) lb/yr	MTE PM_{10} Emission Rate lb/hr	MTE PM_{10} Emission Rate lb/yr	MTE $PM_{2.5}$ Emission Rate lb/hr	MTE $PM_{2.5}$ Emission Rate lb/yr
I	J	R	S	T	U
8.80	77088	1.76	15417	1.76	15417
	tons/yr		tons/yr		tons/yr
	38.5		7.71		7.71

Veolia ES Technical Solutions, L.L.C.
Emission Summary and Calculations
Stack S08
Process P08 – Model LSS1 Lamp Processor
Attachment to 4530-126 and 4530-128

Potential to Emit PM lb/hr	PTE PM Emission Rate lb/yr	Potential to Emit PM_{10} lb/hr	PTE PM_{10} Emission Rate lb/yr	Potential to Emit $PM_{2.5}$ lb/hr	PTE $PM_{2.5}$ Emission Rate lb/yr
K	M	N	O	P	Q
8.80E-03	77.1	1.76E-03	15.4	1.76E-03	15.4
	tons/yr		tons/yr		tons/yr
	0.039		7.71E-03		7.71E-03

Calculations

B = A * 4680 hr/yr
C = 4000 lamp/hr * 0.55 lb/lamp
D = C * 8760
hr/yr
F = E*(1.0-0.99)
G = A * F
H = G * 4680
hr/yr
I = C * E
J = I * 8760 hr/yr
Actual Operating Schedule = 16 hr/day, 5 days/wk, 260 days/yr (4160
hr/yr)
Maximum Operating Hours = 8760 hr/yr

Maximum Throughput based on manufacturer rating of 4000 lamps/hr at 0.55 lb/lamp
Actual Throughput based on 2012 processing data.
Actual Emission Rate (K) equal 0.0017 lb/hr at 3000 lamps/hr based on stack testing (ETE 8/23/04)
PM Emission Factor before controls (E) equal 0.4 percent of process inputs. Assuming the process collects greater than 85% of the phosphor powder contained in lamps and the phosphor powder comprises 2.5% of the overall weight of the lamps.

Veolia ES Technical Solutions, L.L.C.
Emission Summary and Calculations
Stack S08
Process P08 – Model LSS1 Lamp Processor
Attachment to 4530-126 and 4530-128

Potential to Emit Calculations
K = C * F
M = K * D
N = K * 20%
O = N * 8760
P = N
Q = O

PM_{10} equal to 20 percent of total PM based on sieve analysis performed
$PM_{2.5}$ is assumed to equal PM_{10} for purposes of this calculation as data is not currently available to quantify $PM_{2.5}$

Hazardous Air Pollutants

	Concentration	Concentration in PM	Actual lb/hr	Actual lb/yr	MTE lb/hr	MTE lb/yr	PTE lb/hr	PTE tons/yr
Phosphor Powder	2.50%							
Antimony Cmpds	0.10%	2.80%	2.18E-05	0.091	0.25	2158	2.46E-04	1.08E-03
Cadmium Cmpds	0.025%	0.70%	5.44E-08	2.26E-04	6.16E-04	540	6.16E-07	2.70E-06
Fluoride Cmpds	0.10%	2.80%	2.18E-05	0.091	0.25	2158	2.46E-04	1.08E-03
Indium Cmpds	0.07%	1.96%	7.62E-06	0.032	0.17	1511	1.72E-04	7.55E-04
Manganese Cmpds	0.30%	8.40%	3.27E-05	0.14	0.74	6475	7.39E-04	3.24E-03
Yttrium Cmpds	0.50%	14.00%	5.44E-05	0.23	1.23	10792	1.23E-03	5.40E-03
Mercury Cmpds	750 mg/kg		5.83E-07	2.43E-03	6.06E-03	57.8	6.60E-06	2.89E-05

Actual lb/hr = G * Concentration in PM
Actual lb/yr = H * Concentration in PM
MTE lb/hr = I * Concentration in PM
MTE lb/yr = J * Concentration in PM

Veolia ES Technical Solutions, L.L.C.
Emission Summary and Calculations
Stack S08
Process P08 – Model LSS1 Lamp Processor
Attachment to 4530-126 and 4530-128

Assumptions

Based on manufacturer MSDSs, the above listed compounds may be contained in one or more model of lamps.

Based on analytical data the composition of the PM is approximately 30% glass fines and 70% phosphor powder.

The concentration listed for each HAP is the percent weight of the entire lamp and each lamp will contain approximately 2.5% phosphor powder.

The concentration listed is the maximum amount listed on any of the MSDS sheets reviewed.

Based on manufacutrer data, lamps manufactured prior to 1988 contained as much as one percent Cadmium compounds in the phosphor powder. In order to maintain a consistent method of calculating HAPs contained in the PM, the cadmium concentration has been adjusted to reflect the percent cadmium contained in a lamp as oppsosed to the percent cadmium contained in the powder (1% * 2.5% = 0.025%)

Indium, manganese and yttrium have recently been introduced as ingredients in the phospohor powder for high efficiency fluorescent lighting. To date these lamps have constituted a small percentage of lamps received for recycling. Going forwarded this type of lamp will comprise a higher percentage of lamps.

To calculate actual emissions it was assumed that 50% of current lamps being recycled contain indium, manganese or yttrium.

To calculate actual emissions it is being assumed that 1% of current lamps being recycled contain cadmium.

MTE calculations for indium, manganese and yttrium have been calculated at 100% high efficiency lamps being recycled.

Based on analytical data the concentration of mercury in collected phosphor powder from the lamp recycling machines ranges from 250 mg/kg to 750 mg/kg. For the purposes of calculating emission rates the high end of the range was used (750 mg/kg).

Veolia ES Technical Solutions, L.L.C.
ROG Emissions in Flue Gas
Stacks S12, S13 and S17
Attachment to 4530-128

ROG Emission Rates from combustion of coating layer on drums in RipSys, Magna Drum and Wisocnsin Oven Retorts

Drum Height	34	in
Drum Diameter	23	in
Drum Cylinder Area	2456.73	in^2
Drum Base Area	415.48	in^2
Total Surface Area	2872.20	in^2
Paint Thickness	0.311	mm
Paint Thickness	0.012	in
Total Paint Volume	35.167	in^3
Total Paint Volume	0.152	gal.
Weight of Paint Solids	9	lb/gal
Total Weight of Paint	1.370	lb/drum
Total Weight of Paint	5.481	lb/4 drums
Total Weight of Paint	8.221	lb/6 drums
Total Weight of Paint	12.331	lb/9 drums
Maximum Theoretical Emissions		
VOC Emission Rate S12/P10	0.228	lb/hr
VOC Emission Rate S13/P11	0.343	lb/hr
VOC Emission Rate S17/P14	0.514	lb/hr

The organic compounds (VOCs) are discharged through flue stacks S12 and S13 uncontrolled.
MTE rates based on the maximum paint on the outside surface of the drums, not including the lids which are removed and replaced prior to processi
MTE rates assume a processing time of 24 hours per batch.
MTE rates assume 100% of paint is organic and 100% is volatilized over the 24 hour processing time per batch.
MTE VOC Rate = (1.370 lb paint/drum * number of drums/batch)/24 hr/batch

Veolia ES Technical Solutions, L.L.C.
ROG Emissions in Flue Gas
Stacks S12, S13 and S17
Attachment to 4530-128

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Veolia ES Technical Solutions, L.L.C.
Emission Summary and Calculations
Stacks S12, S13 and S17
Attachment to 4530-128

Emissions from Flue Stacks from Retort Ovens

Source		Max Heat Input	NG Use	Hours of Operation	Criteria Pollutants											
					Carbon Monoxide (CO)	Nitrogen Oxides (NO_x)	Methane	N_2O	Carbon Dioxide	Particluate Matter (PM)	Particlate Matter <10 um (PM_{10})	Particulate Matter <2.5 um ($PM_{2.5}$)	ROG (VOCs)	ROG from drum coatings	Total ROG (VOCs)	Sulfur Dioxide (SO_x)
		MMBTU/hr	MMCF/hr		Emission Factors (lb/10^6 scf)											
RipSys Retort (S12/P10)		0.4	0.00039		84	100	2.3	2.2	120000	7.6	7.6	7.6	5.5			0.6
	Maximum theoretical			8760												
	MTE lb/hr				0.033	0.039	0.001	0.001	47	0.003	0.003	0.003	0.002	0.228	0.230	0.0002
	MTE lb/yr				288.6	343.5	7.90	7.56	412235	26.11	26.11	26.11	18.89	1997	2016	2.061
	MTE/PTE tons/yr				0.144	0.172	0.004	0.004	206	0.013	0.013	0.013	0.009	0.999	1.008	0.001
	Actual			5000												
	Actual lb/hr				0.016	0.020	0.000	0.000	24	0.001	0.001	0.001	0.001	0.114	0.115	0.000
	Actual lb/yr				82.353	98.039	2.255	2.157	117647.059	7.451	7.451	7.451	5.392	570.000	575.392	0.588
	Actual tons/yr				0.041	0.049	0.001	0.001	58.824	0.004	0.004	0.004	0.003	0.285	0.288	0.000
Magna Drum Retort (S13/P11)		0.5	0.00049													
	Maximum Theoretical			8760												
	MTE lb/hr				0.041	0.049	0.001	0.001	59	0.004	0.004	0.004	0.003	0.343	0.346	0.0003
	MTE lb/yr				360.7	429.4	9.876	9.447	515294	32.64	32.635	32.635	23.62	3005	3028	2.576
	MTE/PTE tons/yr				0.180	0.215	0.005	0.005	258	0.016	0.016	0.016	0.012	1.502	1.514	0.001
	Actual			5000												
	Actual lb/hr				0.021	0.025	0.001	0.001	29	0.002	0.002	0.002	0.001	0.172	0.173	0.000
	Actual lb/yr				102.941	122.549	2.819	2.696	147058.824	9.314	9.314	9.314	6.740	857.500	864.240	0.735
	Actual tons/yr				0.051	0.061	0.001	0.001	73.529	0.005	0.005	0.005	0.003	0.429	0.432	0.000
Wisconsin Oven Retort System (S17/P14)		1.5	0.00147													
	Maximum Theoretical			8760												
	MTE lb/hr				0.123	0.147	0.003	0.003	176	0.011	0.011	0.011	0.008	0.514	0.522	0.001
	MTE lb/yr				1082	1288	29.62	28.33	1545264	97.87	97.87	97.87	70.82	4503	4573	7.726
	MTE/PTE tons/yr				0.541	0.644	0.015	0.014	773	0.049	0.049	0.049	0.035	2.251	2.287	0.004
	Actual			5000												
	Actual lb/hr				0.062	0.074	0.002	0.002	88	0.006	0.006	0.006	0.004	0.257	0.261	0.000
	Actual lb/yr				308.700	367.500	8.453	8.085	441000.000	27.930	27.930	27.930	20.213	1285.000	1305.213	2.205
	Actual tons/yr				0.154	0.184	0.004	0.004	220.500	0.014	0.014	0.014	0.010	0.643	0.653	0.001
Combined S12, S13 and S17																
	Maximum Theoretical			8760												
	MTE lb/hr				0.198	0.235	0.005	0.005	282	0.018	0.018	0.018			1.098	0.001
	MTE lb/yr				1731	2061	47	45	2472793	156.6	157	157			9618	12.364
	MTE/PTE tons/yr				0.865	1.030	0.024	0.023	1236	0.078	0.078	0.078			4.809	0.006
	Actual			5000												
	Actual lb/hr				0.099	0.118	0.003	0.003	141.141	0.009	0.009	0.009			0.549	0.001
	Actual lb/yr				494	588	14	13	705706	45	45	45			2745	4
	Actual tons/yr				0.247	0.294	0.007	0.006	352.853	0.022	0.022	0.022			1.372	0.002

Source of combustion data, AP-42, Tables 1.4-1 and 1.4-2
Actual calculated at 5000 hours based on 2013 overall facility NG usage assuming 100% of NG usage attributable to Processes P10 and P11.
Actual hours of operation for process P14 assumed to be equivalent to processes P10 and P11
Actual ROG emissions for S13 and S17 based on 10% of material processed in drums. Remainder of material processed unpainted kettle/vessels.

Veolia ES Technical Solutions, L.L.C.
Emission Summary and Calculations
Stacks S16
Attachment to 4530-128

Source		Max Fuel Usage	Rated Horse-power	Hours of Operation	Criteria Pollutants								
					Carbon Monoxide (CO)	Carbon Dioxide (CO_2)	Nitrogen Oxides (NO_x)	Methane	Particulate Matter (PM)	Particulate Matter (PM10)	Particulate Matter (PM2.5)	ROG (VOCs)	Sulfur Dioxide (SO_x)
		Gal/Hr	BHP		Emission Factor								
Emergency Generator (P13, S16)		33	752		0.85	165	3.2	0.0081	0.0697	0.0573	0.0479	0.09	0.001515
	Maximum theoretical			8760									
	MTE lb/hr				3.844	746.128	14.470	0.037	0.315	0.259	0.217	0.407	0.007
	MTE lb/yr				33670.7	6536084.3	126760.4	320.9	2761.0	2269.8	1897.4	3565.1	60.0
	MTE/tons/yr				16.835	3268.042	63.380	0.160	1.381	1.135	0.949	1.783	0.030
	Potential to Emit			200									
	PTE lb/hr				3.844	746.128	14.470	0.037	0.315	0.259	0.217	0.407	0.007
	PTE lb/yr				768.7	149225.7	2894.1	7.3	63.0	51.8	43.3	81.4	1.4
	PTE tons/yr				0.384	74.613	1.447	0.004	0.032	0.026	0.022	0.041	0.001
	Actual			50									
	Actual lb/hr				3.844	746.128	14.470	0.037	0.315	0.259	0.217	0.407	0.007
	Actual lb/yr				192.2	37306.4	723.5	1.8	15.8	13.0	10.8	20.3	0.3
	Actual tons/yr				0.096	18.653	0.362	0.001	0.008	0.006	0.005	0.010	0.000

Emission Factors derived from AP-42 Table 3.4-1 and 3.4-2
Diesel fuel heating values equal to 19.300 BTU/lb with a density of 7.1 lb/gal.
PM2.5 reported using emission factor for filterable particulate <3 um in Table 3.4-2
Potential To Emit based on 200 hours per year for this process which meets the definition of an emergency generator as contained in NR 400.02(56)
Sulfur Dioxide emissions based on 15 ppm sulfur diesel fuel
Actual Emissions based on 50 hours of operation per year.

Veolia ES Technical Solutions, L.L.C.
Emission Summary and Calculations
Stack S14
Attachment to 4530-126 and 4530-128

Stack S14 Process P10, P11, P12, F99

Maximum mercury concentration recorded during past 5 years	3.306	mg/m3
Capacity of blower on the carbon adsorber (C14) that discharges to this stack	5000	CFM

Maximum Theoretical Emissions

0.093	lb/hr	812	lb/yr	0.41	tons/yr

Potential to Emit

0.019	lb/hr	162.4	lb/yr	0.081	tons/yr

Actual Emission

3.50E-04	lb/hr	3.07	lb/yr	0.0015	tons/yr

Calculation of Actual Emissions

Average Concentration of exhaust gas	0.025	mg/m3
Hours of Operation	8760	hours
Actual exhaust flow rate	3750	CFM

Since installation of control device C10 and Stack S14, the average concentration in this stack has been 0.025 mg/m3 with an average of 0.008 mg/m3 during the period from 2008 through 2012. The stack is monitored using a direct reading mercury vapor monitoring instrument at a frequency of at least once per shift.

To calcuate actual emissions the average since installation was chosen.

Actual exhaust flow rate was established by testing.

Actual Emissions in lb/hr = Average Concentration in mg/m3 * (3750 ft3/min * 0.028316847 m3/ft3) * 60 min/hr * (2.2 lb/kg / 1000000 mg/kg)
Actual Emissions in lb/yr = lb./hr. emission * 8760 hours
Actual Emissions in tons/yr= lb./yr. emission * 1/2000 lb./ton

Veolia ES Technical Solutions, L.L.C.
Emission Summary and Calculations
Stack S14
Attachment to 4530-126 and 4530-128

Calculation of Maximum Theoretical Emissions

Over the past 5 years Veolia has conducted daily air monitoring of the ambient air within the retort room as well as the discharge points from processes P10, P11 and P12. Based on this monitoring, the typical inlet concentration to control device C10 is in the range of 0.01 - 1.0 mg/m3. On a few occasions the readings have exceeded 1.0 mg/m3 with a maximum recorded level of 3.306 mg/m3. To calculate the maximum theoretical emission level, the maximum concentration of 3.306 mg/m3 was increased by a factor of 1.5 and used in the calculation. Replacement of P12 with P14 will not impact these calculations as the mercury condensing system currently used on P12 will be used on P14.

Prior maximum theoretical emissions were calculated using a saturated concentration of mercury in air; however, operating data indicate that the maximum concentration of mercury in air is far below the saturation concentration.

MTE in lb/hr =	3.306 mg/m3 * 1.5 * (5000 ft3/min * 0.028316847 m3/ft3) * 60 min/hr * (2.2 lb/kg / 1000000 mg/kg)
MTE in lb/yr	lb./hr. emission * 8760 hours
MTE in tons/yr	lb./yr. emission * 1/2000 lb./ton

Calculation of Potential to Emit

Potential to Emit calculated using manufacturer specified efficiencies for control device C10, as contained in Operating Permit 01-DJH-339-OP.

The manufacturer of Control Device C10 specified control efficiency is in the range of 90 to 95%; however, due to varying conditions (humidity, temperature and mercury concentration) a control efficiency of 80% is being used for calculation of potential to emit.

PTE in lb/hr =	MTE lb/hr * (1-0.80)
PTE in lb/yr =	PTE lb/hr * 8760 hours
PTE in tons/yr =	PTE lb/yr * 1/2000 lb/ton

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF TRANSPORTATION AND AIR QUALITY
WASHINGTON, DC 20460

CERTIFICATE OF CONFORMITY
2010 MODEL YEAR

Manufacturer:	**DOOSAN INFRACORE CO., LTD.**
Engine Family:	**ADICL18.3USA**
Certificate Number:	**DIC-NRCI-10-01**
Intended Service Class:	**NR 9 (>560)**
Fuel Type:	**DIESEL**
FELs: g/kW-hr	NMHC +NOx: **N/A** NOx: **N/A** PM: **N/A**
Effective Date:	**12/30/2009**
Date Issued:	**12/30/2009**

Karl J. Simon, Director
Compliance and Innovative Strategies Division
Office of Transportation and Air Quality

Pursuant to Section 213 of the Clean Air Act (42 U.S.C. section 7547) and 40 CFR Part 89, and subject to the terms and conditions prescribed in those provisions, this certificate of conformity is hereby issued with respect to the test engines which have been found to conform to applicable requirements and which represent the following nonroad engines, by engine family, more fully described in the documentation required by 40 CFR 89 and produced in the stated model year.

This certificate of conformity covers only those nonroad compression-ignition engines which conform in all material respects to the design specifications that applied to those engines described in the documentation required by 40 CFR Part 89 and which are produced during the model year stated on this certificate of the said manufacturer, as defined in 40 CFR Part 89.

It is a term of this certificate that the manufacturer shall consent to all inspections described in 40 CFR 89.129-96 and 89.506-96 and authorized in a warrant or court order. Failure to comply with the requirements of such a warrant or court order may lead to a revocation or suspension of this certificate for reasons specified in 40 CFR Part 89. It is also a term of this certificate that this certificate may be revoked or suspended or rendered void ab initio for other reasons specified in 40 CFR Part 89.

This certificate does not cover nonroad engines sold, offered for sale, or introduced, or delivered for introduction, into commerce in the U.S. prior to the effective date of the certificate.

WISCONSIN OVEN

Wisconsin Oven Corporation
2675 Main Street
P.O. Box 873
East Troy, WI 53120 USA
262-642-3938
Fax: 262-363-4018
www.wisoven.com
sales@wisoven.com

August 9, 2013

Proposal: P-43447-12E
Reference: Batch Oven

Mr. Michael Thomas
Veolia Environmental Services
1275 Mineral Springs Drive
Port Washington, WI 53074

(email: mike.thomas@veoliaescom)
(phone: 262-243-8918)

Dear Mr. Thomas,

Thank you very much for considering Wisconsin Oven for your heat processing equipment. We sincerely appreciate your continued interest and look forward to the possibility of working with you on this project. If you have any questions, or require any clarification on any of the items listed within this proposal, please do not hesitate to contact us at your convenience.

In accordance with your request, we are pleased to submit the following **revised** proposal for One (1) Natural Gas (Direct) Fired Batch Series Oven, a Model Batch-8/8/6-12G.

Built to Last!!. We are very proud and excited to inform you this equipment is backed by Wisconsin Oven's **Exclusive and Unprecedented 3-Year WOW™ warranty.**

1. **Design Criteria:** The equipment has sufficient capacity to heat 8,000 pounds of steel from 70° to 1,150° F within 360 minutes when loaded into a ambient oven, provided the configuration of the load is such that it will absorb the heat generated and delivered within the time allowed
2. **Temperature Rating:** Maximum - 1,250° F Normal – 1,150° F
   Minimum - 280° F above ambient
3. **Temperature Uniformity:** ±10° F at 1,150° F; documentation of the temperature uniformity testing and final adjustments to obtain the tolerance shown above are included as part of this proposal; the temperature survey will be a standard nine (9) point profile test conducted in an empty oven chamber under static operating conditions
4. **Chamber Dimensions:** 8'0" wide x 8'0" long x 5'3" high
5. **Overall (approximate):** 17'6" wide x 16'0" long x 9'4" high

6. **Construction:** Walls and ceiling feature "CAN" style construction and includes 2" of 14# density high temperature industrial felt (block) insulation (1,900° F service temperature rating), backed with 4" of 6# density, industrial board type insulation (1,200° F service temperature rating), for a total of 6"; outer shell fabricated of 3/16" carbon steel plate, reinforced as required with structural steel; oven front fabricated of 1/2" carbon steel plate; oven inner shell and ductwork fabricated of 18 gauge 304 stainless steel

7. **Oven Door:** One (1) side-hinged horizontal swing door, constructed essentially the same as the oven, will be provided at the front end of the oven. The door is complete with heavy duty steel ball bearing hinges, FM approved pressure relief door latches, resilient high temperature gaskets, manual operated clamps to hold the door closed, and the required structural supports; door limit switch provided to shut burner to low fire when door begins to open.

   NOTE: If the door is open while at an elevated temperature for loading/unloading, the Purchaser will need to provide proper safety procedures/safeguards to protect the operator

8. **Recirculation (rear mounted):** Two (2) 14,000 CFM @ 10 HP blowers for a total of 28,000 CFM @ 20 HP (motors comply with NEMA Premium Efficiency Standards) plug-mounted blower with V-belt drive & durable guards; roof mounted heater house; combination air flow through the work chamber, with the majority of air supplied under the work to flow vertically upward past and through the product; airflow safety switch (proof-of-operation)

9. **Exhaust (rear wall mounted):** 2,500 CFM @ 2 HP exhaust blower with motorized dampers on both the fresh air inlet and exhaust outlet for controlled heating and cooling capabilities; oven **not** rated for Class A use where flammable volatiles are processed; the exhaust has sufficient capacity to cool 8,000 pounds of steel from 1,150° to 350° F within 360 minutes with 70° F incoming air, provided the configuration of the load is such that it will release the heat within the time allowed; airflow safety switch (proof-of-operation); exhaust stack not included

10. **Hearth:** Four (4) stainless steel skid rails on 27" centers (or as specified at time of order); hearth rated at a total capacity of 8,000 pounds gross loading; the clear height above the rails will be 63"; hearth height from the shop floor to the top of the rails will be 19"; side guides will be provided on the left and right sides to assure proper alignment of drum skid; drum skid stops will be provide on the back side of each skid rail; three (3) drum skids 2'6" wide x 7'6" long x 8" high; fabricated of 304 stainless steel; each rated at a total capacity of 2,500 pounds

11. **Heating Equipment:** Industrial air heat burner rated at 1,500,000 BTU per hour; piped complete, including the following items:
    - combustion air blower, complete with combustion airflow switch
    - direct spark ignited with shut-off valve
    - gas line filter/strainer and main gas pressure regulator
    - gas shut-off ball valves and high/low gas pressure switch
    - motorized (modulating) gas control valve
    - motorized shut-off, blocking valves and leak test arrangement
    - flame detector (flame rod) & flame relay with alarm horn, red light, and silencing relay
12. **Controls and Instruments:** Located in a UL certified and labeled, NEMA 5 enclosure mounted on the right side of the oven, including the following major components:
    - digital Eurotherm 3504 temperature controller (25 programs with 500 segments); fast acting advanced auto-tune function (auto-tune function not only works with PID parameters but it also features special cutback settings to help eliminate overshoot); 0.1% PV accuracy
    - digital Barber-Colman 7SL oven high limit controller (with manual reset)
    - IEC style motor starters, push buttons and pilot lights (to indicate status), fused branch circuits, 110 volt control transformer and blower interlocks
    - Honeywell Model 7800 flame relay with integral purge timer
    - main power disconnect switch with interlock to help prevent unauthorized personnel from opening control panel door when the disconnect switch is "ON"
13. **Vacuum Piping Components:** Three (3) interior vacuum stubs (each a 1 ½" 304 stainless steel pipe w/A&N flange (QF40-150-SS) end on the interior will be provided on the roof of the oven and spaced over each center drum position (see customer supplied drawing); the stubs will be piped to a main vacuum manifold (2" 304 stainless steel pipe) mounted on the exterior of the oven roof; any vacuum pumps, quick disconnects, additional shut-off valves, miscellaneous fittings, gauges, transducers or any other associated equipment will be supplied and installed by others
14. **Insurance and Other Specifications:** FM, NEC, NFPA 79 & 86 recommended equipment; if there are other requirements which must be met (heat-up rates, GE GAP, JIC, CSA, ETL, CE, equipment specifications, etc.), contact us for pricing

15. **Utility Requirements:**
    - **Electrical** - 480 volt, 3 phase, 60 hertz
    - **Compressed Air** - 100 PSIG (filter-regulator included)
    - **Natural Gas** - 1,000 BTU per cubic foot at a constant pressure of 2-5 PSIG
16. **Paint:** The equipment will be painted the following colors:
    - **Oven body** - heat resistant Federal Safety Blue industrial enamel exterior (the stainless steel interior requires no additional coating); area above door painted hi-heat aluminum
    - **Control panel** - gray exterior, white interior
    - **Guards** - OSHA yellow
17. **Testing:** Equipment is operated at normal and maximum temperatures prior to shipment; all safety interlocks are checked for proper operation; includes a systematic evaluation utilizing a check list with over 150 points (actual number varies depending on the type of equipment); uniformity survey, as quoted, performed prior to shipment with documentation of successful test placed in each manual
18. **Manuals:** Two (2) digital & one (1) paper Owner's Manuals placed in the control panel at time of shipment
19. **Completion:** Twenty-two (22) to twenty-six (26) weeks after receipt of an order and down payment, as well as answers to any open points (smallest doorway/passage, pass height, rail spacing, restrictions at job site, etc); the lead-time is based on our typical engineering and production capacities for this type of equipment and is subject to change (in either direction) based on our production schedule at time of order; expedited completion may be available upon request
20. **Shipping:** As we understand, the equipment will need to fit through a 10'0" wide x 10'0" high doorway; the equipment will be shipped in two (2) main oven body sections; rear-mounted exhaust blower and side mounted recirculation blowers will be match-marked & removed for reassembly and rewiring by others at the final job site; largest section shipped approximately 9'0" wide x 12'0" long x 9'4" high
21. **Installation:** Installation of the oven is not included; please feel free to contact us to discuss the varying degree of services we can provide (ranging from inspection, supervision of your employees, to a complete "turn-key" installation)
22. **Terms:** [redacted]

23. **Freight:** [redacted]

24. **Exclusive 3-Year WOW™ Warranty:** [redacted]

25. **Price:** [redacted]

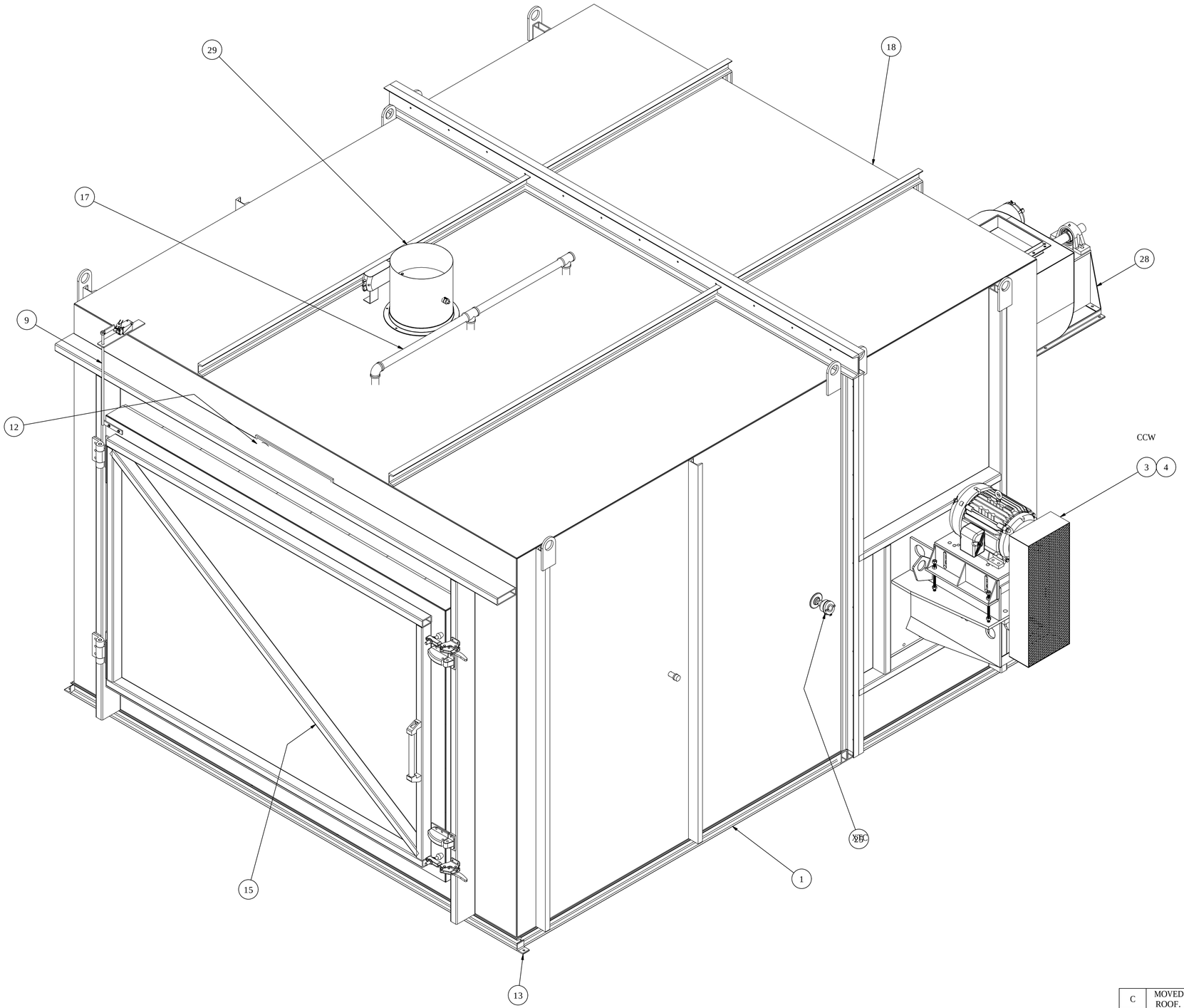
If we can be of further assistance, or if you have any questions, please feel free to call on us, at your convenience.

Very truly yours,

Wisconsin Oven Corporation

Nicholas Toci
Sales Engineer
Direct Phone: (262)642-6025
Email: ntoci@wisoven.com

Attachment for 4530-103 and 4530-109,
Stack S17, Process P14,
Page 6 of 8



SPECIFICATIONS

ELECTRICAL: 480/3/60 APPROX. 34 AMPS

FUEL: NATURAL GAS @ 2-5 PSIG
1,500 SCFH @1,000 BTU/SCF
1,500,000 BTUH

RECIRCULATION: 14,000 CFM @ 10 HP (2)
28,000 CFM @ 20 HP TOTAL

EXHAUST: 2,500 CFM @ 2 HP

LOADING: 2,500# GROSS PER DRUM SKID (3)
8,000# GROSS ON HEARTH

TEMPERATURE: 1,250° F MAXIMUM
1150°F NORMAL
280°F ABOVE AMBIENT MINIMUM

PAINT COLOR: OVEN – FEDERAL SAFETY BLUE (341-0192)
CONTROL PANEL – MANUFACTURER'S GRAY
CONDUIT – NOT PAINTED
GUARDS – OSHA YELLOW

ALL DIMENSIONS ARE IN INCHES

NOTES

1. WOC LARGE LOGO TO BE LOCATED ON CENTERLINE OF OVEN ABOVE PROFILE OPENING
2. UL CERTIFIED AND LABELED CONTROL PANEL. REMOTE MOUNTED BY CUSTOMER
3. THIS OVEN IS NOT RATED FOR CLASS "A" OPERATION
4. EXHAUST BLAST-GATE BLADE SIZED TO ALLOW 900 CFM MINIMUM EXHAUST AND A 6 MIN. PURGE TIME.
   VERIFY EXHAUST AT FINAL INSTALLATION.
5. SPLIT OVEN FOR SHIPPING. REMOVE EXHAUST DAMPER FROM ROOF FOR SHIPPING.
   EXHAUST BLOWER & CONTROL PANEL SHIPS LOOSE.
   SMALLEST DOOR/PASSAGEWAY: 10' HIGH X 10' WIDE
   CEILING HEIGHT AT FINAL JOBSITE: 11' 8"
6. APPROXIMATE SHIPPING WEIGHT:
   SECTION 1: 10,500 LBS
   SECTION 2: 8,000 LBS
   EXHAUST: 500 LBS
   TOTAL: 19,000 LBS
7. EXHAUST NOTE:
   THE EXHAUST STACK FROM OUR EQUIPMENT TO ATMOSHPERE MUST BE DESIGNED WITH A MAXIMUM AIRFLOW RESISTANCE OF 3/4" WC AND MUST BE SUPPORTED INDEPENDENTLY OF THE EXHAUST BLOWER.
8. INSTALLATION PROCEDURE:
   THE EQUIPMENT MUST BE LEVELED AND SET PLUMB. SHIMS CAN BE USED TO LEVEL THE EQUIPMENT. THE EQUIPMENT MUST BE LAGGED TO THE FLOOR WITH THE PROVIDED MOUNTING PADS.
   FAILURE TO INSTALL THE EQUIPMENT AS NOTED WILL VOID THE WARRANTY.
   IN ACCORDANCE WITH NFPA 86, SPECIFICATION 5.1.4.1 STATES "FURNACES (OVENS) SHALL BE LOCATED WITH SPACE ABOVE AND ON ALL SIDES FOR INSPECTION AND MAINTENANCE PURPOSES." WISCONSIN OVEN CORPORATION RECOMMENDS 18" OF CLEARANCE, WHICH PROVIDES ROOM FOR HEAT DISSIPATION.
   INTERPRETATION AND COMPLIANCE WITH THE REQUIREMENT ARE THE SOLE RESPONSIBILITY OF THE PURCHASER.
9. NINE (9) POINT TEMPERATURE UNIFORMITY SURVEY: ±10°F @ 1,150°F
   * INDICATES TEMPERATURE UNIFORMITY TEST LOCATION, SEE SIGNED TEST SHEET
10. FLOOR NOTE:
    6" OVEN FLOOR IS INCLUDED. OVEN MUST BE INSTALLED ON A NON-COMBUSTABLE FLOOR RATED FOR 350°F.

ITEM	QTY	DESCRIPTION	LENGTH	WIDTH	PART NUMBER	DRAWING	GRP
1	1	BASE & FLOOR ASSEMBLY				207-X06548A-1	
2	1	HEARTH ASSEMBLY				232-X06548A-1	
3	2	RECIRCULATION BLOWER, 14,000 CFM @ 10 HP, (1) CW SCROLL & (1) CCW SCROLL				DEKALB	
4	REF	AIR FLOW SWITCH					
5	REF	EXHAUST AIR FLOW SWITCH MOUNTING			S	241-S-1173	3
6	2	BLASTGATE, 304 SS, 6" FULL			311-0230		
7	2	SHEET, 304SS, 20 GA, 48 X 120	19 1/8	6 1/2	304-0021	CLIP END 1/2", ROLL TO 6" DIA	
8	1	3/4" TC TEST PORT, 304 SS				246-X06548A-1	
9	1	DOOR LIMIT SWITCH ASSEMBLY			S	220-4-1855	7
10	REF	AH150 V2 BURNER				ECLIPSE	
11	1	POWER & CONTROL WIRING				502-X06548A-1	
12	1	LARGE WOC LOGO			343-0001		
13	1	STANDARD MOUNTING ANGLE			S	220-3-3442	1
14	3	DRUM SKID ASSEMBLY - 304 SS				223-X06548A-1	
15	1	SINGLE SWING DOOR ASSEMBLY				203-X06548A-1	
16	1	GAS PIPING ASSEMBLY				211-S-1845-1	
17	1	VACUUM PIPING ASSEMBLY				212-X06548A-1	
18	1	OUTER SHELL ASSEMBLY				201-X06548A-1	
19	1	SHEET, 304SS, 20 GA, 48 X 120	44 1/4	16 5/8	304-0021	CLIP END 1/2", ROLL TO 14" DIA	
20	1	INNER SHELL ASSEMBLY				213-X06548A-1	
21	1	SUPPLY & RETURN DUCT ASSEMBLY				202-X06548A-1	
22	1	SIDE GUIDE ASSEMBLY				220-X06548A-1	
23	1	SCROLL CCW					
24	1	SCROLL CW					
25	3	THERMOCOUPLE MOUNTING: (2) XTC = 12, CTC = 24 LOC @ TEST			S	220-4-1813	1
26	1	SHEET, 304SS, 18 GA, 48 X 120	37 15/16	6 1/2	304-0026	CLIP END 1/2", ROLL TO 12" DIA	
27	1	MODULATING DAMPER ASSEMBLY, 12" DIA			S	241-S-1172	
28	1	POWERED EXHAUST, HIGH TEMP, 2500 CFM, 2 HP, CLASS 1250, DOUBLE WALL INSULATED, CWUB				DEKALB FHD135	
29	1	FRESH AIR ASSEMBLY, MODULATED, 14" DIA				241-X-1	

REV	DESCRIPTION	DATE	BY
C	MOVED EXHAUST OUTLET TO ROOF. ADDED CEILING REF.	11/20/13	BD

REVISION HISTORY

WISCONSIN OVEN CORP.
EAST TROY, WISCONSIN 53120

GENERAL ASSEMBLY
BATCH-8/8/6-G12

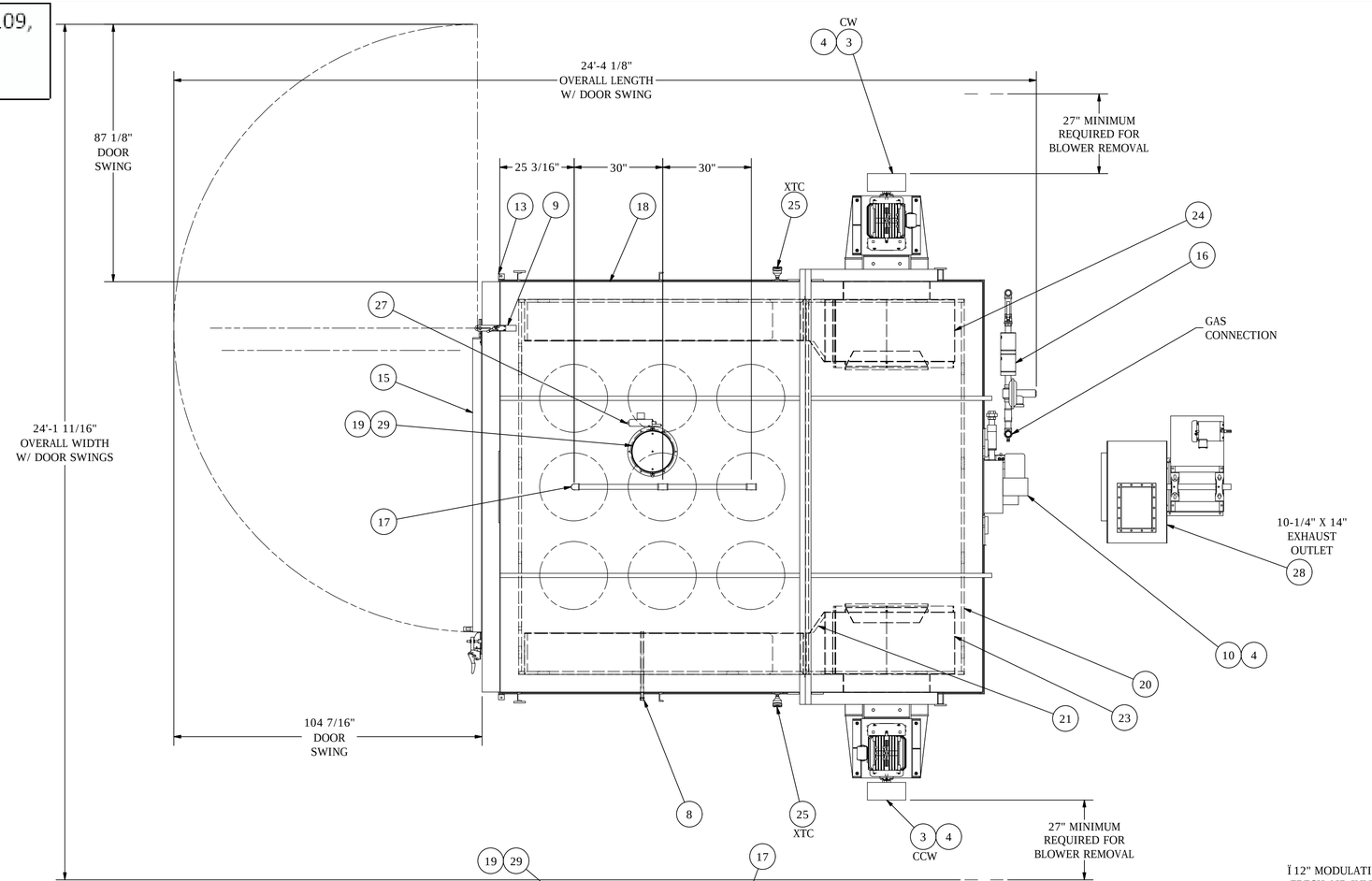
REV. C

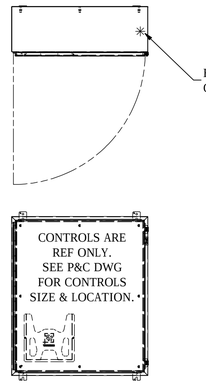
DRAWN BY	bdavis	DATE	11/7/2013
CHK'D BY	JAL	DATE	11/11/2013
SCALE	1/12	JOB NO	06548A

DWG. NO. 102-X06548A-1

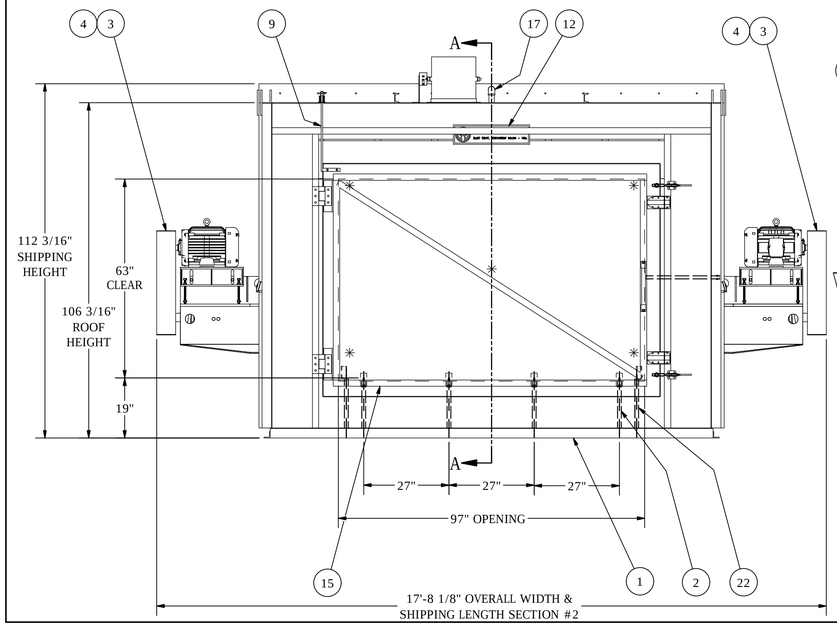
Attachment for 4530-103 and 4530-109,
Stack S17, Process P14,
Page 7 of 8

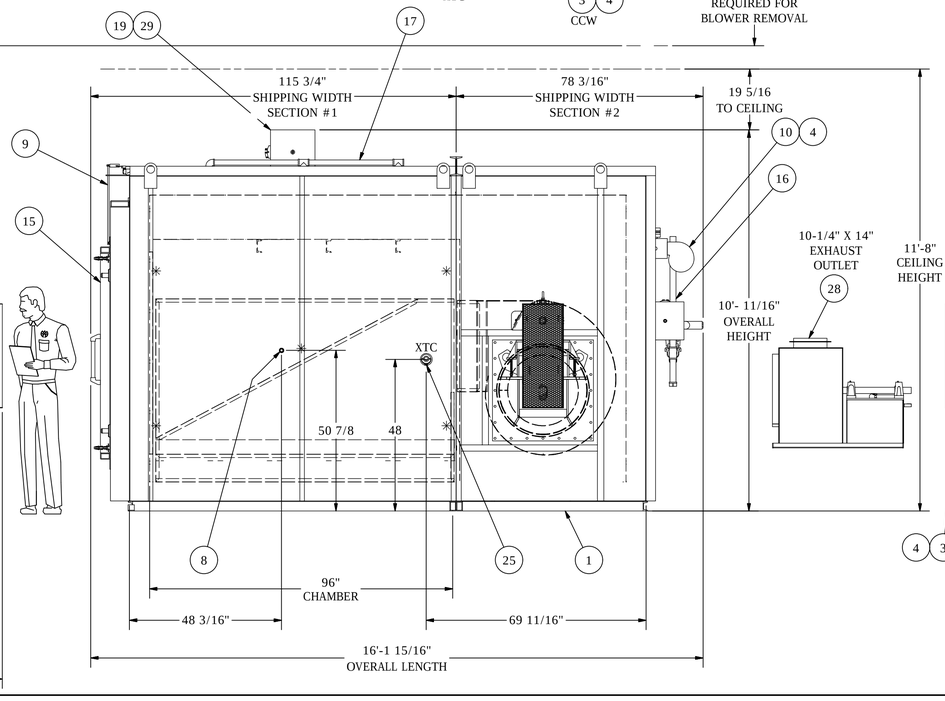
ALL DIMENSIONS ARE IN INCHES

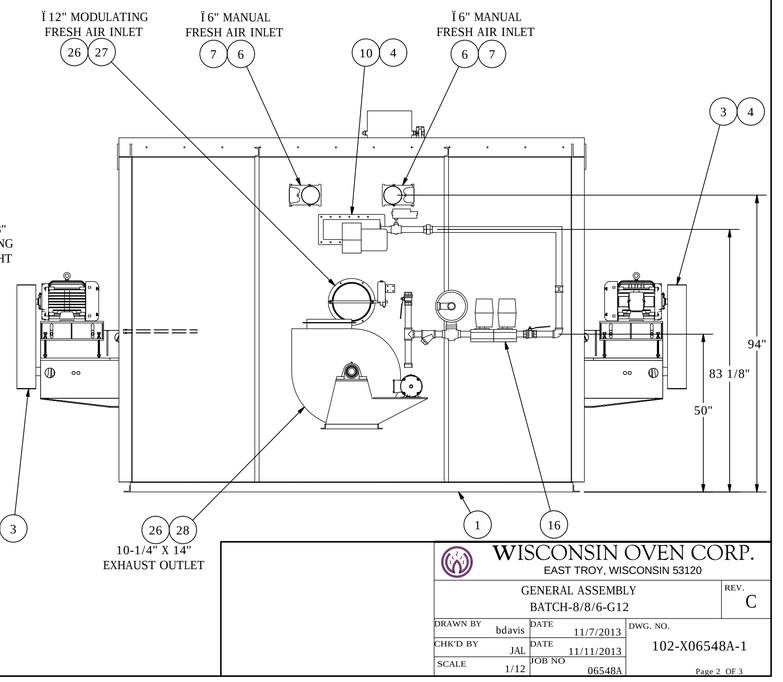




DET. ITEM 11
REMOTE MOUNTED PANEL





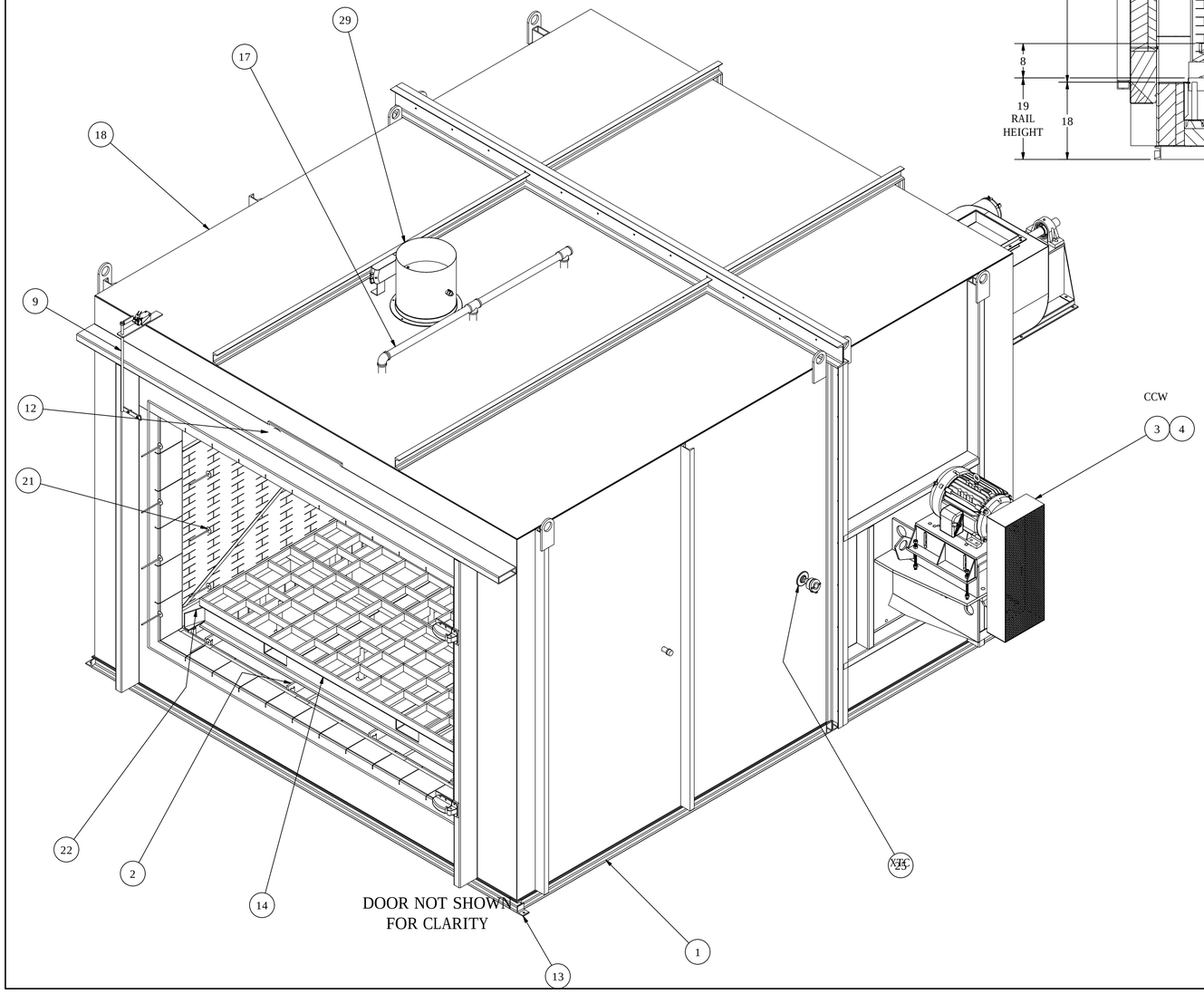


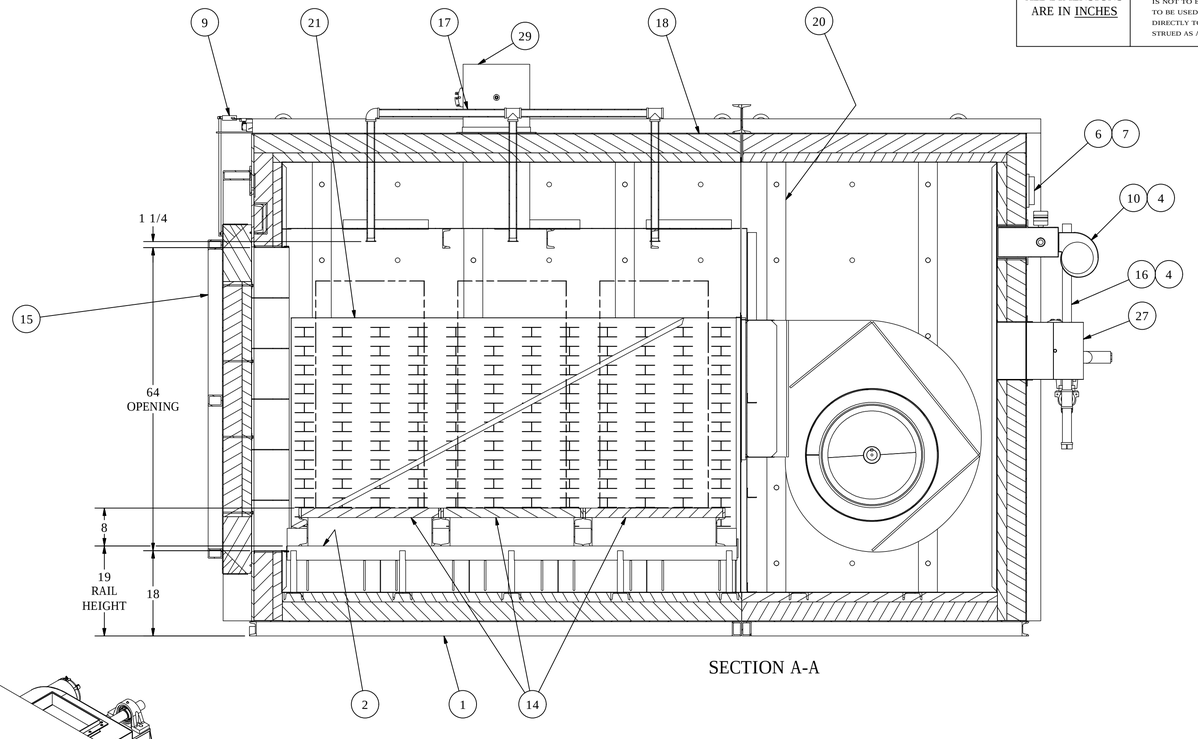
WISCONSIN OVEN CORP.
EAST TROY, WISCONSIN 53120

GENERAL ASSEMBLY BATCH-8/8/6-G12			REV. C
DRAWN BY bdavis	DATE 11/7/2013	DWG. NO. 102-X06548A-1	
CHK'D BY JAL	DATE 11/11/2013		
SCALE 1/12	JOB NO 06548A		

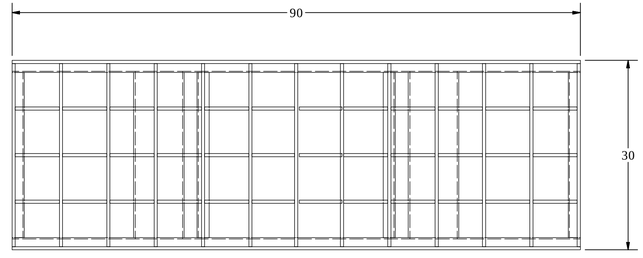
Attachment for 4530-103 and 4530-109,
Stack S17, Process P14,
Page 8 of 8

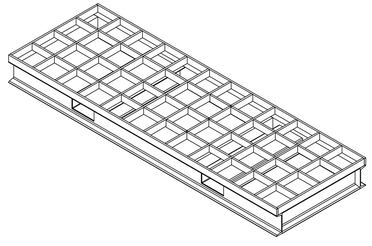
ALL DIMENSIONS ARE IN INCHES

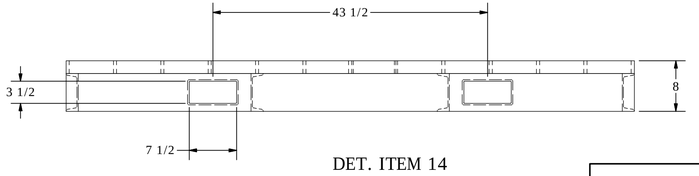




SECTION A-A



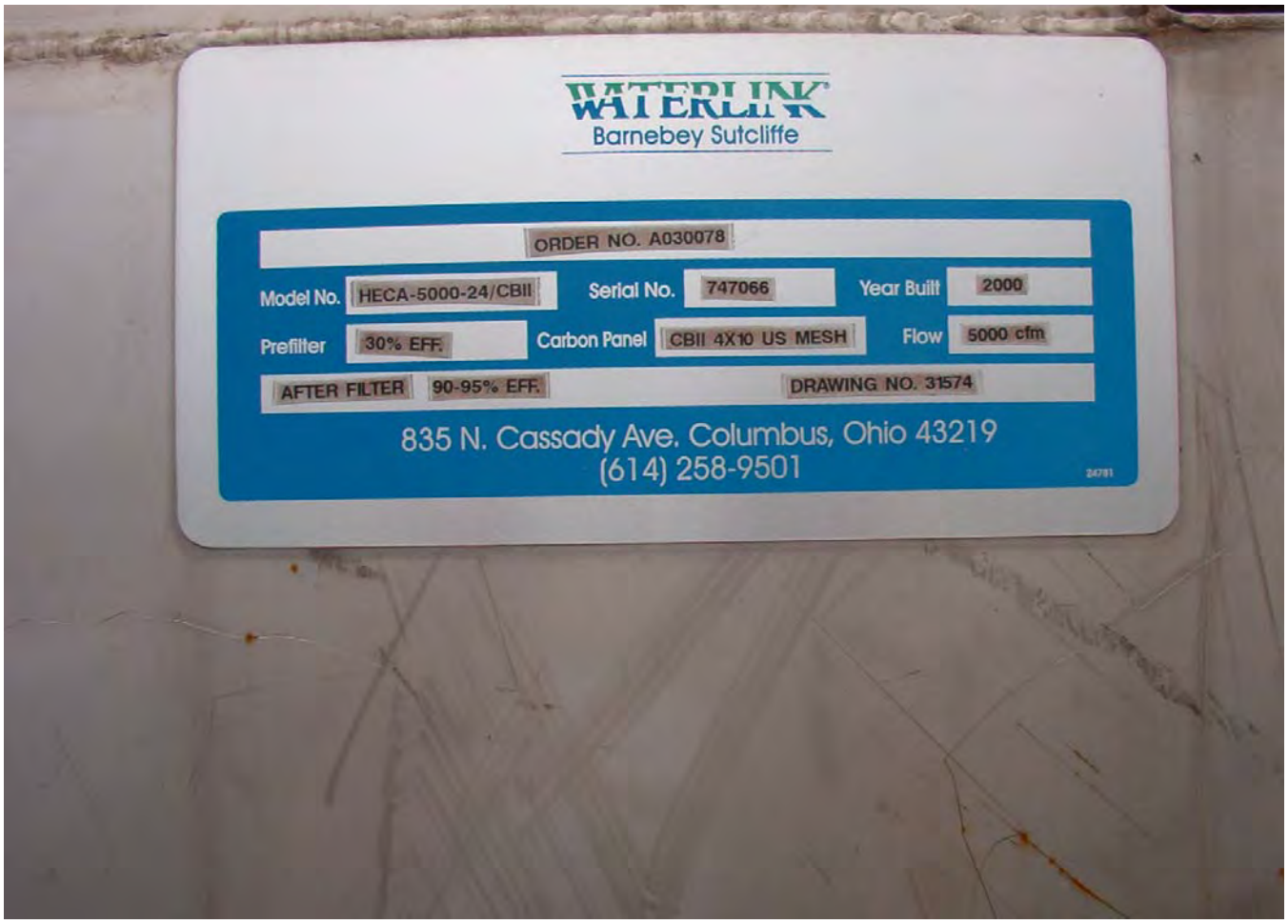




DET. ITEM 14

WISCONSIN OVEN CORP.
EAST TROY, WISCONSIN 53120

GENERAL ASSEMBLY BATCH-8/8/6-G12			REV. C
DRAWN BY bdavis	DATE 11/7/2013	DWG. NO. 102-X06548A-1	
CHK'D BY JAL	DATE 11/11/2013		
SCALE 1/12	JOB NO 06548A		Page 3 OF 3



Specification Plate on Control Device C10

Mercury Quantity in Lamps for General Lighting Applications

2/24/10

Highly efficient, energy-conserving lamps typically contain small quantities of mercury. If the level of mercury is too low, then lamp life, number of starts, color, and light output can be dramatically affected. Lamps will consume all the pure mercury before reaching rated life, requiring additional lamp replacements, which increases mercury usage. OSRAM SYLVANIA is **continuously striving to reduce** the levels of mercury in our lamps. The levels in these tables are best projected estimates, subject to machine capabilities. When using these numbers to determine compliance with the US Green Building Council's LEED®-EBOM low mercury credits, please note:

- **This calculation requires input of ALL mercury-containing lamps and is not designed as a lamp-by-lamp comparison. Each individual lamp does NOT need to meet the individual picogram per lumen hour level, but rather the total level of all lamp types and quantities must achieve that measurement.**
- **It is important to remember that individual products cannot be LEED-certified. Only buildings can be LEED-certified.**

Lamp Type	Range	Hg Content (mg)
T5, pre-heat	4W to 13W (incl BLB)	15
T5, PENTRON®	All	1.8
PENTRON® Circline	All	9
T5, PENTRON® HO (High Output)	All	1.8
T12, pre-heat	All	12 to15
T8, pre-heat	All	6
T8, OCTRON®, linear 800, 800XP, and XL	Up to 60"	3.5
T8, OCTRON®, linear 800XP/SS and 800XPS	All	2.9
T8, OCTRON®, linear 700XP	Up to 72"	3.5
T8, OCTRON®, linear 700	Up to 72"	4.8
T8, OCTRON® linear	72" and longer	8.5
T8, OCTRON®, HO, linear (High Output)	All	9.5
T8, OCTRON®, CURVALUME® 6" leg spacing	All	3.75
T8, OCTRON®, CURVALUME® 1 5/8" leg spacing	All	6
T9 Circline	20W	5
T9 Circline	22W, 28W, 40W	15
T12, linear, Rapid Start—halo-phosphor lamps	(excl. HO & VHO)	8
T12, linear, Rapid Start – Designer lamps	(excl. HO & VHO)	4.8
T12, linear, Instant Start	All (>24" L)	9.5
T12, CURVALUME®	All	8
T12, HO (High Output)	All	15
T12, VHO (Very High Output)	All	30
ICETRON®	70W to 150W	18
DULUX EL®, one piece(amalgam and covered, ex. triple tube)	4W to 40W	3
DULUX EL® one piece (bare burner)	4W to 25W	3-5
DULUX EL® one piece (bare burner)	25W to 40W	6
DULUX EL®, one piece (triple tube)	15W to 23W	5
DULUX EL®, Circline	20W to 30W	5
DULUX EL® Micro Mini and Living Spaces®	13W to 23W	1.5
DURA-*ONE*®	23W	1.8
DULUX® pin base (excl. some T, and F and L)	5W to 57W	2.5
DULUX® pin base T, T/E	13W to 32W	4.5
DULUX® pin base, T/E/IN	18W to 70W	3
DULUX® F, pin base	18W to 36 W	3
DULUX® L, pin base	18W to 55W	4.5

Mercury Quantity in Lamps for General Lighting Applications

2/24/10

Highly efficient, energy-conserving lamps typically contain small quantities of mercury. If the level of mercury is too low, then lamp life, number of starts, color, and light output can be dramatically affected. Lamps will consume all the pure mercury before reaching rated life, requiring additional lamp replacements, which increases mercury usage. The mercury is therefore crucial to achieving the lamps' higher level of operating efficiency.

In addition, energy-efficient lighting requires less energy, which lowers electricity demand. This means that power plants need to burn less fossil fuel to meet this demand, which reduces emissions of air pollutants – including airborne mercury. OSRAM SYLVANIA is **continuously striving to reduce** the levels of mercury in our lamps. The levels in these tables are best projected estimates, subject to machine capabilities.

When using these numbers to determine compliance with the US Green Building Council's LEED®-EBOM low mercury credits, please note:

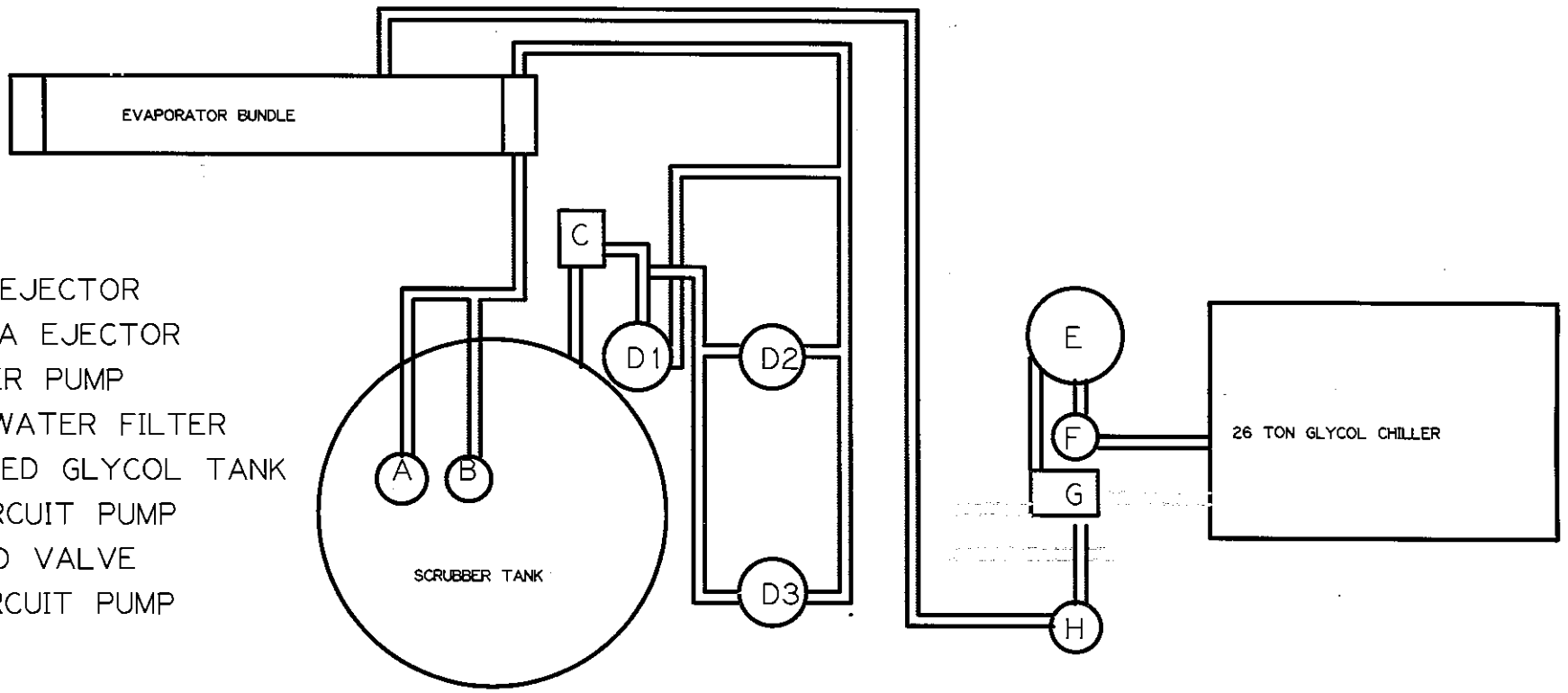
- **This calculation requires input of ALL mercury-containing lamps and is not designed as a lamp-by-lamp comparison. Each individual lamp does NOT need to meet the individual picogram per lumen hour level, but rather the total level of all lamp types and quantities must achieve that measurement.**
- **It is important to remember that individual products cannot be LEED-certified. Only buildings can be LEED-certified.**

Lamp Type	Range	Hg Content (mg)
Metal Halide, METALARC® screw base ceramic PAR & TC	20W	2.5
Metal Halide, METALARC® screw base ceramic PAR & TC	24W	3.8
Metal Halide, METALARC® screw base ceramic PAR, T,&TC	39W	5
Metal Halide, METALARC® screw base ceramic PAR, T,&TC	70W	7
Metal Halide, METALARC® screw base ceramic PAR	100W to150W	15
Metal Halide, METALARC® screw base	50W to 100W	13
Metal Halide, METALARC® screw base	150W to 250W	34
Metal Halide, METALARC® screw base	320W to 360W	56
Metal Halide, METALARC® ceramic screw base	50W	8
Metal Halide, METALARC® ceramic screw base	70W	7
Metal Halide, METALARC® ceramic screw base	100W	6.6 to 7.5
Metal Halide, METALARC® ceramic screw base	150W	16
Metal Halide, METALARC® ceramic screw base	250W	18
Metal Halide, METALARC® ceramic screw base	320W	31
Metal Halide, METALARC® screw base	400W to 750W	57o 63
Metal Halide, METALARC® screw base	1000W to 1500W	145
Metal Halide, pin base	39 to 150W	6 to13
Metal Halide, double-ended (excl. HQI DE 150 WDX)	70 to 250W	15
Metal Halide, double-ended - HQI DE 150 WDX only	150W	23
Metal Halide, double-ended	1000 to 3000W	281
Mercury Vapor	50W to 100W	11 to 20
Mercury Vapor	175W	24
Mercury Vapor	250W	48
Mercury Vapor	400W to 1000W	58 to 79
Mercury Vapor H36	1000W	165
High Pressure Sodium, standard	35W to 400W	11 to15
High Pressure Sodium, standard, SUPER	>400W to 1000W	18 to 25
High Pressure Sodium, LUMALUX® Standby	70W to 400W	29
High Pressure Sodium, LUMALUX® Standby	1000W	43
High Pressure Sodium, ECO	50W to 400W	15
High Pressure Sodium, PLUS, ECO	50W to 400W	1 to 6
High Pressure Sodium PLUS	1000W	15
High Pressure Sodium, HgF mercury free	70W to 150W	0.0001

M

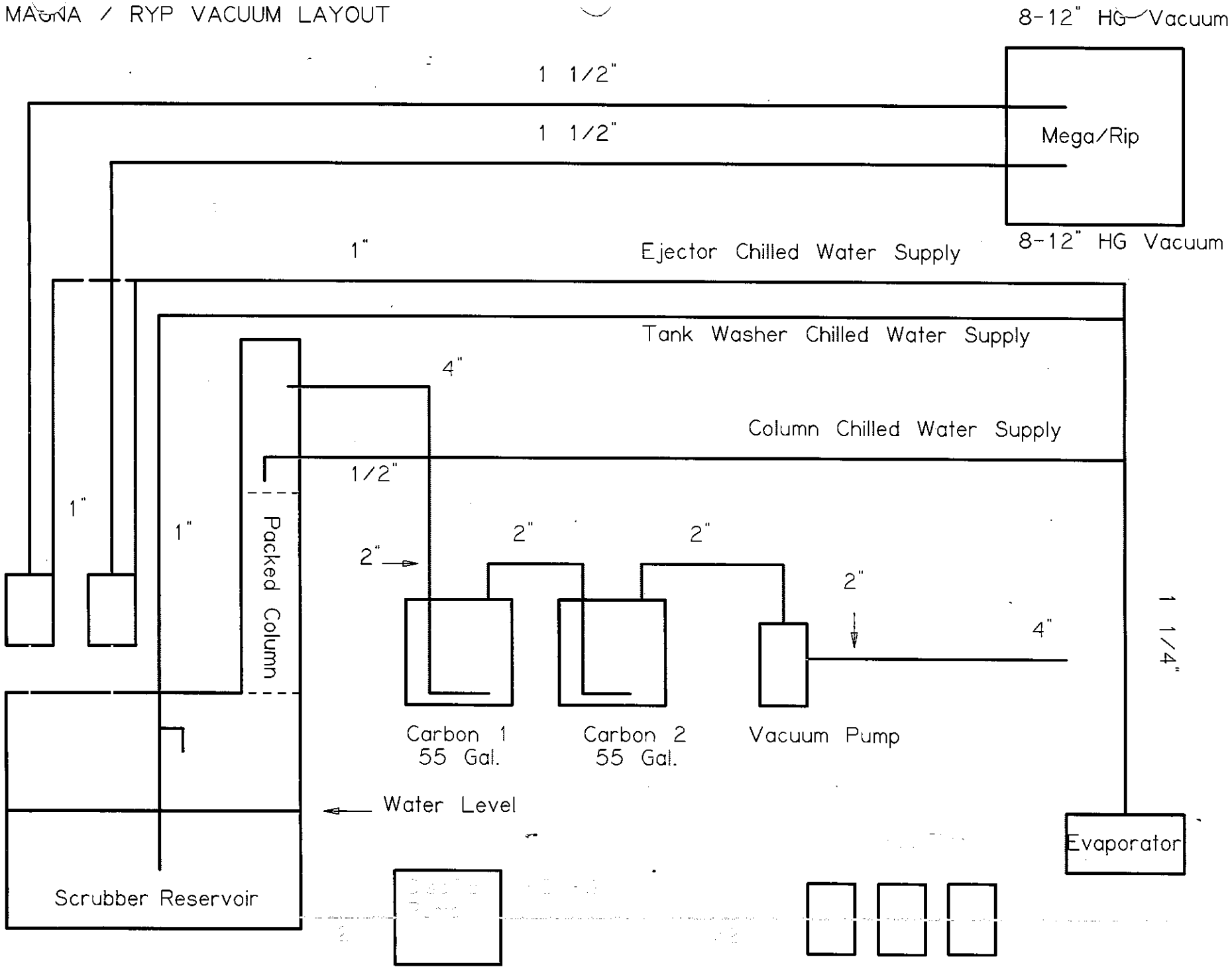
Miscellaneous Unit Equipment Information

A. RYP EJECTOR
B. MAGNA EJECTOR
C. WATER PUMP
D1,2,3, WATER FILTER
E. CHILLED GLYCOL TANK
F. A CIRCUIT PUMP
G. BLEND VALVE
H. B CIRCUIT PUMP



MAGNA/RYP COOLING WATER LAYOUT

MAGNA / RYP VACUUM LAYOUT

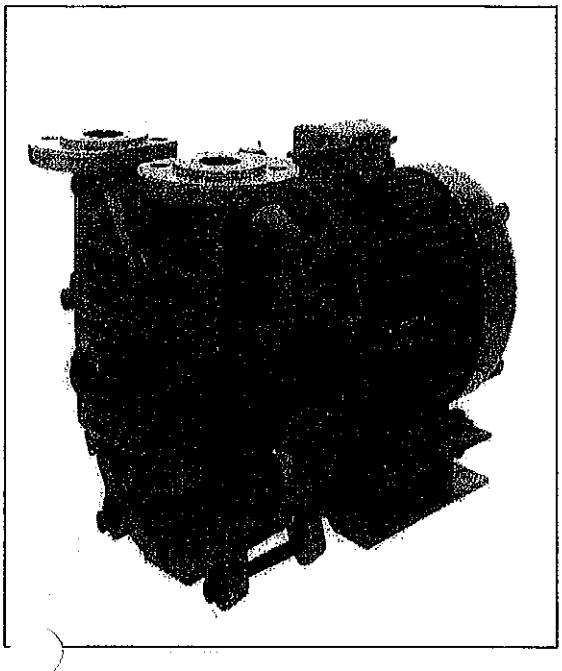


TRAVAINI PUMPS USA

TRMB 40

Single Stage Medium/High Vacuum Pumps

PERFOMANCE DATA	: From 25 Torr	CAPACITY: 40 – 150 cfm
FEATURES	: Single-stage rotating pump with electric motor ball bearings grease lubricated.	
SHAFT SEALING	: Mechanical seal	
OPTIONS	: Direct monoblock with electric motors.	



TECHNICAL DATA

PUMP TYPE		TRMB 40-110		TRMB 40-150		TRMB 40-200	
Speed	RPM	1450	1750	1450	1750	1450	1750
Motor - installed power	HP	4	5	5	7.5	7	10
Average service liquid flow	GPM	5	5	5	5	5	5
Noise level at 60 Torr	dB(A)	68	68	69	69	72	72
Minimum suction pressure	Torr	25	25	25	25	25	25

Pumps are provided with threaded connections for service liquid, pump draining, anticavitation valve.
Pumps are also provided, by request, with auxiliary threaded connections, companion flanges, flanged air-liquid separator tank, non return valve, vacuum relief valve, valve to control the flow of the liquid supply, vacuum gauges, pressure gauges and compound gauges. We can also provided information on our water sealed and oil sealed systems.
For more detailed information please contact our Sales Office.

Example for Model Designation

T R M B 40 – 200 / GH

T	Travaini Pump USA construction
R	Liquid Ring Pump
M	Single stage pump with valves for medium and high vacuum – direct monoblock
B	Design number
40	Flange size (mm)
200	Nominal capacity (m^3/h)
GH	Materials of construction GH-RA-A3 = See table

Standard Materials of Construction

Part No.	Description	GH	F	RA	A3
101	Suction/ Discharge casing	Cast Iron			Stainless Steel AISI 316
120	Rear casing				
230	Impeller	Bronze		Ductile Iron	

Special Materials Available Upon Request

Indicative table: for further information please consult our Sales Office

April 15, 2002

DATA BASED ON :

DRY AIR AT 68 °F – 20 °C ——————

SATURATED AIR AT 68 °F – 20 °C - - - - - - - - - -

SERVICE LIQUID WATER

SERVICE LIQUID TEMPERATURE 59 °F – 15 °C

DISCHARGE PRESSURE 1013 mbar

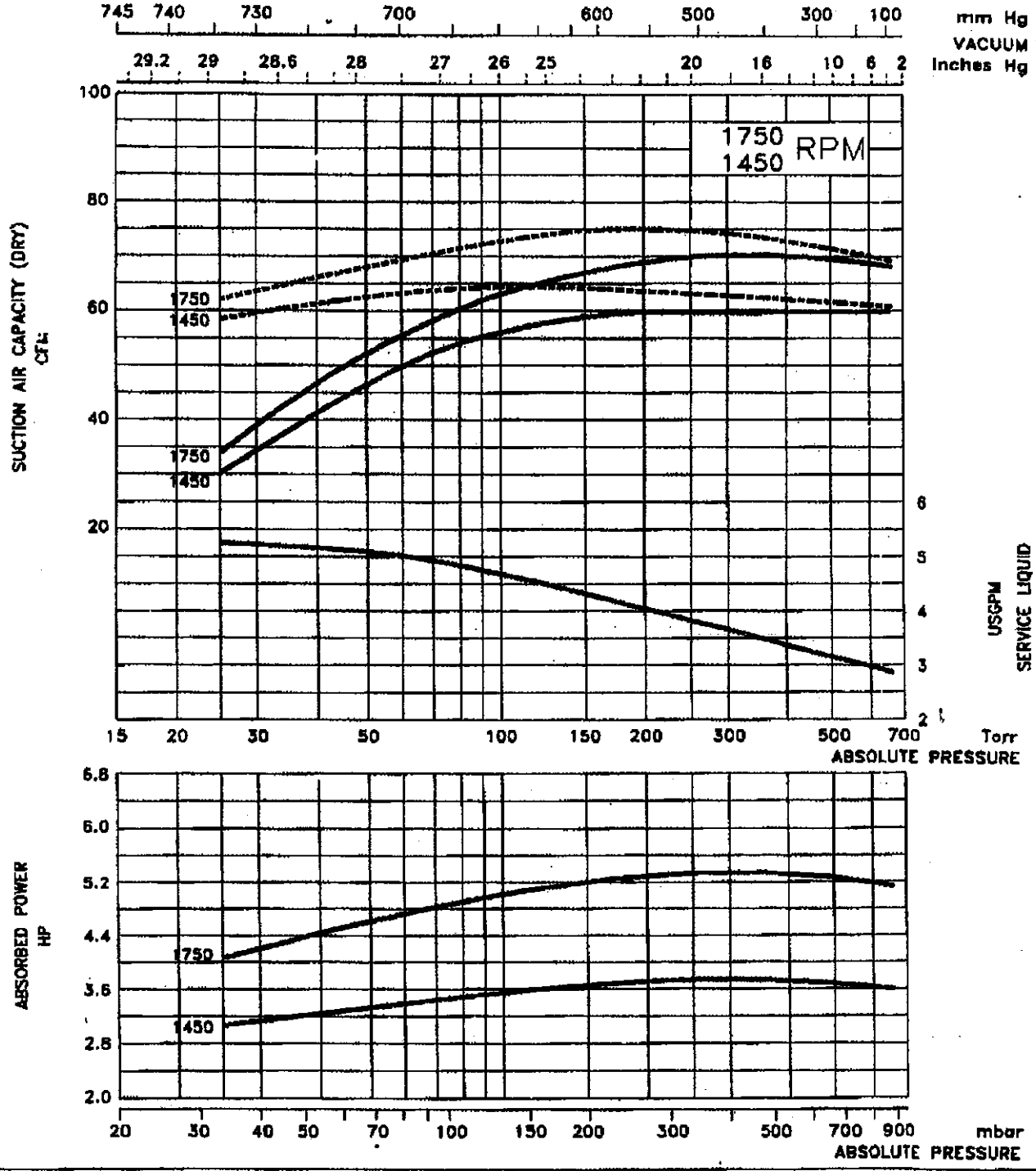
S.S. PUMPS

CAPACITY : –10%

Tol.: 10%

PERFORMANCE DATA
LIQUID RING VACUUM PUMP
PUMP MODEL

TRMB/TRVB 40–110



TRAVAINI PUMPS USA

Liquid Ring & Rotary Vane Vacuum Pumps and Systems

April 15, 2002

DATA BASED ON :

DRY AIR AT 68 °F – 20 °C ——————

SATURATED AIR AT 68 °F – 20 °C - - - - - - - - - - - -

SERVICE LIQUID WATER

SERVICE LIQUID TEMPERATURE 59 °F – 15 °C

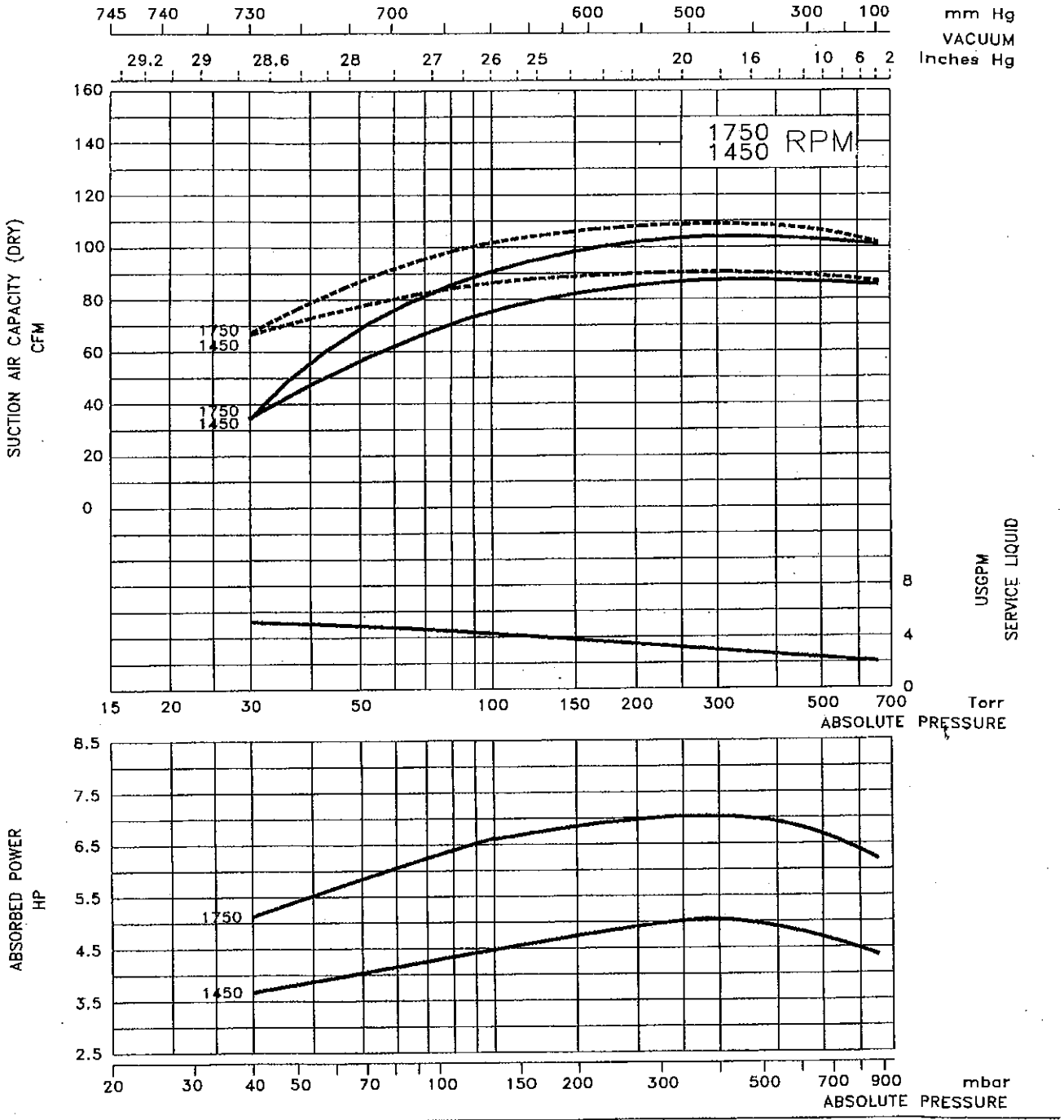
DISCHARGE PRESSURE 1013 mbar

S.S. PUMPS
CAPACITY: –10%

Tol.: 10%

PERFORMANCE DATA
LIQUID RING VACUUM PUMP
PUMP MODEL

TRMB/TRVB 40–150



TRAVAINI PUMPS USA

Liquid Ring & Rotary Vane Vacuum Pumps and Systems

April 15, 2002

DATA BASED ON :

DRY AIR AT 68 °F – 20 °C ——————

SATURATED AIR AT 68 °F – 20 °C - - - - - - - - - - - -

SERVICE LIQUID WATER

SERVICE LIQUID TEMPERATURE 59 °F – 15 °C

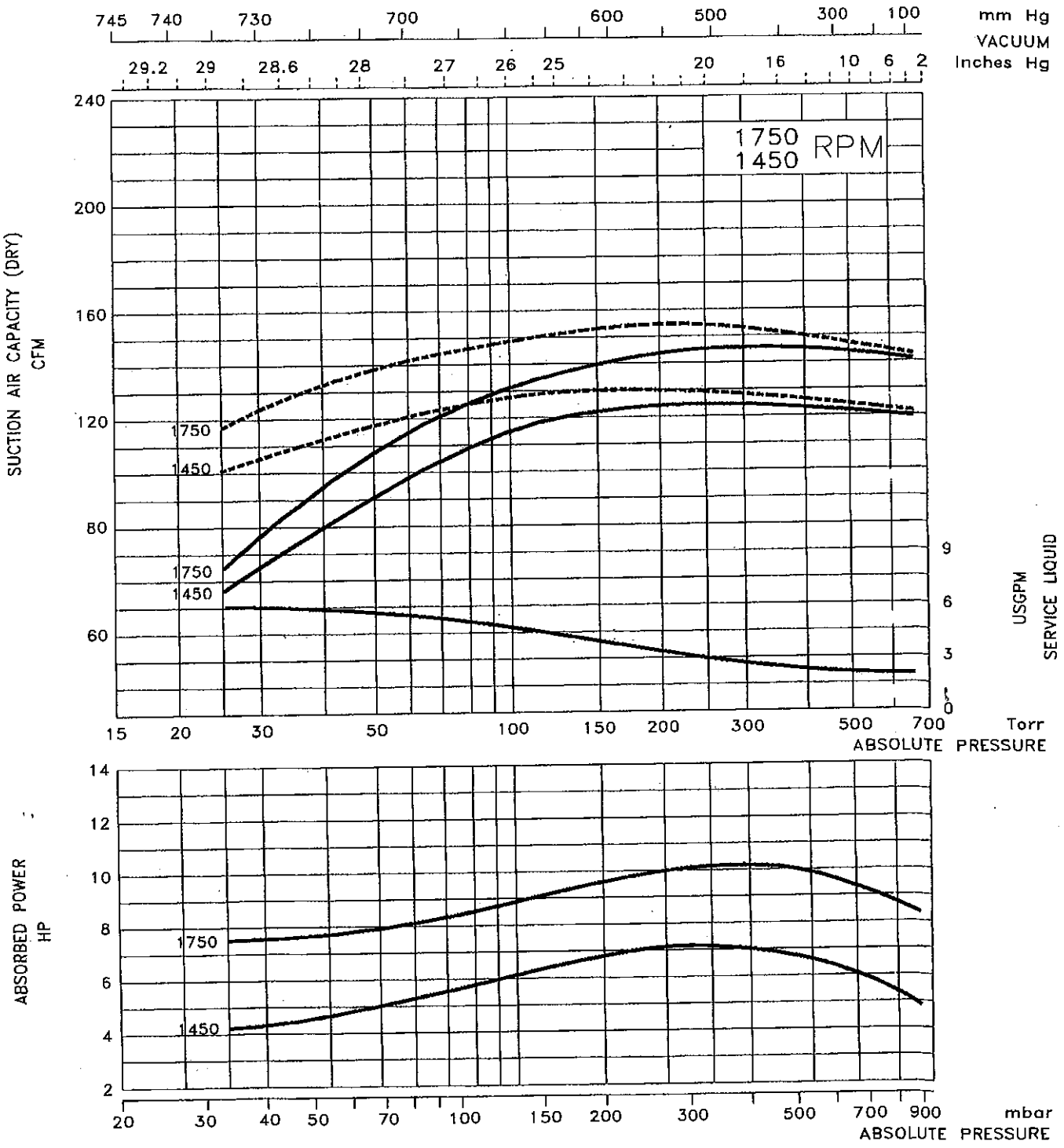
DISCHARGE PRESSURE 1013 mbar

S.S. PUMPS
CAPACITY: –10%

Tol.: 10%

PERFORMANCE DATA
LIQUID RING VACUUM PUMP
PUMP MODEL

TRMB/TRVB 40–200



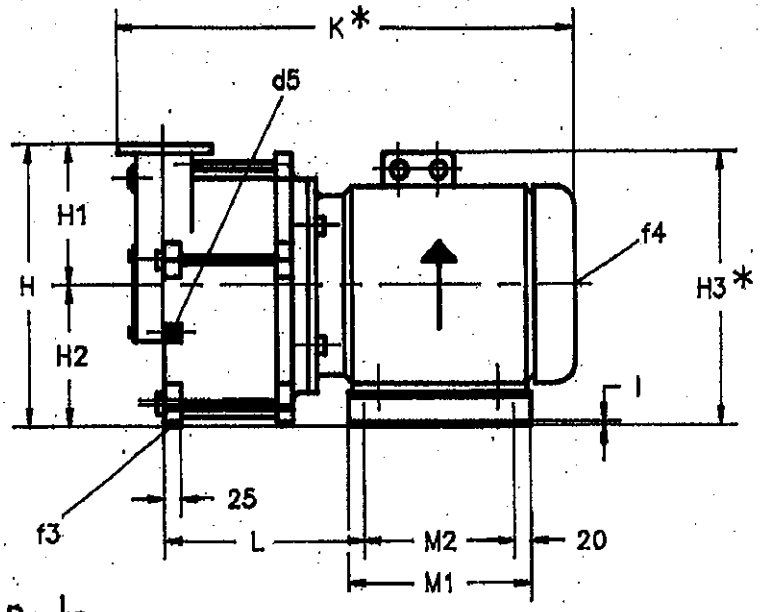
TRAVAINI PUMPS USA

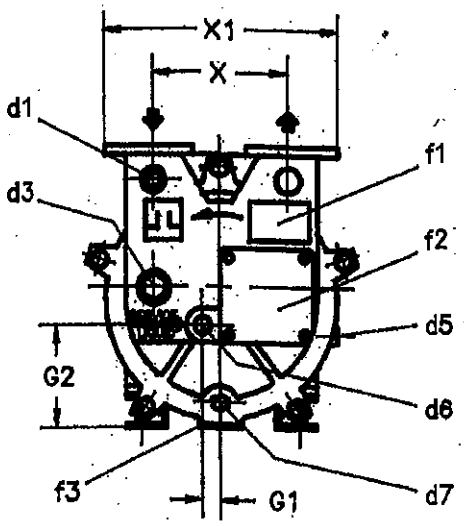
Liquid Ring & Rotary Vane Vacuum Pumps and Systems

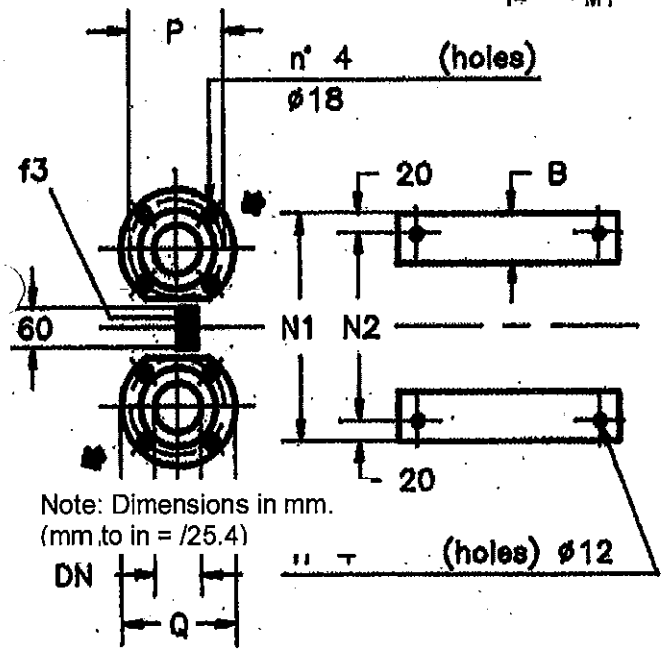
April 15, 2002

TRMB 40

Overall Dimensions







Note: Dimensions in mm.
(mm to in = /25.4)

d1 = Ø 1/4" GAS F – Vacuum gauge connection
d3 = TRMB 40 – Ø 1/2" GAS F – Auxiliary connection
d3 = TRMB 50 – Ø 3/4" GAS F – Auxiliary connection
d5 = Ø 1/8" GAS F - Anticavitation valve connection
d6 = TRMB 40 – Ø 1/2" GAS F – Liquid supply inlet connection
d7 = Ø 1/4" GAS F – Drain connection
f1 = Pump identification plate
f2 = Vacuum valve inspection opening
f3 = Shock-isolating mounting
f4 = Threaded hole for motor shaft rotation checking

Pump Type	4 Poles Motor HP	Pump																Flanges			Wt lbs.*
		B	G1	G2	H	H1	H2	H3*	I	K*	L	M1	M2	N1	N2	X	X1	DN	P	Q	
TRMB 40-110	5	60	0	160	325	165	160	325	5	565	190	228	188	230	190	180	330	40	110	150	156
TRMB 40-150	7.5	80						355	20	690	245	300	260	256	216						233
TRMB 40-200	10	60		180	345		180	375	5	684	278	228	188								244

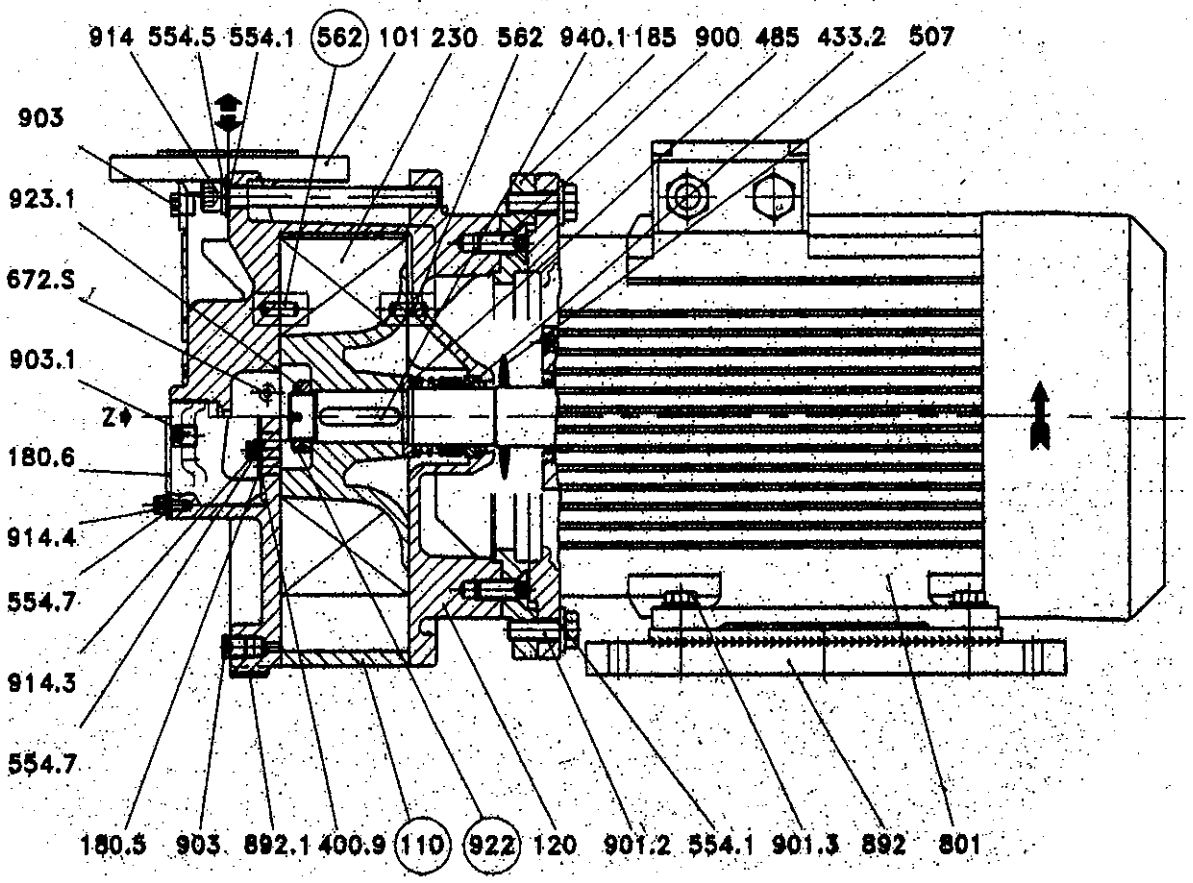
- Dimensions are for reference only. Please consult factory for certified drawings.

The weights are referred to GH construction.

April 15, 2002

TRMB 40

Typical Cross Section



COMPONENTS

VDMA No	DESIGNATION	VDMA No	DESIGNATION
101	Suc./dis. casing	801	Electric motor
110	Impeller casing	892	Motor foot
	(A3 construction only)	892.1	Shock-isolating mounting
120	Rear casing	900	Screw
180.5	Valve plate	901.2	Screw
180.6	Closing plate	901.3	Screw
185	Clampring	903	Plug
• 230	Impeller	903.1	Plug
• 400.9	Plane valve	914	Screw
• 433.2	Mechanical seal	914.3	Screw
485	Mech. seal locking ring	914.4	Screw
507	Thrower	922	Nut
554.1	Washer		(A3 construction only)
554.5	Washer	923.1	Lockring
554.7	Washer	940.1	Key
562	Cylinder pin	Z	Liquid supply inlet
672.S	Cock		

◯ = A3 construction only

• = Recommended spare parts

Continuing research at Travaini Pumps USA results in product improvements; therefore, any specification may subject to change without notice.

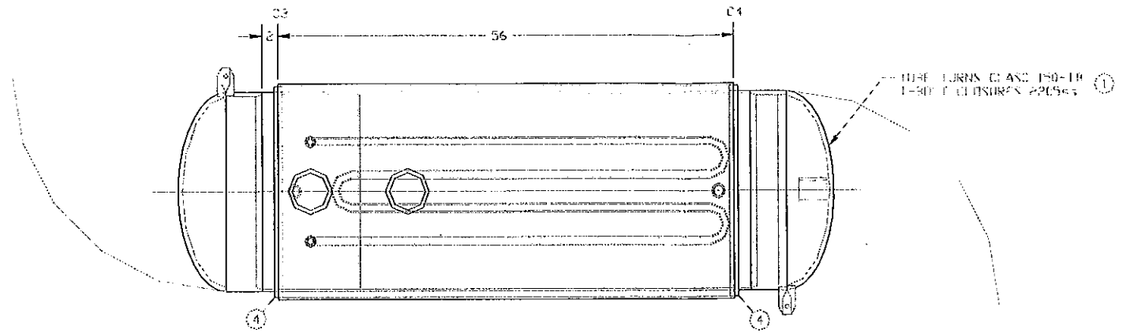
April 15, 2002

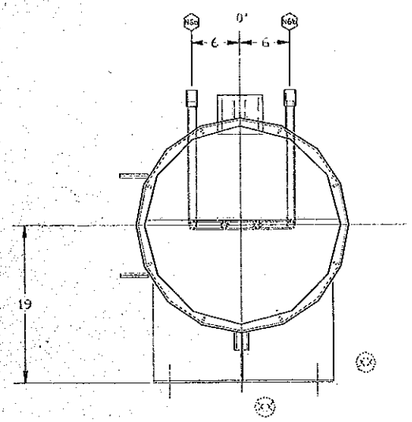
NOZZLE SCHEDULE

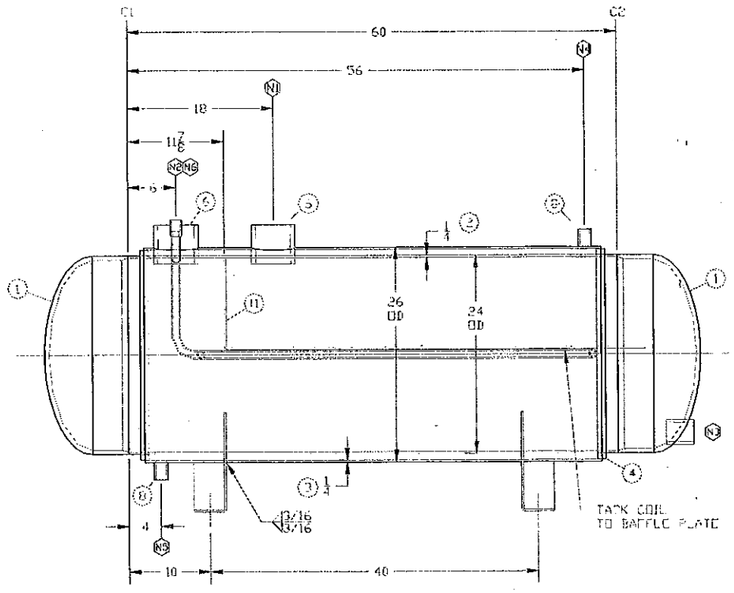
ID	NO	DESCRIPTION	SERVICE
N1	1	1" 3000# THRD FULL COUPLING	VAPOR INLET
N2	1	4" 3000# THRD FULL COUPLING	VAPOR OUTLET
N3	1	2" 3000# THRD FULL COUPLING	DRAIN
N4	1	1" 3000# THRD FULL COUPLING	JACKET INLET
N5	1	1" 3000# THRD FULL COUPLING	JACKET OUTLET
N6	2	3/4" PIPE W/ 3000# THRD FLNT CPL	CEILING COIL

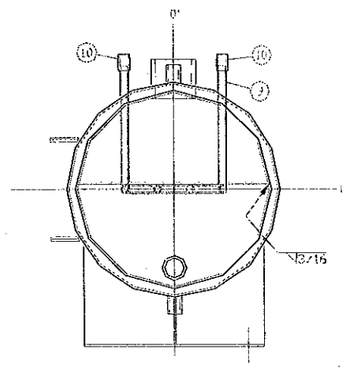
NOTES:

1) DESIGN PER ASME SECTION VIII, NO STAMP
2) DESIGN CONDITIONS:
   SHELL = -45 PSIG @ -20° TO 600°F, HYDROSTATIC TEST PRESSURE = 90 PSIG
   JACKET = 45 PSIG @ -20° TO 600°F, HYDROSTATIC TEST PRESSURE = 71 PSIG
3) 1/16" CORROSION ALLOWANCE
4) NU #1
5) SHELL, CLOSURES, SHELL COUPLINGS, COIL, AND BAFFLE PLATE = 2205 ss
   JACKET, JACKET COUPLINGS, CLOSURE RINGS, JACKET FLOW BARS, AND SADDLES = 304 ss
6) WELD USING GMAW PROCESS WITH 10% Ar GAS. USE ER2209 FILLER FOR WELDING 2205 ss.
   USE ER308 FOR WELDING 304 ss AND 304 ss TO 2205 ss. USE WPS 28 FOR GUIDELINE









MILWAUKEE BOILER INTERNATIONAL, LLC

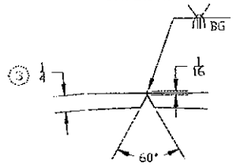
CONDENSER VESSEL

CUSTOMER: MEDLIA ENVIRONMENTAL SYS

DWN BY	DATE	SCALE
CSANDUS	10/18/2016	1:8

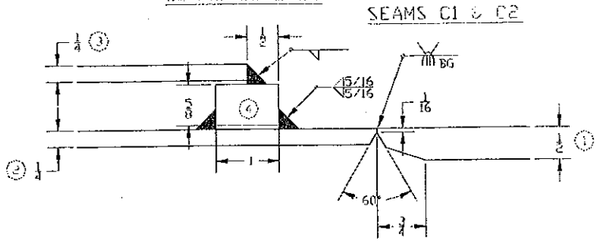
DWG NO: 2429 174 REV: 0

SEAM 1



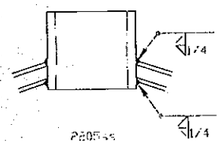
SEAMS C3 & C4

SEAMS C1 & C2



N1 & N2

⑥



N5

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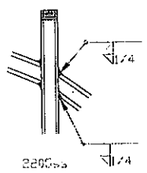
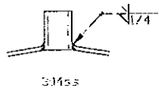


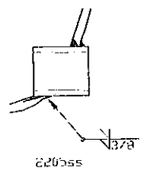
N4 & N6

⑨

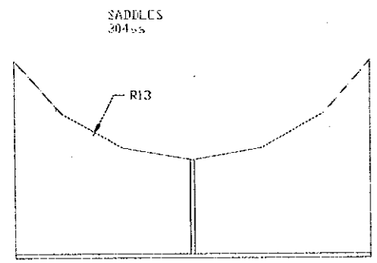


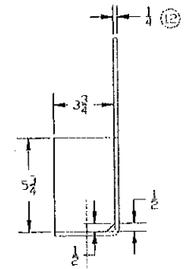
N3

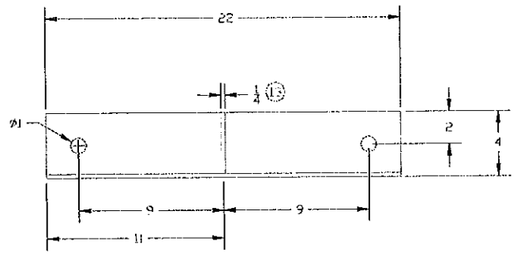
⑦



SADDLES
304SS

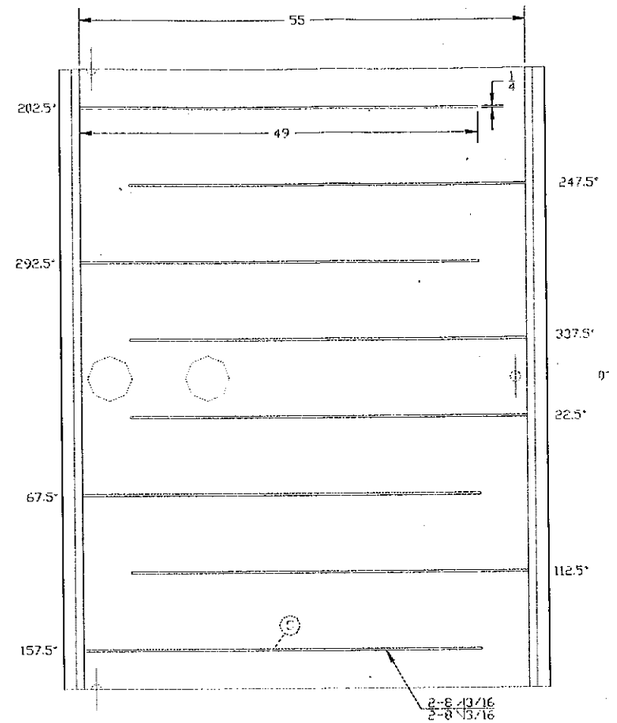






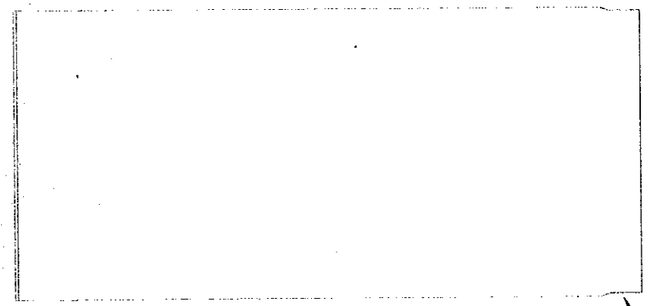
MILWAUKEE BOILER INTERNATIONAL, LLC	
CONDENSOR VESSELS	
CUSTOMER: VEOLIA ENVIRONMENTAL SVCS	
DWN BY: S.SANDERS	DATE: 3/15/16
DWG NO: 104,20,374	REV: 0

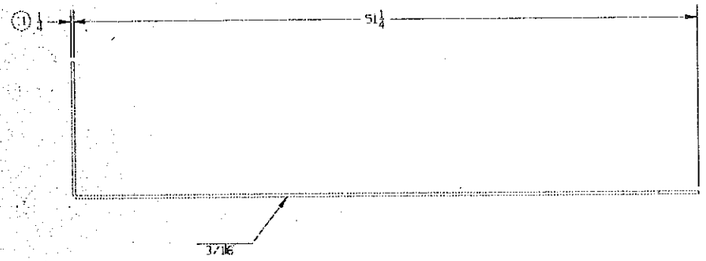
FLAT LAYOUT OF JACKET FLOW BARS

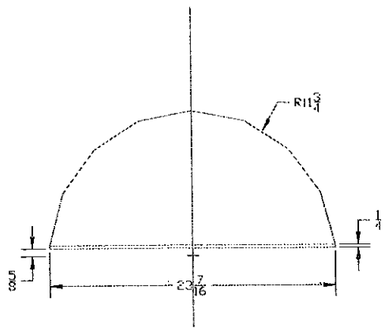


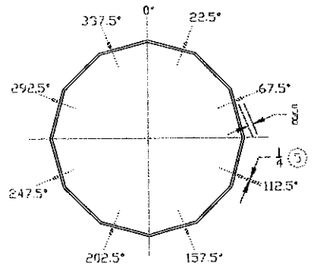
BAFFLE PLATE

220GSS





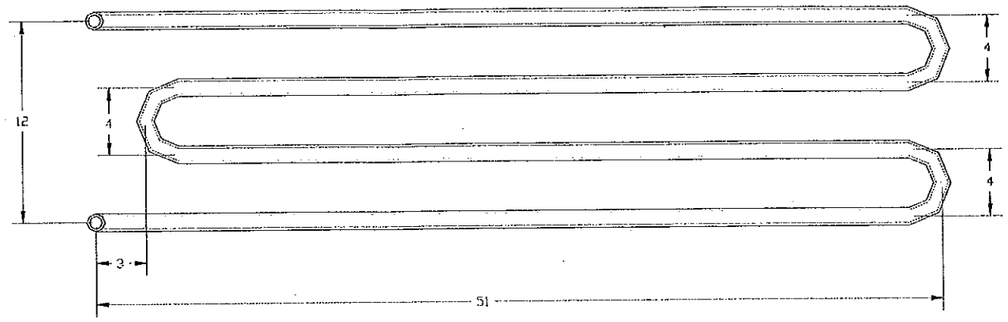


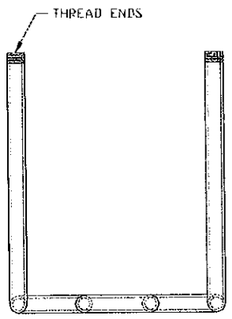


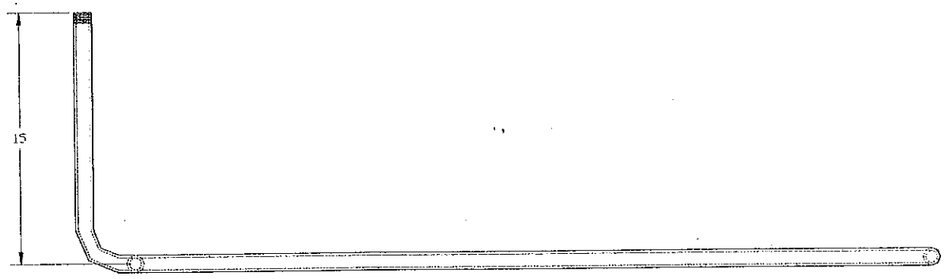
MILWAUKEE BOILER INTERNATIONAL, LLC	
CONDENSER VESSELS	
OUTAGE: VEOLIA ENVIRONMENTAL SVCS	
DWN BY: S SANDERS	DATE: 3/16/06
DWG NO: 104,99 2,4	REV: 0

COOLING COIL

3/4" SCH 80s PIPE P285ss (10)







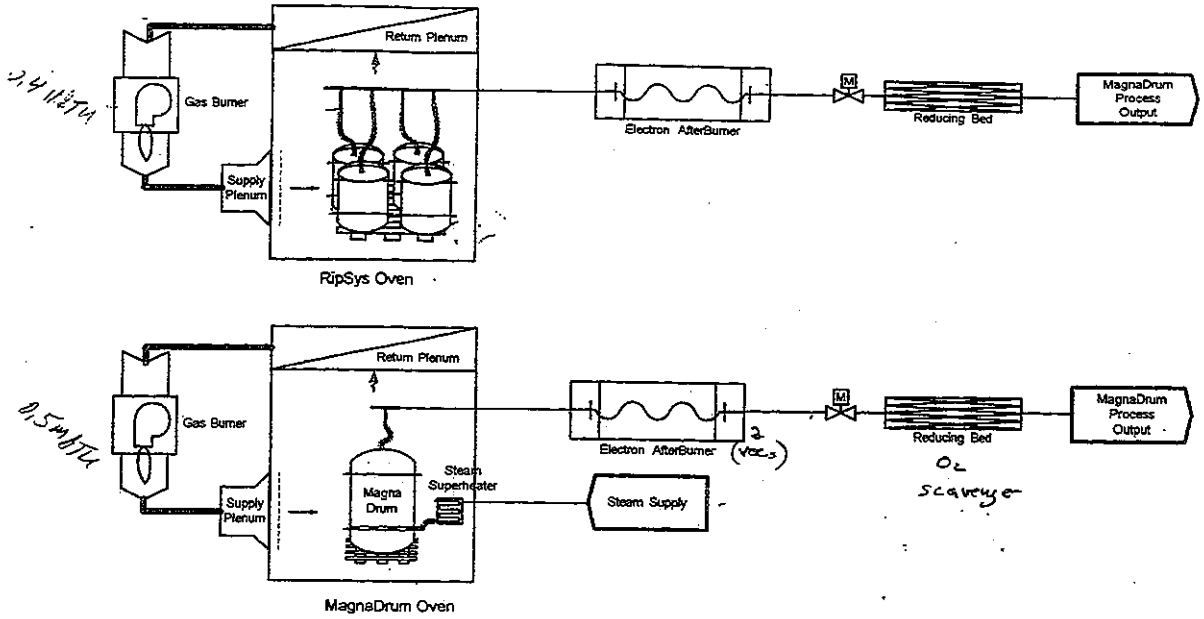
MILWAUKEE BOILER
INTERNATIONAL, LLC

CONDENSOR VESSELS

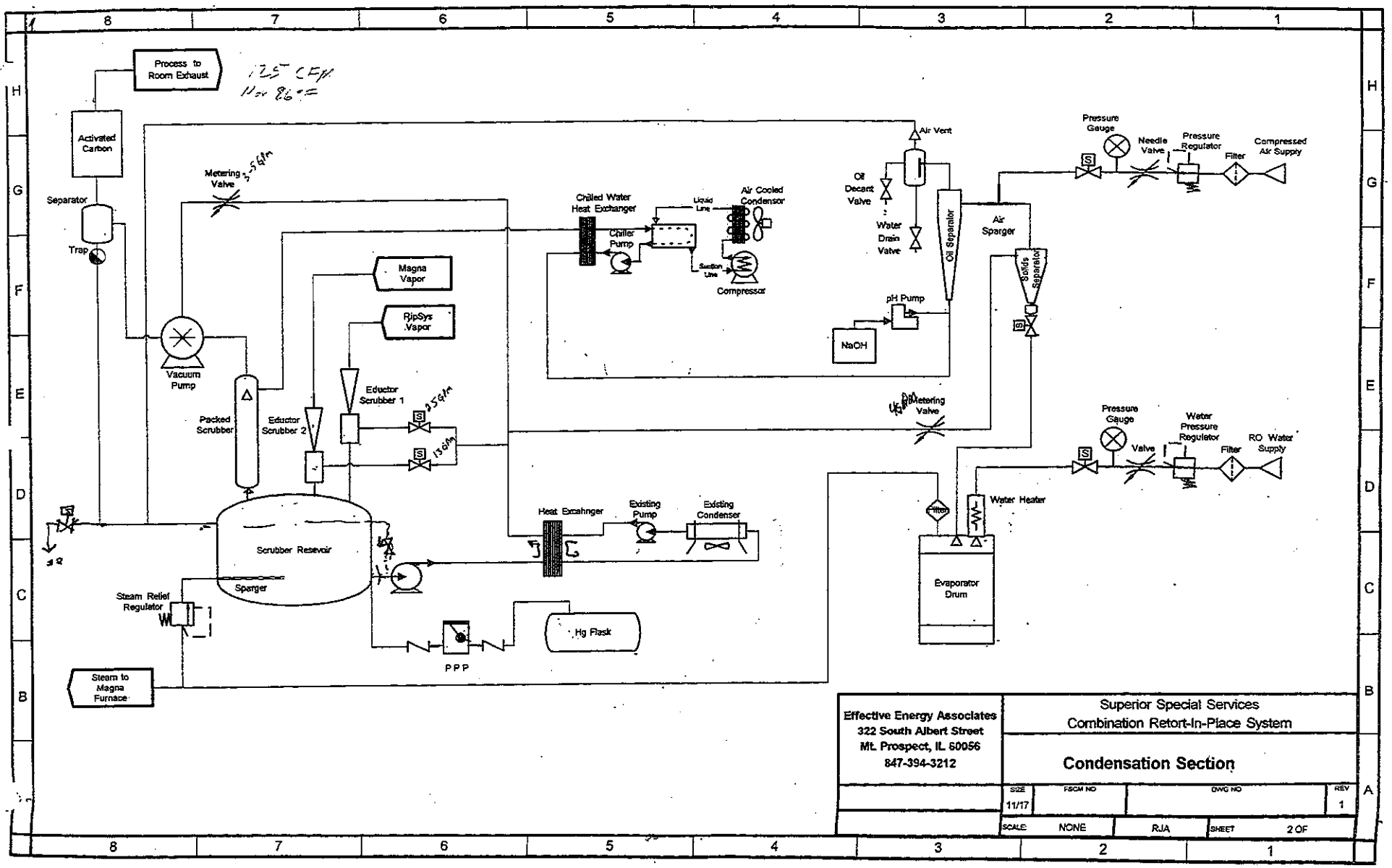
CUSTOMER: VEOLIA ENVIRONMENTAL SVCS

DWN BY: C SANDERS | DATE: 10/13/06 | SCALE: 1/8

DWG NO: 10429-474 | REV: 0

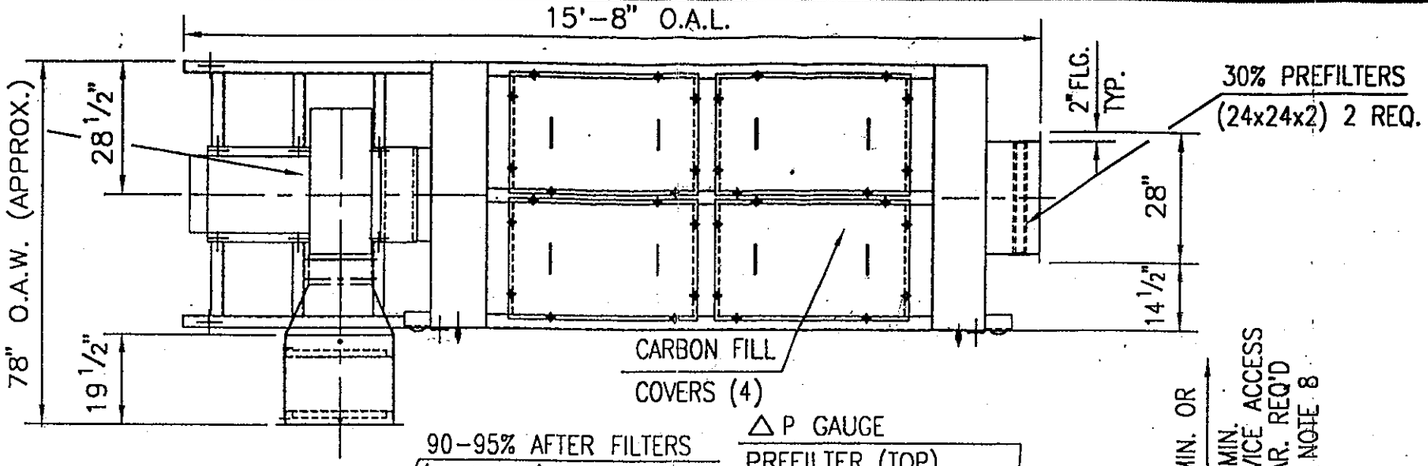


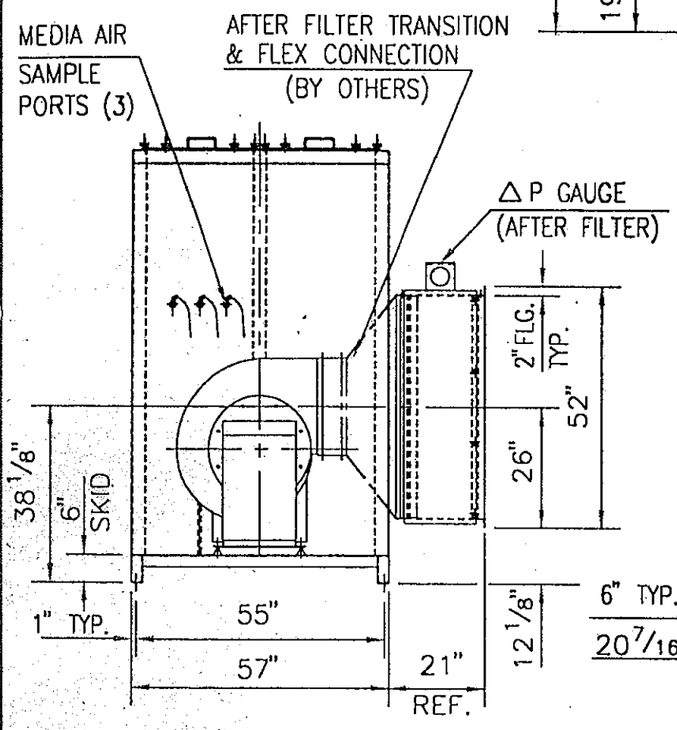
Effective Energy Associates 322 South Albert Street Mt. Prospect, IL 60056 847-394-3212	Superior Special Services Combination Retort-In-Place System **Evaporation Section**
	SIZE 11/17 · FSCM NO · DWG NO · REV 1 SCALE NONE · RJA · SHEET 4 OF

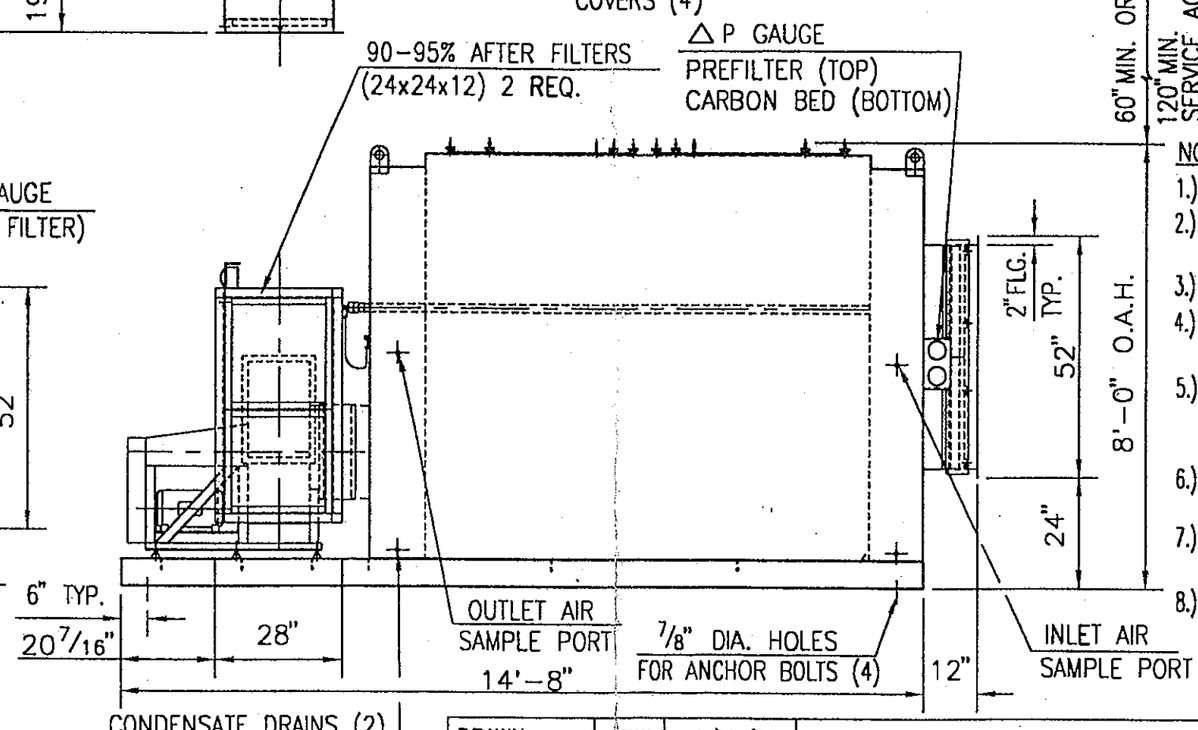

Process to Room Exhaust
125 CFM
Min 86 CFM
Activated Carbon
Separator
Trap
Metering Valve
Vacuum Pump
Packed Scrubber
Eductor Scrubber 1
Eductor Scrubber 2
Magna Vapor
RipSys Vapor
Chilled Water Heat Exchanger
Chiller Pump
Liquid Line
Air Cooled Condensor
Suction Line
Compressor
Air Vent
Oil Decant Valve
Water Drain Valve
Oil Separator
Air Sparger
Solids Separator
pH Pump
NaOH
Pressure Gauge
Needle Valve
Pressure Regulator
Filter
Compressed Air Supply
Metering Valve
Pressure Gauge
Valve
Water Pressure Regulator
Filter
RO Water Supply
Water Heater
Heat Exchanger
Existing Pump
Existing Condenser
Scrubber Reservoir
Sparger
Steam Relief Regulator
Hg Flask
PPP
Evaporator Drum
Steam to Magna Furnace
Effective Energy Associates
322 South Albert Street
Mt. Prospect, IL 60056
847-394-3212
Superior Special Services
Combination Retort-In-Place System
Condensation Section
SIZE 11/17
FSCM NO
DWG NO
REV 1
SCALE NONE
RJA
SHEET 2 OF

5000 CFM BLOWER @ 8"S.P.

10 H.P.MOTOR,TEFC ENCLOSURE
215T FRAME, 1.15 SERVICE FACTOR
(460V/3 PH./60 Hz.)
ADJ.SPEED V-BELT DRIVE
WEATHER COVER/BELT GUARD







NOTES:

1.) MATERIAL-304 SST (ADSORBER)
2.) CONSTRUCTION-CONTINUOUSLY WELDED (AT CRITICAL BYPASS LOCATIONS)
3.) APPROX.UNIT WT.-10500 LBS.(INSTALLED)
4.) CARBON-TYPE CBII (4x10 US MESH) (7700 LBS./2-24" BEDS)
5.) AFTERFILTER HOUSING TO SHIP LOOSE AND INSTALLED BY OTHERS. (LOCATION SHOWN AS REF. ONLY.)
6.) SCREEN AREA: 48.3 sq.ft./24" BED 96.6 sq.ft. TOTAL
7.) ELECTRICAL CONNECTIONS TO OWNERS STARTER & DISCONNECT BY OTHERS.
8.) CARBON FILLING: 50 LB. BAGS-60" MIN., SUPER SACKS-120" MIN.

REVISION	DATE	DWN.	CHK'D	APP'D	DESCRIPTION
A					

FILE: 07/31574S1	PLOT: 14.75,9.75	ORIGIN: 0,0	FACTOR: 1=32

DRAWN	JDW	01/27/00
CHECKED		
APPROVED		

TOLERANCES	
FRACTIONAL	± 1/4"
.XX	-
.XXX	-
ANGULAR	± 1/2°

WATERLINK®
Barnebey Sutcliffe

CUSTOMER: SUPERIOR SPECIAL SERVICES, INC. | JOB NO. A030078

TITLE
GENERAL ARRANGEMENT
HECA-5000-24/CBII CARBON ADSORBER

SCALE 3/8" =1'-0"	SIZE	DRAWING NUMBER	REV.
SHEET 1 of	B	31574	

N

Air Emission Inventory Reports and Monitoring Data

246076050 Veolia Es Technical Solutions, Llc
1275 Mineral Springs Dr
Port Washington

DNR Region: Southeast
County: Ozaukee
SIC Code: 4953 -- REFUSE SYSTEMS
NAICS Code: 56221 -- Waste Treatment and Disposal

Constr Date: 10/07/1993

 # Employees: 43
Area: 9840 ft2

UTM Zone: 16 **UTM X:** 428010 m **UTM Y:** 4802470 m

PHILLIP DITTER
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2622438908
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53074
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1275 Mineral Springs Drive
Port Washington WI
53074000
kevin.shaver@veoliaes.com

KEVIN SHAVER
Facility Responsible Official
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1275 Mineral Springs Drive
Port Washington WI
53074000
kevin.shaver@veoliaes.com

RONALD DILLAHUNT
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9208928756
1155 PILGRIM RD
PLYMOUTH WI 53073
ronald.dillahunt@wisconsin.gov

DEVICE AND PROCESS LIST

DEVICE ID / > PROCESS ID	DEVICE CODE / > PROCESS CODE	DEVICE NAME / > PROCESS NAME	DEVICE CATEGORY / > PROCESS DESCRIPTION
C01	BAGHOUSE	TORIT MODEL TD486 CARTRIDGE FILTER SYSTEM EI: TORIT CARTRIDGE FILTER SYSTEM	Baghouse/Fabric Filter
--> 01	CONTROLLING	FLUORESCENT LAMP PROCESSOR	Used for collectors
C02	ABSORBER	SULFUR IMPREGNATED ACTIVATED CARBON CARTRIDGE i1ADSROBER. EI: ACTIVATED CARBON ADSORBER	Adsorbers
--> 01	CONTROLLING	FLUORESCENT LAMP PROCESSOR	Used for collectors
C04	HEPA	HEPA PM COLLECTOR FOR LSS1 LAMP RECYCLER	Fabric Filters
--> 01	CONTROLLING	P08 LSS1 LAMP PROCESSOR	Used for collectors
C05	ABSORBER	CARBON ADSORBER FOR LSS1 LAMP RECYCLER	Adsorbers
--> 01	CONTROLLING	CARBON ADSORBER FOR LSS1 LAMP RECYCLER	Used for collectors
C09	ABSORBER	CARBON ADSORBER FOR RIPSYS AND MAGNA DRUM	Adsorbers
--> 01	CONTROLLING	CARBON ADSORBER FOR RIPSYS AND MAGNA DRUM	Used for collectors
C10	ABSORBER	CARBON ADSORBER FOR RETORT ROOM	Adsorbers
--> 01	CONTROLLING	CARBON ADSORBER FOR RETORT ROOM	Used for collectors
C11	ABSORBER	ACTIVATED CARBON FOR ASE RETORT	Adsorbers
--> 01	CONTROLLING	ACTIVATED CARBON UNIT FOR ASE RETORT	Used for collectors
P01	GENERIC	MODEL 2000 FLUORESCENT LAMP PROCESSOR	Miscellaneous
--> 01	GENERIC	FLUORESCENT LAMP PROCESSOR	Generic Throughput Process
P08	GENERIC	MODEL LSS1 LAMP RECYLER	Miscellaneous
--> P08	GENERIC	MODEL LSS1 LAMP RECYCLER	Generic Throughput Process
P10	GENERIC	RIPSYS RETORT	Miscellaneous
--> P10	GENERIC	RIPSYS RETORT	Generic Throughput Process
P11	GENERIC	MAGNA DRUM RETORT	Miscellaneous
--> P11	GENERIC	MAGNA DRUM RETORT	Generic Throughput Process
P12	GENERIC	ASE RETORT	Miscellaneous
--> 01	GENERIC	ASE RETORT	Generic Throughput Process

EMISSION FLOW SUMMARY

P01-01 (100%) --> C01-01 (100%) --> C02-01 (100%) --> S01-01 (100%) --> OUT

P08-P08 (100%) --> C04-01 (100%) --> C05-01 (100%) --> S08-S08 (100%) --> OUT

P10-P10 (100%) --> C09-01 (100%) --> C10-01 (100%) --> S14-S14 (100%) --> OUT

P11-P11 (100%) --> C09-01 (100%) --> C10-01 (100%) --> S14-S14 (100%) --> OUT

P12-01 (100%) --> C11-01 (100%) --> C10-01 (100%) --> S14-S14 (100%) --> OUT

D E V I C E S / P R O C E S S E S D E T A I L S

C01 **Baghouse/Fabric Filter** **Baghouse**

DEVICE DESC: TORIT MODEL TD486 CARTRIDGE FILTER SYSTEM EI: TORIT CARTRIDGE FILTER SYSTEM

CONSTR DATE: 07/27/1993

DEVICE COMMENTS:

C01, Process 01 **Used for collectors**

PROCESS NAME: FLUORESCENT LAMP PROCESSOR

PROCESS COMMENTS: average hours per day based on total hours of operation for year

SCHEDULE:	20 Hrs/Day	5 Dys/Wk	260 Dys/Yr	
QTRLY SCHEDULE:	Q1: 25%	Q2: 25%	Q3: 25%	Q4: 25%

--INCOMING STREAMS--

P01-01 (100%) --> C01-01

--OUTGOING STREAMS--

C01-01 (100%) --> C02-01 (100%) --> S01-01 (100%) --> OUT

C02 **Adsorbers** **Absorber**

DEVICE DESC: SULFUR IMPREGNATED ACTIVATED CARBON CARTRIDGE i1ADSROBER. EI: ACTIVATED CARBON ADSORBER

CONSTR DATE: 07/01/1994

DEVICE COMMENTS:

--CTRL EFFIC--

POLLUTANT	VALUE
MERCURY ALL	50%

C02, Process 01 **Used for collectors**

PROCESS NAME: FLUORESCENT LAMP PROCESSOR

PROCESS COMMENTS: Average hours per day based on total operation for year

SCHEDULE:	20 Hrs/Day	5 Dys/Wk	260 Dys/Yr	
QTRLY SCHEDULE:	Q1: 25%	Q2: 25%	Q3: 25%	Q4: 25%

--INCOMING STREAMS--

C01-01 (100%) --> C02-01

--OUTGOING STREAMS--

C02-01 (100%) --> S01-01 (100%) --> OUT

C04 **Fabric Filters High-Efficiency Particulate Air Filter (HEPA)**

DEVICE DESC: HEPA PM COLLECTOR FOR LSS1 LAMP RECYCLER

CONSTR DATE:

DEVICE COMMENTS:

C04, Process 01 **Used for collectors**

PROCESS NAME: P08 LSS1 LAMP PROCESSOR

PROCESS COMMENTS: average hours per day based on total hours of operation

SCHEDULE:	20 Hrs/Day	5 Dys/Wk	260 Dys/Yr	
QTRLY SCHEDULE:	Q1: 25%	Q2: 25%	Q3: 25%	Q4: 25%

--INCOMING STREAMS--

P08-P08 (100%) --> C04-01

--OUTGOING STREAMS--

C04-01 (100%) --> C05-01 (100%) --> S08-S08 (100%) --> OUT

C05 **Adsorbers Absorber**

DEVICE DESC: CARBON ADSORBER FOR LSS1 LAMP RECYCLER

CONSTR DATE:

DEVICE COMMENTS:

--CTRL EFFIC--

POLLUTANT	VALUE
MERCURY ALL	99%

C05, Process 01 **Used for collectors**

PROCESS NAME: CARBON ADSORBER FOR LSS1 LAMP RECYCLER

PROCESS COMMENTS: average hours per day based on total hours of operation

SCHEDULE:	20 Hrs/Day	5 Dys/Wk	260 Dys/Yr	
QTRLY SCHEDULE:	Q1: 25%	Q2: 25%	Q3: 25%	Q4: 25%

--INCOMING STREAMS--

C04-01 (100%) --> C05-01

--OUTGOING STREAMS--

C05-01 (100%) --> S08-S08 (100%) --> OUT

C09 **Adsorbers** **Absorber**

DEVICE DESC: CARBON ADSORBER FOR RIPSYS AND MAGNA DRUM

CONSTR DATE: 05/30/2002

DEVICE COMMENTS:

--CTRL EFFIC--

POLLUTANT	VALUE
MERCURY ALL	90%

C09, Process 01 **Used for collectors**

PROCESS NAME: CARBON ADSORBER FOR RIPSYS AND MAGNA DRUM

PROCESS COMMENTS:

SCHEDULE: 24 Hrs/Day 5 Dys/Wk 260 Dys/Yr

QTRLY SCHEDULE: Q1: 25% Q2: 25% Q3: 25% Q4: 25%

--INCOMING STREAMS--

P11-P11 (100%) --> C09-01

P10-P10 (100%) --> C09-01

--OUTGOING STREAMS--

C09-01 (100%) --> C10-01 (100%) --> S14-S14 (100%) --> OUT

C10 **Adsorbers** **Absorber**

DEVICE DESC: CARBON ADSORBER FOR RETORT ROOM

CONSTR DATE: 05/30/2002

DEVICE COMMENTS:

--CTRL EFFIC--

POLLUTANT	VALUE
MERCURY ALL	90%

C10, Process 01 **Used for collectors**

PROCESS NAME: CARBON ADSORBER FOR RETORT ROOM

PROCESS COMMENTS:

SCHEDULE: 24 Hrs/Day 7 Dys/Wk 365 Dys/Yr

QTRLY SCHEDULE: Q1: 25% Q2: 25% Q3: 25% Q4: 25%

--INCOMING STREAMS--

C09-01 (100%) --> C10-01

C11-01 (100%) --> C10-01

--OUTGOING STREAMS--

C10-01 (100%) --> S14-S14 (100%) --> OUT

C11 **Adsorbers** **Absorber**

DEVICE DESC: ACTIVATED CARBON FOR ASE RETORT

CONSTR DATE: 08/01/2003

DEVICE COMMENTS:

--CTRL EFFIC--

POLLUTANT	VALUE
MERCURY ALL	90%

C11, Process 01 **Used for collectors**

PROCESS NAME: ACTIVATED CARBON UNIT FOR ASE RETORT

PROCESS COMMENTS:

SCHEDULE: 24 Hrs/Day 5 Dys/Wk 260 Dys/Yr

QTRLY SCHEDULE: Q1: 25% Q2: 25% Q3: 25% Q4: 25%

--INCOMING STREAMS--

P12-01 (100%) --> C11-01

--OUTGOING STREAMS--

C11-01 (100%) --> C10-01 (100%) --> S14-S14 (100%) --> OUT

P01 **Miscellaneous** **Any Device**

DEVICE DESC: MODEL 2000 FLUORESCENT LAMP PROCESSOR

CONSTR DATE: 01/07/1993

DEVICE COMMENTS:

P01, Process 01 **Generic Throughput Process**

PROCESS NAME: FLUORESCENT LAMP PROCESSOR

SCC CODE: 30500203

PROCESS COMMENTS: EMISSIONS FOR MERCURY BASED ON ACTUAL EMISSION MONITORING DATA. ANTIMONY AND CADMIUM EMISSIONS BASED ON PERCENTAGES CONTAINED IN MSDSS AND EFFECIENCY OF PARTICULATE CONTROL DEVICE.

SCHEDULE:	20 Hrs/Day	5 Dys/Wk	260 Dys/Yr	
QTRLY SCHEDULE:	Q1: 25%	Q2: 25%	Q3: 25%	Q4: 25%
ANNUAL TPUT:	1592.65 E3 LB	of PRODUCT - MINERALS		
AVG TPUT:	306.27885 LB/HR			
MAX TPUT:	1250 LB/HR			

--EMISSION FACTORS--

POLLUTANT	VALUE / UNIT	ORIGIN
PM	.01 LB / E3 LB	STK

--EMISSIONS / YR--

POLLUTANT	NR438_THRESH	UNCNTRLD	CNTRLD	OZONE/DY
PM (c)	10000 LB	15.927 LB	15.927 LB	
ANTIMONY (r) (fs)	118 LB	.024 LB	.024 LB	
CADMIUM (r) (fs)	.49 LB	.024 LB	.024 LB	
MERCURY ALL (r) (fs)	5.88 LB	.010 LB	.010 LB	

--INCOMING STREAMS--

TPUT --> P01-01

--OUTGOING STREAMS--

P01-01 (100%) --> C01-01 (100%) --> C02-01 (100%) --> S01-01 (100%) --> OUT

P08 **Miscellaneous** **Any Device**

DEVICE DESC: MODEL LSS1 LAMP RECYLER
CONSTR DATE:
DEVICE COMMENTS:

P08, Process P08 **Generic Throughput Process**

PROCESS NAME: MODEL LSS1 LAMP RECYCLER
SCC CODE: 30500203
PROCESS COMMENTS:

SCHEDULE:	20 Hrs/Day	5 Dys/Wk	260 Dys/Yr	
QTRLY SCHEDULE:	Q1: 25%	Q2: 25%	Q3: 25%	Q4: 25%
ANNUAL TPUT:	3233.6 E3 LB	of PRODUCT - MINERALS		
AVG TPUT:	621.84615 LB/HR			
MAX TPUT:	2456 LB/HR			

--EMISSION FACTORS--

POLLUTANT	VALUE / UNIT	ORIGIN
PM	.000011 LB / LB	STK

--EMISSIONS / YR--

POLLUTANT	NR438_THRESH	UNCNTRLD	CNTRLD	OZONE/DY
PM (c)	10000 LB	35.570 LB	35.570 LB	
MERCURY ALL (r) (fs)	5.88 LB	.010 LB	.010 LB	

--INCOMING STREAMS--

TPUT --> P08-P08

--OUTGOING STREAMS--

P08-P08 (100%) --> C04-01 (100%) --> C05-01 (100%) --> S08-S08 (100%) --> OUT

P10 **Miscellaneous** **Any Device**

DEVICE DESC: RIPSYS RETORT
CONSTR DATE: 03/05/2002
DEVICE COMMENTS:

P10, Process P10 **Generic Throughput Process**

PROCESS NAME: RIPSYS RETORT
SCC CODE: 30500203
PROCESS COMMENTS:

SCHEDULE:	24 Hrs/Day	5 Dys/Wk	260 Dys/Yr	
QTRLY SCHEDULE:	Q1: 25%	Q2: 25%	Q3: 25%	Q4: 25%
ANNUAL TPUT:	276.93 E3 LB	of PRODUCT - MINERALS		
AVG TPUT:	44.37981 LB/HR			
MAX TPUT:	125 LB/HR			

--EMISSION FACTORS--

POLLUTANT	VALUE / UNIT	ORIGIN
PM	.12 LB / TON	DNR

--EMISSIONS / YR--

POLLUTANT	NR438_THRESH	UNCNTRLD	CNTRLD	OZONE/DY
PM (c)	10000 LB	16.616 LB	16.616 LB	
MERCURY ALL (r) (fs)	5.88 LB	.262 LB	.262 LB	

--INCOMING STREAMS--
TPUT --> P10-P10

--OUTGOING STREAMS--
P10-P10 (100%) --> C09-01 (100%) --> C10-01 (100%) --> S14-S14 (100%) --> OUT

P11 **Miscellaneous** **Any Device**

DEVICE DESC: MAGNA DRUM RETORT
CONSTR DATE: 03/05/2002
DEVICE COMMENTS:

P11, Process P11 **Generic Throughput Process**

PROCESS NAME: MAGNA DRUM RETORT
SCC CODE: 30500203
PROCESS COMMENTS:

SCHEDULE:	24 Hrs/Day	5 Dys/Wk	200 Dys/Yr	
QTRLY SCHEDULE:	Q1: 25%	Q2: 25%	Q3: 25%	Q4: 25%
ANNUAL TPUT:	276.93 E3 LB	of PRODUCT - MINERALS		
AVG TPUT:	57.69375 LB/HR			
MAX TPUT:	188 LB/HR			

--EMISSION FACTORS--

POLLUTANT	VALUE / UNIT	ORIGIN
PM	.12 LB / TON	DNR

--EMISSIONS / YR--

POLLUTANT	NR438_THRESH	UNCNTRLD	CNTRLD	OZONE/DY
PM (c)	10000 LB	16.616 LB	16.616 LB	
MERCURY ALL (r) (fs)	5.88 LB	.262 LB	.262 LB	

--INCOMING STREAMS--

TPUT --> P11-P11

--OUTGOING STREAMS--

P11-P11 (100%) --> C09-01 (100%) --> C10-01 (100%) --> S14-S14 (100%) --> OUT

P12 **Miscellaneous** **Any Device**

DEVICE DESC: ASE RETORT
CONSTR DATE: 08/01/2003
DEVICE COMMENTS:

P12, Process 01 **Generic Throughput Process**

PROCESS NAME: ASE RETORT
SCC CODE: 30500203
PROCESS COMMENTS:

SCHEDULE:	24 Hrs/Day	5 Dys/Wk	100 Dys/Yr	
QTRLY SCHEDULE:	Q1: 25%	Q2: 25%	Q3: 25%	Q4: 25%
ANNUAL TPUT:	204.77 E3 LB	of PRODUCT - MINERALS		
AVG TPUT:	85.32083 LB/HR			
MAX TPUT:	100 LB/HR			

--EMISSION FACTORS--

POLLUTANT	VALUE / UNIT	ORIGIN
PM	.12 LB / TON	DNR

--EMISSIONS / YR--

POLLUTANT	NR438_THRESH	UNCNTRLD	CNTRLD	OZONE/DY
PM (c)	10000 LB	12.286 LB	12.286 LB	
MERCURY ALL (r) (fs)	5.88 LB	.523 LB	.523 LB	

--INCOMING STREAMS--
TPUT --> P12-01

--OUTGOING STREAMS--
P12-01 (100%) --> C11-01 (100%) --> C10-01 (100%) --> S14-S14 (100%) --> OUT

S01 **Stack** **Stack**

DEVICE DESC: STACK FROM MODEL 2000 LAMP PROCESSOR
CONSTR DATE: 10/07/1993
DEVICE COMMENTS:
STACK HEIGHT: 7.61 m or 24.97 ft
STACK DIAMETER: .2 m or .66 ft
STACK TEMP: 294.2 K or 69.89 F
STACK VELOCITY: 2.67 m/s or 8.76 ft/s

S01, Process 01 **Releasing/Discharging material to the atmosphere**

PROCESS NAME: FLUORESCENT LAMP PROCESSOR
PROCESS COMMENTS:
SCHEDULE: 20 Hrs/Day 5 Dys/Wk 260 Dys/Yr
QTRLY SCHEDULE: Q1: 25% Q2: 25% Q3: 25% Q4: 25%

--INCOMING STREAMS--
C02-01 (100%) --> S01-01

--OUTGOING STREAMS--
S01-01 (100%) --> OUT

S08 **Stack** **Stack**

DEVICE DESC: STACK FROM LSS1 LAMP RECYCLER
CONSTR DATE:
DEVICE COMMENTS:
STACK HEIGHT: 7.61 m or 24.97 ft
STACK DIAMETER: .2 m or .66 ft
STACK TEMP: 294.2 K or 69.89 F
STACK VELOCITY: 7.84 m/s or 25.72 ft/s

S08, Process S08 **Releasing/Discharging material to the atmosphere**

PROCESS NAME: STACK FROM LSS1 LAMP RECYCLER
PROCESS COMMENTS:
SCHEDULE: 20 Hrs/Day 5 Dys/Wk 260 Dys/Yr
QTRLY SCHEDULE: Q1: 25% Q2: 25% Q3: 25% Q4: 25%

--INCOMING STREAMS--
C05-01 (100%) --> S08-S08

--OUTGOING STREAMS--
S08-S08 (100%) --> OUT

S14	**Stack**	**Stack**	
DEVICE DESC:	RETORT ROOM C10 STACK		
CONSTR DATE:	05/30/2002		
DEVICE COMMENTS:			
STACK HEIGHT:	7.61 m		or 24.97 ft
STACK DIAMETER:	.4 m		or 1.31 ft
STACK TEMP:	294.2 K		or 69.89 F
STACK VELOCITY:	20.22 m/s		or 66.34 ft/s

S14, Process S14	**Releasing/Discharging material to the atmosphere**			
PROCESS NAME:	STACK FROM RETORT ROOM			
PROCESS COMMENTS:				
SCHEDULE:	24 Hrs/Day	7 Dys/Wk	365 Dys/Yr	
QTRLY SCHEDULE:	Q1: 25%	Q2: 25%	Q3: 25%	Q4: 25%

--INCOMING STREAMS--
C10-01 (100%) --> S14-S14

--OUTGOING STREAMS--
S14-S14 (100%) --> OUT

FACILITY EMISSIONS SUMMARY

-2012 SUMMARY-	--2012--	--2012--	--2012--	--2012--
--POLLUTANT--	--NR438_THRESH--	--UNCNTRLD/YR--	--CNTRLD/YR--	--OZONE/DY--
PM	10000 LB	97.01390 LB	97.01390 LB	
ANTIMONY (fs)	118 LB	.02400 LB	.02400 LB	
CADMIUM (fs)	.49 LB	.02400 LB	.02400 LB	
MERCURY ALL (fs)	5.88 LB	1.06700 LB	1.06700 LB	

-2011 SUMMARY-	--2011--	--2011--	--2011--	--2011--
--POLLUTANT--	--NR438_THRESH--	--UNCNTRLD/YR--	--CNTRLD/YR--	--OZONE/DY--
PM	10000 LB	99.36090 LB	99.36090 LB	
ANTIMONY(FS)	118 LB	.00200 LB	.00200 LB	
CADMIUM(FS)	.49 LB	.00200 LB	.00200 LB	
MERCURY ALL (FS)	5.88 LB	1.12900 LB	1.12900 LB	

REPORT LEGEND

--EMISSIONS--

c = Calculated; r = Reported

f = Federal Hap; s = State Hap; fs = Fed and State Hap

FINAL

State of Wisconsin Department of Natural Resources
Bureau of Air Management

FID: 246076050

246076050 Veolia Es Technical Solutions, Llc
1275 Mineral Springs Dr
Port Washington

DNR Region: Southeast
County: Ozaukee
SIC Code: 4953 -- REFUSE SYSTEMS
NAICS Code: 562211 -- Hazardous Waste Treatment and Disposal

Constr Date: 10/07/1993

 # Employees: 46
Area: 9840 ft2
UTM Zone: 16 **UTM X:** 428010 m **UTM Y:** 4802470 m

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DEVICE AND PROCESS LIST

DEVICE ID / > PROCESS ID	DEVICE CODE / > PROCESS CODE	DEVICE NAME / > PROCESS NAME	DEVICE CATEGORY / > PROCESS DESCRIPTION
C01	BAGHOUSE	TORIT MODEL TD486 CARTRIDGE FILTER SYSTEM EI: TORIT CARTRIDGE FILTER SYSTEM	Baghouse/Fabric Filter
--> 01	CONTROLLING	FLUORESCENT LAMP PROCESSOR	Used for collectors
C02	ABSORBER	SULFUR IMPREGNATED ACTIVATED CARBON CARTRIDGE i1ADSROBER. EI: ACTIVATED CARBON ADSORBER	Adsorbers
--> 01	CONTROLLING	FLUORESCENT LAMP PROCESSOR	Used for collectors
C04	HEPA	HEPA PM COLLECTOR FOR LSS1 LAMP RECYCLER	Fabric Filters
--> 01	CONTROLLING	P08 LSS1 LAMP PROCESSOR	Used for collectors
C05	ABSORBER	CARBON ADSORBER FOR LSS1 LAMP RECYCLER	Adsorbers
--> 01	CONTROLLING	CARBON ADSORBER FOR LSS1 LAMP RECYCLER	Used for collectors
C09	ABSORBER	CARBON ADSORBER FOR RIPSYS AND MAGNA DRUM	Adsorbers
--> 01	CONTROLLING	CARBON ADSORBER FOR RIPSYS AND MAGNA DRUM	Used for collectors
C10	ABSORBER	CARBON ADSORBER FOR RETORT ROOM	Adsorbers
--> 01	CONTROLLING	CARBON ADSORBER FOR RETORT ROOM	Used for collectors
C11	ABSORBER	ACTIVATED CARBON FOR ASE RETORT	Adsorbers
--> 01	CONTROLLING	ACTIVATED CARBON UNIT FOR ASE RETORT	Used for collectors
P01	GENERIC	MODEL 2000 FLUORESCENT LAMP PROCESSOR	Miscellaneous
--> 01	GENERIC	FLUORESCENT LAMP PROCESSOR	Generic Throughput Process
P08	GENERIC	MODEL LSS1 LAMP RECYLER	Miscellaneous
--> P08	GENERIC	MODEL LSS1 LAMP RECYCLER	Generic Throughput Process
P10	GENERIC	RIPSYS RETORT	Miscellaneous
--> P10	GENERIC	RIPSYS RETORT	Generic Throughput Process
P11	GENERIC	MAGNA DRUM RETORT	Miscellaneous
--> P11	GENERIC	MAGNA DRUM RETORT	Generic Throughput Process
P12	GENERIC	ASE RETORT	Miscellaneous
--> 01	GENERIC	ASE RETORT	Generic Throughput Process

EMISSION FLOW SUMMARY

P01-01 ---(100%)---> C01-01

C01-01 ---(100%)---> C02-01

C02-01 ---(100%)---> S01-01 ---(100%)---> OUT

P08-P08 ---(100%)---> C04-01

C04-01 ---(100%)---> C05-01

C05-01 ---(100%)---> S08-S08 ---(100%)---> OUT

P10-P10 ---(100%)---> C09-01

C09-01 ---(100%)---> C10-01

C10-01 ---(100%)---> S14-S14 ---(100%)---> OUT

P11-P11 ---(100%)---> C09-01

C09-01 ---(100%)---> C10-01

C10-01 ---(100%)---> S14-S14 ---(100%)---> OUT

P12-01 ---(100%)---> C11-01

C11-01 ---(100%)---> C10-01

C10-01 ---(100%)---> S14-S14 ---(100%)---> OUT

D E V I C E S / P R O C E S S E S D E T A I L S

C01 **Baghouse/Fabric Filter** **Baghouse**

DEVICE DESC: TORIT MODEL TD486 CARTRIDGE FILTER SYSTEM EI: TORIT CARTRIDGE FILTER SYSTEM
CONSTR DATE: 07/27/1993
DEVICE COMMENTS:

C01, Process 01 **Used for collectors**

PROCESS NAME: FLUORESCENT LAMP PROCESSOR
PROCESS COMMENTS: average hours per day based on total hours of operation for year

SCHEDULE:	20 Hrs/Day	5 Dys/Wk	260 Dys/Yr	
QTRLY SCHEDULE:	Q1: 25%	Q2: 25%	Q3: 25%	Q4: 25%

--INCOMING STREAMS--
P01-01 (100%) --> C01-01

--OUTGOING STREAMS--

C01-01 ---(100%)---> C02-01

C02-01 ---(100%)---> S01-01 ---(100%)---> OUT

C02 **Adsorbers** **Absorber**

DEVICE DESC: SULFUR IMPREGNATED ACTIVATED CARBON CARTRIDGE i1ADSROBER. EI: ACTIVATED CARBON ADSORBER

CONSTR DATE: 07/01/1994

DEVICE COMMENTS:

--CTRL EFFIC--

POLLUTANT	VALUE
MERCURY ALL	50%

C02, Process 01 **Used for collectors**

PROCESS NAME: FLUORESCENT LAMP PROCESSOR

PROCESS COMMENTS: Average hours per day based on total operation for year

SCHEDULE: 20 Hrs/Day 5 Dys/Wk 260 Dys/Yr

QTRLY SCHEDULE: Q1: 25% Q2: 25% Q3: 25% Q4: 25%

--INCOMING STREAMS--

C01-01 (100%) --> C02-01

--OUTGOING STREAMS--

C02-01 ---(100%)---> S01-01 ---(100%)---> OUT

C04 **Fabric Filters** **High-Efficiency Particulate Air Filter (HEPA)**

DEVICE DESC: HEPA PM COLLECTOR FOR LSS1 LAMP RECYCLER

CONSTR DATE:

DEVICE COMMENTS:

C04, Process 01 **Used for collectors**

PROCESS NAME: P08 LSS1 LAMP PROCESSOR

PROCESS COMMENTS: average hours per day based on total hours of operation

SCHEDULE: 20 Hrs/Day 5 Dys/Wk 260 Dys/Yr

QTRLY SCHEDULE: Q1: 25% Q2: 25% Q3: 25% Q4: 25%

--INCOMING STREAMS--

P08-P08 (100%) --> C04-01

--OUTGOING STREAMS--

C04-01 ---(100%)---> C05-01

C05-01 ---(100%)---> S08-S08 ---(100%)---> OUT

C05 **Adsorbers** **Absorber**

DEVICE DESC: CARBON ADSORBER FOR LSS1 LAMP RECYCLER

CONSTR DATE:

DEVICE COMMENTS:

--CTRL EFFIC--

POLLUTANT	VALUE
MERCURY ALL	99%

C05, Process 01 **Used for collectors**

PROCESS NAME: CARBON ADSORBER FOR LSS1 LAMP RECYCLER

PROCESS COMMENTS: average hours per day based on total hours of operation

SCHEDULE: 20 Hrs/Day 5 Dys/Wk 260 Dys/Yr

QTRLY SCHEDULE: Q1: 25% Q2: 25% Q3: 25% Q4: 25%

--INCOMING STREAMS--

C04-01 (100%) --> C05-01

--OUTGOING STREAMS--

C05-01 ---(100%)---> S08-S08 ---(100%)---> OUT

C09 **Adsorbers** **Absorber**

DEVICE DESC: CARBON ADSORBER FOR RIPSYS AND MAGNA DRUM

CONSTR DATE: 05/30/2002

DEVICE COMMENTS:

--CTRL EFFIC--

POLLUTANT	VALUE
MERCURY ALL	90%

C09, Process 01 **Used for collectors**

PROCESS NAME: CARBON ADSORBER FOR RIPSYS AND MAGNA DRUM

PROCESS COMMENTS:

SCHEDULE: 24 Hrs/Day 5 Dys/Wk 260 Dys/Yr

QTRLY SCHEDULE: Q1: 25% Q2: 25% Q3: 25% Q4: 25%

--INCOMING STREAMS--

P11-P11 (100%) --> C09-01

P10-P10 (100%) --> C09-01

--OUTGOING STREAMS--

C09-01 ---(100%)---> C10-01

C10-01 ---(100%)---> S14-S14 ---(100%)---> OUT

C10 **Adsorbers** **Absorber**

DEVICE DESC: CARBON ADSORBER FOR RETORT ROOM

CONSTR DATE: 05/30/2002

DEVICE COMMENTS:

--CTRL EFFIC--

POLLUTANT	VALUE
MERCURY ALL	90%

C10, Process 01 **Used for collectors**

PROCESS NAME: CARBON ADSORBER FOR RETORT ROOM

PROCESS COMMENTS:

SCHEDULE: 24 Hrs/Day 7 Dys/Wk 365 Dys/Yr

QTRLY SCHEDULE: Q1: 25% Q2: 25% Q3: 25% Q4: 25%

--INCOMING STREAMS--

C09-01 (100%) --> C10-01

C11-01 (100%) --> C10-01

--OUTGOING STREAMS--

C10-01 ---(100%)---> S14-S14 ---(100%)---> OUT

C11 **Adsorbers** **Absorber**

DEVICE DESC: ACTIVATED CARBON FOR ASE RETORT

CONSTR DATE: 08/01/2003

DEVICE COMMENTS:

--CTRL EFFIC--

POLLUTANT	VALUE
MERCURY ALL	90%

C11, Process 01 **Used for collectors**

PROCESS NAME: ACTIVATED CARBON UNIT FOR ASE RETORT

PROCESS COMMENTS:

SCHEDULE: 24 Hrs/Day 5 Dys/Wk 260 Dys/Yr

QTRLY SCHEDULE: Q1: 25% Q2: 25% Q3: 25% Q4: 25%

--INCOMING STREAMS--

P12-01 (100%) --> C11-01

--OUTGOING STREAMS--

C11-01 ---(100%)---> C10-01

C10-01 ---(100%)---> S14-S14 ---(100%)---> OUT

P01 **Miscellaneous** **Any Device**

DEVICE DESC: MODEL 2000 FLUORESCENT LAMP PROCESSOR

CONSTR DATE: 01/07/1993

DEVICE COMMENTS:

P01, Process 01 **Generic Throughput Process**

PROCESS NAME: FLUORESCENT LAMP PROCESSOR

SCC CODE: 30500203

PROCESS COMMENTS: EMISSIONS FOR MERCURY BASED ON ACTUAL EMISSION MONITORING DATA. ANTIMONY AND CADMIUM EMISSIONS BASED ON PERCENTAGES CONTAINED IN MSDSS AND EFFECIENCY OF PARTICULATE CONTROL DEVICE.

SCHEDULE:	20 Hrs/Day	5 Dys/Wk	260 Dys/Yr	
QTRLY SCHEDULE:	Q1: 25%	Q2: 25%	Q3: 25%	Q4: 25%
ANNUAL TPUT:	1502.24 E3 LB	of PRODUCT - MINERALS		
AVG TPUT:	288.89231 LB/HR			
MAX TPUT:	1250 LB/HR			

--EMISSION FACTORS--

POLLUTANT	VALUE / UNIT	ORIGIN
PM	.01 LB / E3 LB	STK

--EMISSIONS / YR--

POLLUTANT	NR438_THRESH	UNCNTRLD	CNTRLD	OZONE/DY
PM (c)	10000 LB	15.022 LB	15.022 LB	
ANTIMONY (r) (fs)	118 LB	.023 LB	.023 LB	
CADMIUM (r) (fs)	.49 LB	.023 LB	.023 LB	
MERCURY ALL (r) (fs)	5.88 LB	.010 LB	.010 LB	

--INCOMING STREAMS--

TPUT --> P01-01

--OUTGOING STREAMS--

P01-01 ---(100%)---> C01-01

C01-01 ---(100%)---> C02-01

C02-01 ---(100%)---> S01-01 ---(100%)---> OUT

P08 **Miscellaneous** **Any Device**

DEVICE DESC: MODEL LSS1 LAMP RECYLER
CONSTR DATE:
DEVICE COMMENTS:

P08, Process P08 **Generic Throughput Process**

PROCESS NAME: MODEL LSS1 LAMP RECYCLER
SCC CODE: 30500203
PROCESS COMMENTS:
SCHEDULE: 20 Hrs/Day 5 Dys/Wk 260 Dys/Yr
QTRLY SCHEDULE: Q1: 25% Q2: 25% Q3: 25% Q4: 25%
ANNUAL TPUT: 3050 E3 LB of PRODUCT - MINERALS
AVG TPUT: 586.53846 LB/HR
MAX TPUT: 2456 LB/HR

--EMISSION FACTORS--

POLLUTANT	VALUE / UNIT	ORIGIN
PM	.000011 LB / LB	STK

--EMISSIONS / YR--

POLLUTANT	NR438_THRESH	UNCNTRLD	CNTRLD	OZONE/DY
PM (c)	10000 LB	33.550 LB	33.550 LB	
MERCURY ALL (r) (fs)	5.88 LB	.010 LB	.010 LB	

--INCOMING STREAMS--

TPUT --> P08-P08

--OUTGOING STREAMS--

P08-P08 ---(100%)---> C04-01

C04-01 ---(100%)---> C05-01

C05-01 ---(100%)---> S08-S08 ---(100%)---> OUT

P10 **Miscellaneous** **Any Device**

DEVICE DESC: RIPSYS RETORT
CONSTR DATE: 03/05/2002
DEVICE COMMENTS:

P10, Process P10 **Generic Throughput Process**

PROCESS NAME: RIPSYS RETORT
SCC CODE: 30500203
PROCESS COMMENTS:

SCHEDULE:	24 Hrs/Day	5 Dys/Wk	260 Dys/Yr	
QTRLY SCHEDULE:	Q1: 25%	Q2: 25%	Q3: 25%	Q4: 25%
ANNUAL TPUT:	382.31 E3 LB	of PRODUCT - MINERALS		
AVG TPUT:	61.26763 LB/HR			
MAX TPUT:	125 LB/HR			

--EMISSION FACTORS--

POLLUTANT	VALUE / UNIT	ORIGIN
PM	.12 LB / TON	DNR

--EMISSIONS / YR--

POLLUTANT	NR438_THRESH	UNCNTRLD	CNTRLD	OZONE/DY
PM (c)	10000 LB	22.939 LB	22.939 LB	
MERCURY ALL (r) (fs)	5.88 LB	.561 LB	.561 LB	

--INCOMING STREAMS--

TPUT --> P10-P10

--OUTGOING STREAMS--

P10-P10 ---(100%)---> C09-01

C09-01 ---(100%)---> C10-01

C10-01 ---(100%)---> S14-S14 ---(100%)---> OUT

P11 **Miscellaneous** **Any Device**

DEVICE DESC: MAGNA DRUM RETORT
CONSTR DATE: 03/05/2002
DEVICE COMMENTS:

P11, Process P11 **Generic Throughput Process**

PROCESS NAME: MAGNA DRUM RETORT
SCC CODE: 30500203
PROCESS COMMENTS:

SCHEDULE:	24 Hrs/Day	5 Dys/Wk	200 Dys/Yr	
QTRLY SCHEDULE:	Q1: 25%	Q2: 25%	Q3: 25%	Q4: 25%
ANNUAL TPUT:	382.31 E3 LB	of PRODUCT - MINERALS		
AVG TPUT:	79.64792 LB/HR			
MAX TPUT:	188 LB/HR			

--EMISSION FACTORS--

POLLUTANT	VALUE / UNIT	ORIGIN
PM	.12 LB / TON	DNR

--EMISSIONS / YR--

POLLUTANT	NR438_THRESH	UNCNTRLD	CNTRLD	OZONE/DY
PM (c)	10000 LB	22.939 LB	22.939 LB	
MERCURY ALL (r) (fs)	5.88 LB	.561 LB	.561 LB	

--INCOMING STREAMS--

TPUT --> P11-P11

--OUTGOING STREAMS--

P11-P11 ---(100%)---> C09-01

C09-01 ---(100%)---> C10-01

C10-01 ---(100%)---> S14-S14 ---(100%)---> OUT

P12 **Miscellaneous** **Any Device**

DEVICE DESC: ASE RETORT
CONSTR DATE: 08/01/2003
DEVICE COMMENTS:

P12, Process 01 **Generic Throughput Process**

PROCESS NAME: ASE RETORT
SCC CODE: 30500203
PROCESS COMMENTS:

SCHEDULE:	24 Hrs/Day	3 Dys/Wk	150 Dys/Yr	
QTRLY SCHEDULE:	Q1: 25%	Q2: 25%	Q3: 25%	Q4: 25%
ANNUAL TPUT:	206.6 E3 LB	of PRODUCT - MINERALS		
AVG TPUT:	57.38888888889 LB/HR			
MAX TPUT:	100 LB/HR			

--EMISSION FACTORS--

POLLUTANT	VALUE / UNIT	ORIGIN
PM	.12 LB / TON	DNR

--EMISSIONS / YR--

POLLUTANT	NR438_THRESH	UNCNTRLD	CNTRLD	OZONE/DY
PM (c)	10000 LB	12.396 LB	12.396 LB	
MERCURY ALL (r) (fs)	5.88 LB	1.122 LB	1.122 LB	

--INCOMING STREAMS--

TPUT --> P12-01

--OUTGOING STREAMS--

P12-01 ---(100%)---> C11-01

C11-01 ---(100%)---> C10-01

C10-01 ---(100%)---> S14-S14 ---(100%)---> OUT

S01 **Stack** **Stack**

DEVICE DESC: STACK FROM MODEL 2000 LAMP PROCESSOR
CONSTR DATE: 10/07/1993
DEVICE COMMENTS:
STACK HEIGHT: 7.61 m or 24.97 ft
STACK DIAMETER: .2 m or .66 ft
STACK TEMP: 294.2 K or 69.89 F
STACK VELOCITY: 2.67 m/s or 8.76 ft/s

S01, Process 01 **Releasing/Discharging material to the atmosphere**

PROCESS NAME: FLUORESCENT LAMP PROCESSOR
PROCESS COMMENTS:
SCHEDULE: 20 Hrs/Day 5 Dys/Wk 260 Dys/Yr
QTRLY SCHEDULE: Q1: 25% Q2: 25% Q3: 25% Q4: 25%

--INCOMING STREAMS--
C02-01 (100%) --> S01-01

--OUTGOING STREAMS--

S01-01 (100%) --> OUT

S08 **Stack** **Stack**

DEVICE DESC: STACK FROM LSS1 LAMP RECYCLER
CONSTR DATE:
DEVICE COMMENTS:
STACK HEIGHT: 7.61 m or 24.97 ft
STACK DIAMETER: .2 m or .66 ft
STACK TEMP: 294.2 K or 69.89 F
STACK VELOCITY: 7.84 m/s or 25.72 ft/s

S08, Process S08 **Releasing/Discharging material to the atmosphere**

PROCESS NAME: STACK FROM LSS1 LAMP RECYCLER
PROCESS COMMENTS:
SCHEDULE: 20 Hrs/Day 5 Dys/Wk 260 Dys/Yr
QTRLY SCHEDULE: Q1: 25% Q2: 25% Q3: 25% Q4: 25%

--INCOMING STREAMS--
C05-01 (100%) --> S08-S08

--OUTGOING STREAMS--

S08-S08 (100%) --> OUT

S14	**Stack**	**Stack**	
DEVICE DESC:	RETORT ROOM C10 STACK		
CONSTR DATE:	05/30/2002		
DEVICE COMMENTS:			
STACK HEIGHT:	7.61 m		or 24.97 ft
STACK DIAMETER:	.4 m		or 1.31 ft
STACK TEMP:	294.2 K		or 69.89 F
STACK VELOCITY:	20.22 m/s		or 66.34 ft/s

S14, Process S14	**Releasing/Discharging material to the atmosphere**			
PROCESS NAME:	STACK FROM RETORT ROOM			
PROCESS COMMENTS:				
SCHEDULE:	24 Hrs/Day	7 Dys/Wk	365 Dys/Yr	
QTRLY SCHEDULE:	Q1: 25%	Q2: 25%	Q3: 25%	Q4: 25%

--INCOMING STREAMS--

C10-01 (100%) --> S14-S14

--OUTGOING STREAMS--

S14-S14 (100%) --> OUT

FACILITY EMISSIONS SUMMARY

-2013 SUMMARY-	--2013--	--2013--	--2013--	--2013--
--POLLUTANT--	--NR438_THRESH--	--UNCNTRLD/YR--	--CNTRLD/YR--	--OZONE/DY--
PM	10000 LB	106.84560 LB	106.84560 LB	
ANTIMONY (fs)	118 LB	.02300 LB	.02300 LB	
CADMIUM (fs)	.49 LB	.02300 LB	.02300 LB	
MERCURY ALL (fs)	5.88 LB	2.26400 LB	2.26400 LB	

-2012 SUMMARY-	--2012--	--2012--	--2012--	--2012--
--POLLUTANT--	--NR438_THRESH--	--UNCNTRLD/YR--	--CNTRLD/YR--	--OZONE/DY--
PM	10000 LB	97.01390 LB	97.01390 LB	
ANTIMONY(FS)	118 LB	.02400 LB	.02400 LB	
CADMIUM(FS)	.49 LB	.02400 LB	.02400 LB	
MERCURY ALL (FS)	5.88 LB	1.06700 LB	1.06700 LB	

REPORT LEGEND

--EMISSIONS--

c = Calculated; r = Reported

f = Federal Hap; s = State Hap; fs = Fed and State Hap

JANUARY

Date	Time	P01 Exhaust in mg/m3 Hg	P01 Pressure drop in inches	P08 Exhaust in mg/m3 Hg	P08 Pressure drop in inches	S14 Exhaust in mg/m3 Hg
1/1/2012	5:00pm	n/o	n/o	n/o	n/o	0.003
1/2/2012	5:45am	0.000	1.000	0.000	3.600	0.000
	1:15pm	0.000	2.600	0.000	3.600	0.000
1/3/2012	6:15am	0.000	4.000	0.000	4.000	0.000
	2:30pm	0.000	1.300	0.000	3.400	0.000
	10:40pm	0.000	6.200	0.000	3.800	0.000
1/4/2012	6:15am	0.000	1.000	0.000	3.600	0.000
	2:30pm	0.000	7.000	0.000	3.200	0.000
	10:30pm	0.000	1.100	0.000	3.400	0.000
1/5/2012	6:15am	0.000	1.000	0.000	3.400	0.000
	2:30pm	0.000	1.000	0.000	3.300	0.000
	10:30pm	0.000	1.600	0.000	3.400	0.005
1/6/2012	6:15am	0.000	1.000	0.000	3.200	0.005
	2:30pm	0.000	1.000	0.000	3.200	0.005
	10:30pm	0.000	1.000	0.000	3.200	0.007
1/7/2012	6:15am	n/o	n/o	n/o	n/o	0.000
1/8/2012	4:40pm	n/o	n/o	n/o	n/o	0.020
1/9/2012	6:15am	0.000	1.000	0.000	3.300	0.019
	2:30pm	0.000	1.000	0.000	3.200	0.016
	10:30pm	0.000	1.000	0.000	3.200	0.008
1/10/2012	6:15am	0.000	1.000	0.000	3.300	0.011
	2:30pm	0.000	1.000	0.000	3.300	0.017
	10:35pm	0.000	1.100	0.000	3.400	0.014
1/11/2012	6:15am	0.000	1.000	0.000	3.200	0.011
	2:30pm	0.000	1.000	0.000	3.200	0.017
	10:30pm	0.000	1.000	0.000	3.200	0.009
1/12/2012	6:30am	0.000	1.000	0.000	3.200	0.007
	2:30pm	0.000	1.000	0.000	3.300	0.008
	10:45pm	0.000	1.000	0.000	3.400	0.006
1/13/2012	6:30am	0.000	1.300	0.000	3.400	0.007
	2:30pm	0.000	1.000	0.000	3.200	0.009
	10:15pm	0.000	1.200	0.000	3.300	0.010
1/14/2012	6:30am	n/o	n/o	n/o	n/o	0.009
1/15/2012	10:45am	n/o	n/o	n/o	n/o	0.033
1/16/2012	6:15am	0.000	1.000	0.000	3.300	0.007
	2:30pm	0.000	1.000	0.000	3.200	0.005
	10:30pm	0.000	1.000	0.000	3.200	0.006
1/17/2012	6:15am	0.000	1.000	0.000	3.300	0.000
	2:30pm	0.000	1.100	0.000	3.300	0.000
	10:30pm	0.000	1.200	0.000	3.400	0.000
1/18/2012	6:15am	0.000	2.300	0.000	4.000	0.016
	2:30pm	0.000	1.000	0.000	3.400	0.004
	10:35pm	0.000	1.200	0.000	3.600	0.000
1/19/2012	6:15am	0.000	1.000	0.000	3.800	0.000
	2:30pm	0.000	3.600	0.000	3.900	0.004
	10:30pm	0.000	4.200	0.000	3.800	0.000
1/20/2012	6:15am	0.000	4.500	0.000	4.100	0.000
	2:30pm	0.000	6.800	0.000	4.000	0.000
	10:30pm	0.000	6.500	0.000	4.000	0.000
1/21/2012	6:30am	n/o	n/o	n/o	n/o	0.000
1/22/2012	12:00pm	n/o	n/o	n/o	n/o	0.000
1/23/2012	6:15am	0.000	1.700	0.000	3.100	0.000
	2:30pm	0.000	1.000	0.000	3.200	0.005
	10:30pm	0.000	1.200	0.000	3.300	0.009
1/24/2012	6:15am	0.000	1.000	0.000	3.300	0.008
	2:30pm	0.000	1.000	0.000	3.300	0.009
	10:30pm	0.000	1.200	0.000	3.300	0.012
1/25/2012	6:15am	0.000	1.000	0.000	3.300	0.016
	2:30pm	0.000	1.000	0.000	3.300	0.022
	10:30pm	0.000	1.000	0.000	3.300	0.025
1/26/2012	6:15am	0.000	1.000	0.000	3.300	0.026
	2:45pm	0.000	1.000	0.000	3.300	0.012
	10:35pm	0.000	1.000	0.000	3.400	0.019
1/27/2012	6:15am	0.000	1.000	0.000	3.300	0.021
	2:45pm	0.000	1.000	0.000	3.300	0.015
	10:10pm	0.000	1.100	0.000	3.300	0.011
1/28/2012	6:10am	n/o	n/o	n/o	n/o	0.011
1/29/2012	1:41pm	n/o	n/o	n/o	n/o	0.009
1/30/2012	6:15am	0.000	1.000	0.000	3.600	0.000
	2:30pm	0.000	1.200	0.000	3.300	0.003
	10:30pm	0.000	1.100	0.000	3.400	0.000
1/31/2012	6:15am	0.000	1.000	0.000	3.200	0.000
	2:30pm	0.000	1.000	0.000	3.200	0.000
	10:30pm	0.000	1.000	0.000	3.200	0.000

FEBRUARY

Date	Time	P01 Exhaust in mg/m3 Hg	P01 Pressure drop in inches	P08 Exhaust in mg/m3 Hg	P08 Pressure drop in inches	S14 Exhaust in mg/m3 Hg
2/1/2012	6:15am	0.000	1.000	0.000	3.200	0.004
	2:30pm	0.000	1.000	0.000	3.400	0.000
	10:30pm	0.000	1.200	0.000	3.400	0.000
2/2/2012	6:15am	0.000	1.000	0.000	3.400	0.000
	2:30pm	0.000	1.000	0.000	3.300	0.000
	10:30pm	0.000	1.200	0.000	3.400	0.000
2/3/2012	6:15am	0.000	1.000	0.000	3.300	0.000
	2:30pm	0.000	1.000	0.000	3.400	0.000
	10:15pm	0.000	1.000	0.000	3.400	0.000
2/4/2012	6:30am	n/o	n/o	n/o	n/o	0.000
2/5/2012	11:20am	n/o	n/o	n/o	n/o	0.013
2/6/2012	6:30am	0.000	1.000	0.000	3.200	0.017
	3:00pm	0.000	1.000	0.000	3.200	0.008
	10:30pm	0.000	1.200	0.000	3.400	0.000
2/7/2012	6:15am	0.000	1.000	0.000	3.500	0.000
	2:30pm	0.000	1.000	0.000	3.500	0.005
	10:30pm	0.000	1.000	0.000	3.400	0.004
2/8/2012	6:15am	0.000	1.400	0.000	3.400	0.004
	2:30pm	0.000	1.000	0.000	3.400	0.005
	10:30pm	0.000	1.100	0.000	3.500	0.004
2/9/2012	6:15am	0.000	1.000	0.000	3.400	0.004
	2:30pm	0.000	1.000	0.000	3.400	0.006
	10:30pm	0.000	1.000	0.000	3.500	0.004
2/10/2012	6:15am	0.000	1.000	0.000	3.400	0.004
	2:30pm	0.000	1.000	0.000	3.400	0.006
	10:10pm	0.000	1.100	0.000	3.900	0.006
2/11/2012	6:20am	n/o	n/o	n/o	n/o	0.004
2/12/2012	9:45am	n/o	n/o	n/o	n/o	0.000
2/13/2012	6:15am	0.000	1.000	0.000	3.900	0.000
	2:30pm	0.000	1.000	0.000	3.500	0.015
	10:30pm	0.000	1.000	0.000	3.600	0.007
2/14/2012	6:15am	0.000	1.000	0.000	3.300	0.007
	2:30pm	0.000	1.000	0.000	3.300	0.007
	10:30pm	0.000	1.100	0.000	3.300	0.006
2/15/2012	6:15am	0.000	1.000	0.000	3.400	0.006
	2:30pm	0.000	1.000	0.000	3.300	0.009
	10:40pm	0.000	1.000	0.000	3.200	0.008
2/16/2012	6:15am	0.000	1.000	0.000	3.400	0.007
	2:30pm	0.000	1.000	0.000	3.400	0.006
	10:30pm	0.000	1.200	0.000	3.300	0.006
2/17/2012	6:15am	0.000	1.000	0.000	3.300	0.004
	2:30pm	0.000	1.400	0.000	3.400	0.085
	10:15pm	0.000	1.200	0.000	3.400	0.091
2/18/2012	3:30pm	n/o	n/o	n/o	n/o	0.009
2/19/2012	3:20pm	n/o	n/o	n/o	n/o	0.007
2/20/2012	6:15am	0.000	1.200	0.000	3.500	0.004
	2:30pm	0.000	1.300	0.000	3.400	0.007
	10:30pm	0.000	1.400	0.000	3.400	0.005
2/21/2012	6:15am	0.000	1.200	0.000	3.200	0.006
	2:30pm	0.000	1.300	0.000	3.200	0.007
	10:30pm	0.000	1.300	0.000	3.400	0.005
2/22/2012	6:15am	0.000	1.200	0.000	3.400	0.004
	2:30pm	0.000	1.400	0.000	3.400	0.005
	10:30pm	0.000	1.400	0.000	3.500	0.004
2/23/2012	6:15am	0.000	1.400	0.000	3.300	0.003
	1:30pm	0.000	1.400	0.000	3.400	0.005
	10:30pm	0.000	1.500	0.000	3.600	0.006
2/24/2012	6:45am	0.000	1.000	0.000	3.200	0.006
	2:45pm	0.000	1.000	0.000	3.200	0.024
	10:05pm	0.000	1.100	0.000	3.400	0.011
2/25/2012	11:40am	n/o	n/o	n/o	n/o	0.006
2/26/2012	3:30pm	n/o	n/o	n/o	n/o	0.006
2/27/2012	6:15am	0.000	1.300	0.000	3.400	0.005
	2:30pm	0.000	1.400	0.000	3.400	n/o
	10:30pm	0.000	1.400	0.000	3.500	0.006
2/28/2012	6:15am	0.000	1.400	0.000	3.600	0.005
	2:30pm	0.000	1.400	0.000	3.300	0.006
	10:30pm	0.000	1.400	0.000	3.400	0.003
2/29/2012	6:15am	0.000	1.200	0.000	3.300	0.003
	2:30pm	0.000	1.400	0.000	3.300	0.005
	10:30pm	0.000	1.400	0.000	3.400	0.007

MARCH

Date	Time	P01 Exhaust in mg/m3 Hg	P01 Pressure drop in inches	P08 Exhaust in mg/m3 Hg	P08 Pressure drop in inches	S14 Exhaust in mg/m3 Hg
3/1/2012	6:15am	0.000	1.300	0.000	3.300	0.007
	2:30pm	0.000	1.300	0.000	3.300	0.031
	10:30pm	0.000	1.400	0.000	3.300	0.021
3/2/2012	6:30am	0.000	1.000	0.000	3.200	0.010
	2:30pm	0.000	1.000	0.000	3.200	0.013
	10:30pm	0.000	1.200	0.000	3.400	0.011
3/3/2012	9:40am	n/o	n/o	n/o	n/o	0.006
3/4/2012	11:08am	n/o	n/o	n/o	n/o	0.007
3/5/2012	6:15am	0.000	1.400	0.000	3.700	0.006
	2:30pm	0.000	1.800	0.000	3.400	0.006
	10:30pm	0.000	1.800	0.000	3.400	0.006
3/6/2012	6:15am	0.000	1.400	0.000	3.500	0.007
	2:30pm	0.000	1.700	0.000	3.400	0.008
	10:30pm	0.000	1.800	0.000	3.400	0.007
3/7/2012	6:15am	0.000	1.500	0.000	3.500	0.007
	2:00pm	0.000	1.700	0.000	3.400	0.031
	10:30pm	0.000	1.800	0.000	3.300	0.020
3/8/2012	6:15am	0.000	1.600	0.000	3.500	0.009
	2:30pm	0.000	1.700	0.000	3.400	0.007
	10:30pm	0.000	1.700	0.000	3.500	0.007
3/9/2012	6:15am	0.000	1.600	0.000	3.500	0.006
	2:30pm	0.000	1.700	0.000	3.500	0.009
	10:25pm	0.000	1.800	0.000	3.400	0.008
3/10/2012	6:30am	n/o	n/o	n/o	n/o	0.005
3/11/2012	6:30am	n/o	n/o	n/o	n/o	0.004
3/12/2012	6:45am	0.000	1.000	0.000	3.200	0.045
	2:45pm	0.000	1.000	0.000	3.300	0.017
	10:30pm	0.000	1.000	0.000	3.400	0.008
3/13/2012	6:15am	0.000	1.400	0.000	3.400	0.007
	2:30pm	0.000	1.500	0.000	3.500	0.009
	10:30pm	0.000	1.800	0.000	3.400	0.009
3/14/2012	6:15am	0.000	1.500	0.000	3.400	0.007
	2:30pm	0.000	1.700	0.000	3.400	0.009
	10:30pm	0.000	1.800	0.000	3.200	0.011
3/15/2012	6:15am	0.000	1.400	0.000	3.400	0.008
	2:30pm	0.000	1.500	0.000	3.300	0.009
	10:30pm	0.000	1.600	n/o	3.400	0.008
3/16/2012	6:15am	0.000	1.200	0.000	3.300	0.005
	2:30pm	0.000	1.500	0.000	3.300	0.009
	10:40pm	0.000	1.400	0.000	3.300	0.008
3/17/2012	6:30am	n/o	n/o	n/o	n/o	0.005
3/18/2012	4:20pm	n/o	n/o	n/o	n/o	0.009
3/19/2012	6:15am	0.000	1.200	0.000	3.400	0.011
	2:45pm	0.000	1.400	0.000	3.400	0.009
	10:30pm	0.000	1.400	0.000	3.600	0.007
3/20/2012	6:15am	0.000	1.200	0.000	3.300	0.007
	2:30pm	0.000	1.400	0.000	3.300	0.010
	10:30pm	0.000	1.500	0.000	3.200	0.005
3/21/2012	6:15am	0.000	1.200	0.000	3.400	0.005
	1:30pm	0.000	1.200	0.000	3.200	0.012
	10:30pm	0.000	1.400	0.000	3.400	0.015
3/22/2012	6:15am	0.000	1.200	0.000	3.300	0.011
	2:30pm	0.000	1.600	0.000	3.400	0.014
	10:30pm	0.000	1.400	0.000	3.300	0.015
3/23/2012	6:15am	0.000	1.200	0.000	3.300	0.010
	2:30pm	0.000	1.300	0.000	3.200	0.015
	10:15pm	0.000	1.300	0.000	3.300	0.008
3/24/2012	6:30am	n/o	n/o	n/o	n/o	0.007
3/25/2012	11:00am	n/o	n/o	n/o	n/o	0.008
3/26/2012	6:15am	0.000	1.200	0.000	3.400	0.103
	6:50am	n/o	n/o	n/o	n/o	0.004
	2:30pm	0.000	1.400	0.000	3.400	0.015
	10:30pm	0.000	1.200	0.000	3.400	0.010
3/27/2012	6:15am	0.000	1.400	0.000	3.500	0.008
	2:30pm	0.000	1.200	0.000	3.400	0.012
	10:30pm	0.000	1.200	0.000	3.300	0.010
3/28/2012	6:15am	0.000	1.300	0.000	3.300	0.004
	2:30pm	0.000	1.300	0.000	3.400	0.006
	10:30pm	0.000	1.600	0.000	3.300	0.004
3/29/2012	6:15am	0.000	1.300	0.000	3.400	0.000
	2:30pm	0.000	1.500	0.000	3.400	0.004
	10:30pm	0.000	1.500	0.000	3.400	0.000
3/30/2012	6:15am	0.000	1.300	0.000	3.400	0.004
	2:15pm	0.000	1.300	0.000	3.300	0.000
	10:15pm	0.000	1.200	0.000	3.400	0.002
3/31/2012	7:00am	n/o	n/o	n/o	n/o	0.000

APRIL

Date	Time	P01 Exhaust in mg/m3 Hg	P01 Pressure drop in inches	P08 Exhaust in mg/m3 Hg	P08 Pressure drop in inches	S14 Exhaust in mg/m3 Hg
4/1/2012	3:30pm	n/o	n/o	n/o	n/o	0.000
4/2/2012	6:15am	0.000	1.300	0.000	3.400	0.000
	2:30pm	0.000	1.500	0.000	3.300	0.000
	10:30pm	0.000	1.400	0.000	3.400	0.000
4/3/2012	6:15am	0.000	1.300	0.000	3.300	0.000
	2:30pm	0.000	1.400	0.000	3.300	0.003
	10:30pm	0.000	1.300	0.000	3.300	0.004
4/4/2012	6:15am	0.000	1.300	0.000	3.400	0.005
	2:30pm	0.000	1.600	0.000	3.400	0.008
	10:30pm	0.000	1.500	0.000	3.400	0.011
4/5/2012	6:15am	0.000	1.300	0.000	3.400	0.009
	2:30pm	0.000	1.400	0.000	3.300	0.008
	10:30pm	0.000	1.400	0.000	3.300	0.012
4/6/2012	6:10am	0.000	1.400	0.000	3.400	0.011
	2:00pm	0.000	1.600	0.000	3.400	0.005
	10:10pm	0.000	1.600	0.000	3.300	0.004
4/7/2012	6:15am	n/o	n/o	n/o	n/o	0.003
4/8/2012		n/o	n/o	n/o	n/o	0.000
4/9/2012	6:15am	0.000	1.400	0.000	3.400	0.000
	2:30pm	0.000	1.400	0.000	3.300	0.000
	10:30pm	0.000	1.500	0.000	3.400	0.000
4/10/2012	6:15am	0.000	1.400	0.000	3.400	0.000
	2:30pm	0.000	1.700	0.000	3.300	0.000
	10:30pm	0.000	1.600	0.000	3.400	0.000
4/11/2012	6:15am	0.000	1.400	0.000	3.500	0.000
	1:30pm	0.000	1.700	0.000	3.400	0.000
	10:30pm	0.000	1.400	0.000	3.400	0.000
4/12/2012	6:15am	0.000	1.300	0.000	3.400	0.000
	2:30pm	0.000	1.300	0.000	3.300	0.000
	10:30pm	0.000	1.300	0.000	3.400	0.000
4/13/2012	6:15am	0.000	1.300	0.000	3.400	0.000
	2:30pm	0.000	1.800	0.000	3.400	0.003
	10:10pm	0.000	2.000	0.000	3.200	0.004
4/14/2012	6:10am	n/o	n/o	n/o	n/o	0.004
4/15/2012		n/o	n/o	n/o	n/o	0.007
4/16/2012	6:30am	0.000	1.400	0.000	3.400	0.006
	2:35pm	0.000	1.000	0.000	3.300	0.003
	10:30pm	0.000	1.200	0.000	3.300	0.004
4/17/2012	6:15am	0.000	1.300	0.000	3.400	0.003
	2:30pm	0.000	1.400	0.000	3.400	0.007
	10:30pm	0.000	1.400	0.000	3.500	0.006
4/18/2012	6:15am	0.000	1.400	0.000	3.400	0.005
	2:30pm	0.000	1.300	0.000	3.300	0.006
	10:30pm	0.000	1.400	0.000	3.200	0.006
4/19/2012	6:15am	0.000	1.200	0.000	3.300	0.005
	2:30pm	0.000	1.200	0.000	3.400	0.005
	10:30pm	0.000	1.200	0.000	3.300	0.004
4/20/2012	6:15am	0.000	1.300	0.000	3.300	0.005
	2:30pm	0.000	1.300	0.000	3.300	0.007
	10:10pm	0.000	1.400	0.000	3.200	0.004
4/21/2012	6:00am	n/o	n/o	n/o	n/o	0.003
4/22/2012	11:30am	n/o	n/o	n/o	n/o	0.009
4/23/2012	6:15am	0.000	1.300	0.000	3.500	0.007
	2:15pm	0.000	1.700	0.000	3.300	0.007
	10:30pm	0.000	1.700	0.000	3.300	0.008
4/24/2012	6:15am	0.000	1.300	0.000	3.300	0.008
	2:30pm	0.000	1.500	0.000	3.500	0.008
	10:30pm	0.000	1.400	0.000	3.300	0.007
4/25/2012	6:15am	0.000	1.400	0.000	3.300	0.006
	2:30pm	0.000	1.500	0.000	3.300	0.007
	10:30pm	0.000	1.400	0.000	3.200	0.004
4/26/2012	6:15am	0.000	1.200	0.000	3.300	0.004
	2:20pm	0.000	1.200	0.000	3.300	0.004
	10:30pm	0.000	1.400	0.000	3.300	0.003
4/27/2012	6:15am	0.000	1.300	0.000	3.400	0.004
	2:30pm	0.000	1.300	0.000	3.400	0.010
	10:15pm	0.000	1.200	0.000	3.200	0.005
4/28/2012	6:10am	n/o	n/o	n/o	n/o	0.006
4/29/2012	9:00am	n/o	n/o	n/o	n/o	0.006
4/30/2012	6:15am	0.000	1.200	0.000	3.200	0.005
	2:30pm	0.000	1.700	0.000	3.300	0.006
	10:30pm	0.000	1.200	0.000	3.100	0.005

MAY

Date	Time	P01 Exhaust in mg/m3 Hg	P01 Pressure drop in inches	P08 Exhaust in mg/m3 Hg	P08 Pressure drop in inches	S14 Exhaust in mg/m3 Hg
5/1/2012	6:15am	0.000	1.200	0.000	3.200	0.004
	2:00pm	0.000	1.300	0.000	3.200	0.004
	10:30pm	0.000	1.300	0.000	3.300	0.004
5/2/2012	6:15am	0.000	1.200	0.000	3.200	0.008
	2:00pm	0.000	1.700	0.000	3.200	0.009
	10:30pm	0.000	1.800	0.000	3.200	0.020
5/3/2012	6:15am	0.000	1.400	0.000	3.300	0.020
	1:30pm	0.000	1.500	0.000	3.100	0.017
	10:35pm	0.000	1.400	0.000	3.200	0.010
5/4/2012	6:15am	0.000	1.300	0.000	3.300	0.012
	2:00pm	0.000	1.300	0.000	3.200	0.026
	10:00pm	0.000	1.300	0.000	3.300	0.004
5/5/2012	6:00am	n/o	n/o	n/o	n/o	0.007
5/6/2012	5:15am	n/o	n/o	n/o	n/o	0.008
5/7/2012	6:15am	0.000	1.200	0.000	3.400	0.008
	2:30pm	0.000	1.300	0.000	3.200	0.031
	10:30pm	0.000	1.400	0.000	3.100	0.032
5/8/2012	6:15am	0.000	1.200	0.000	3.200	0.018
	2:00pm	0.000	1.300	0.000	3.200	0.007
	10:30pm	0.000	1.300	0.000	4.700	0.005
5/9/2012	6:15am	0.000	1.200	0.000	5.000	0.004
	1:45pm	0.000	1.200	0.000	3.400	0.004
	10:30pm	0.000	1.200	0.000	3.100	0.011
5/10/2012	6:15am	0.000	1.300	0.000	3.200	0.011
	2:00pm	0.000	1.400	0.000	3.400	0.013
	10:30pm	0.000	1.500	0.000	3.300	0.011
5/11/2012	6:15am	0.000	1.300	0.000	3.300	0.010
	2:00pm	0.000	1.400	0.000	3.200	0.019
	10:15pm	0.000	1.400	0.000	3.300	0.014
5/12/2012	6:30am	n/o	n/o	n/o	n/o	0.012
5/13/2012	9:07am	n/o	n/o	n/o	n/o	0.003
5/14/2012	6:15am	0.000	1.500	0.000	3.400	0.009
	2:30pm	0.000	1.500	0.000	3.200	0.015
	10:30pm	0.000	1.400	0.000	3.200	0.015
5/15/2012	6:15am	0.000	1.500	0.000	3.200	0.017
	2:30pm	0.000	1.700	0.000	3.300	0.016
	10:30pm	0.000	1.500	0.000	3.200	0.012
5/16/2012	6:15am	0.000	1.300	0.000	3.400	0.010
	2:30pm	0.000	1.500	0.000	3.300	0.016
	10:30pm	0.000	1.500	0.000	3.400	0.014
5/17/2012	6:15am	0.000	1.400	0.000	3.200	0.015
	2:30pm	0.000	1.300	0.000	3.300	0.016
	10:30pm	0.000	1.400	0.000	3.300	0.010
5/18/2012	6:15am	0.000	1.300	0.000	3.200	0.016
	2:30pm	0.000	1.700	0.000	3.200	0.017
	10:10pm	0.000	1.600	0.000	3.300	0.011
5/19/2012	6:20am	n/o	n/o	n/o	n/o	0.011
5/20/2012	8:20am	n/o	n/o	n/o	n/o	0.008
5/21/2012	6:15am	0.000	1.500	0.000	3.400	0.006
	2:45pm	0.000	1.200	0.000	3.400	0.009
	10:30pm	0.000	1.200	0.000	5.000	0.009
5/22/2012	6:15am	0.000	1.600	0.000	5.800	0.010
	2:30pm	0.000	1.500	0.000	0.800	0.017
	10:30pm	0.000	1.600	0.000	1.000	0.013
5/23/2012	6:15am	0.000	1.400	0.000	1.000	0.015
	2:00pm	0.000	1.700	0.000	1.000	0.013
	10:30pm	0.000	1.500	0.000	1.000	0.009
5/24/2012	6:15am	0.000	1.200	0.000	1.000	0.013
	2:30pm	0.000	1.200	0.000	1.000	0.007
	10:20pm	0.000	1.200	0.000	1.000	0.009
5/25/2012	6:15am	0.000	1.600	0.000	1.000	0.007
	2:30pm	0.000	1.700	0.000	1.000	0.009
	7:20pm	0.000	1.800	0.000	1.000	0.010
5/26/2012	8:30am	n/o	n/o	n/o	n/o	n/o
5/27/2012	2:00pm	n/o	n/o	n/o	n/o	n/o
5/28/2012	6:30pm	n/o	n/o	n/o	n/o	n/o
5/29/2012	6:15am	0.000	1.700	0.000	1.000	0.007
	2:30pm	0.000	1.500	0.000	1.200	0.011
	10:30pm	0.000	1.800	0.000	1.200	0.018
5/30/2012	6:15am	0.000	1.400	0.000	1.200	0.016
	2:30pm	0.000	1.500	0.000	1.000	0.014
	10:30pm	0.000	1.500	0.000	1.200	0.009
5/31/2012	6:15am	0.000	1.400	0.000	1.000	0.007
	2:30pm	0.000	1.500	0.000	1.100	0.007
	10:30pm	0.000	1.400	0.000	1.200	0.008

JUNE

Date	Time	P01 Exhaust in mg/m3 Hg	P01 Pressure drop in inches	P08 Exhaust in mg/m3 Hg	P08 Pressure drop in inches	S14 Exhaust in mg/m3 Hg
6/1/2012	6:15am	0.000	1.400	0.000	1.000	0.004
	2:30pm	0.000	1.600	0.000	1.400	0.015
	10:00pm	0.000	1.600	0.000	1.500	0.013
6/2/2012	11:00am	n/o	n/o	n/o	n/o	0.014
6/3/2012	3:00pm	n/o	n/o	n/o	n/o	0.023
6/4/2012	6:15am	0.000	1.400	0.000	1.600	0.016
	2:30pm	0.000	1.500	0.000	1.600	0.015
	10:30pm	0.000	1.600	0.000	1.800	0.011
6/5/2012	6:15am	0.000	1.400	0.000	1.600	0.009
	2:30pm	0.000	1.600	0.000	1.800	0.011
	10:30pm	0.000	1.600	0.000	1.900	0.009
6/6/2012	6:15am	0.000	1.500	0.000	1.800	0.008
	2:30pm	0.000	1.500	0.000	1.900	0.009
	10:30pm	0.000	1.800	0.000	1.100	0.009
6/7/2012	6:15am	0.000	1.800	0.000	1.300	0.009
	2:30pm	0.000	1.700	0.000	1.200	0.014
	10:30pm	0.000	1.700	0.000	1.100	0.012
6/8/2012	6:15am	0.000	1.500	0.000	1.300	0.012
	2:35pm	0.000	1.500	0.000	1.200	0.101
	10:10pm	0.000	1.600	0.000	1.400	0.057
6/9/2012	6:15am	n/o	n/o	n/o	n/o	0.031
6/10/2012	8:00am	n/o	n/o	n/o	n/o	0.032
6/11/2012	6:15am	0.000	1.500	0.000	1.100	0.023
	2:45pm	0.000	1.600	0.000	1.200	0.019
	10:30pm	0.000	1.500	0.000	1.200	0.012
6/12/2012	6:15am	0.000	1.500	0.000	1.200	0.010
	2:30pm	0.000	1.700	0.000	1.200	0.014
	10:30pm	0.000	1.800	0.000	1.200	0.011
6/13/2012	6:15am	0.000	1.400	0.000	1.400	0.010
	2:30pm	0.000	1.700	0.000	1.200	0.011
	10:30pm	0.000	1.800	0.000	1.200	0.009
6/14/2012	6:15am	0.000	1.400	0.000	1.200	0.009
	2:30pm	0.000	1.700	0.000	1.200	0.009
	10:30pm	0.000	1.700	0.000	1.600	0.007
6/15/2012	6:15am	0.000	1.400	0.000	1.400	0.008
	2:30pm	0.000	1.700	0.000	1.400	0.017
	10:40pm	0.000	1.700	0.000	1.400	0.014
6/16/2012	8:00am	n/o	n/o	n/o	n/o	0.015
6/17/2012	9:30am	n/o	n/o	n/o	n/o	0.047
6/18/2012	6:15am	0.000	1.400	0.000	1.200	0.050
	2:30pm	0.000	0.700	0.000	0.600	0.028
	10:30pm	0.000	1.600	0.000	1.400	0.017
6/19/2012	6:15am	0.000	1.400	0.000	1.200	0.014
	2:30pm	0.000	1.500	0.000	1.400	0.014
	10:30pm	0.000	1.800	0.000	1.500	0.009
6/20/2012	6:15am	0.000	1.500	0.000	1.400	0.009
	2:30pm	0.000	1.700	0.000	1.300	0.014
	10:30pm	0.000	1.800	0.000	1.400	0.011
6/21/2012	6:15am	0.000	1.400	0.000	1.400	0.012
	2:30pm	0.000	1.500	0.000	1.300	0.015
	10:30pm	0.000	1.400	0.000	1.400	0.011
6/22/2012	6:15am	0.000	1.300	0.000	1.300	0.009
	2:40pm	0.000	1.300	0.000	1.200	0.023
	10:10pm	0.000	1.300	0.000	1.400	0.011
6/23/2012	6:15am	n/o	n/o	n/o	n/o	0.009
6/24/2012	11:00am	n/o	n/o	n/o	n/o	0.008
6/25/2012	6:15am	0.000	1.300	0.000	1.200	0.006
	2:30pm	0.000	1.800	0.000	1.200	0.010
	10:30pm	0.000	1.800	0.000	1.300	0.009
6/26/2012	6:15am	0.000	1.700	0.000	1.500	0.009
	2:35pm	0.000	1.400	0.000	1.200	0.010
	10:30pm	0.000	1.400	0.000	1.300	0.007
6/27/2012	6:15am	0.000	1.300	0.000	1.300	0.006
	2:30pm	0.000	1.600	0.000	1.200	0.009
	10:30pm	0.000	1.900	0.000	1.200	0.007
6/28/2012	6:30am	0.000	1.400	0.000	1.200	0.009
	2:00pm	0.000	1.400	0.000	1.200	0.015
	10:30pm	0.000	1.400	0.000	1.100	0.011
6/29/2012	6:15am	0.000	1.300	0.000	1.300	0.011
	3:00pm	0.000	1.800	0.000	1.400	0.017
	10:40pm	0.000	1.800	0.000	1.400	0.015
6/30/2012	6:15am	n/o	n/o	n/o	n/o	0.011

JULY

Date	Time	P01 Exhaust in mg/m3 Hg	P01 Pressure drop in inches	P08 Exhaust in mg/m3 Hg	P08 Pressure drop in inches	S14 Exhaust in mg/m3 Hg
7/1/2012	4:00pm	n/o	n/o	n/o	n/o	0.022
7/2/2012	6:15am	0.000	1.300	0.000	1.300	0.033
	2:45pm	0.000	1.300	0.000	1.300	0.028
	10:30pm	0.000	1.200	0.000	1.300	0.022
7/3/2012	6:15am	0.000	1.400	0.000	1.400	0.019
	2:00pm	0.000	1.400	0.000	1.400	0.024
	10:30pm	0.000	1.600	0.000	1.300	0.023
7/4/2012	6:00am	n/o	n/o	n/o	n/o	0.017
7/5/2012	6:15am	0.000	1.400	0.000	1.400	0.025
	2:30pm	0.000	1.700	0.000	1.400	0.025
	10:30pm	0.000	1.900	0.000	1.400	0.013
7/6/2012	6:15am	0.000	1.400	0.000	1.400	0.010
7/7/2012	4:30pm	n/o	n/o	n/o	n/o	0.069
7/8/2012	3:30pm	n/o	n/o	n/o	n/o	0.049
7/9/2012	6:15am	0.000	1.700	0.000	1.400	0.031
	2:30pm	0.000	1.700	0.000	1.300	0.049
	10:30pm	0.012	1.600	0.010	1.400	0.046
7/10/2012	6:15am	0.000	1.400	0.000	1.400	0.002
	2:30pm	0.000	1.800	0.000	1.400	0.034
	10:30pm	0.000	1.800	0.000	1.500	0.035
7/11/2012	6:15am	0.000	1.400	0.000	1.600	0.031
	2:30pm	0.000	1.400	0.000	1.400	0.047
	10:30pm	0.000	1.600	0.000	1.400	0.040
7/12/2012	6:15am	0.000	1.400	0.000	1.400	0.043
	2:00pm	0.000	2.100	0.000	1.400	0.037
	10:30pm	0.000	2.100	0.000	1.500	0.025
7/13/2012	6:15am	0.000	1.400	0.000	1.400	0.037
	2:30pm	0.000	1.900	0.000	1.400	0.028
7/14/2012	4:30pm	n/o	n/o	n/o	n/o	0.027
7/15/2012	6:15pm	n/o	n/o	n/o	n/o	0.025
7/16/2012	6:15am	0.000	1.600	0.000	1.500	0.029
	2:30pm	0.000	1.800	0.000	1.400	0.019
	10:30pm	0.000	1.800	0.000	1.500	0.018
7/17/2012	6:15am	0.000	1.700	0.000	1.400	0.038
	2:30pm	0.000	1.700	0.000	1.500	0.048
	10:40pm	0.000	1.700	0.000	1.600	0.029
7/18/2012	6:15am	0.000	1.500	0.000	1.400	0.028
	2:30pm	0.000	1.400	0.000	1.400	0.028
	10:35pm	0.000	1.400	0.000	1.400	0.022
7/19/2012	6:15am	0.000	1.400	0.000	1.400	0.022
	1:30pm	0.000	1.700	0.000	1.400	0.021
	10:30pm	0.000	1.700	0.000	1.400	0.013
7/20/2012	6:15am	0.000	1.500	0.000	1.500	0.012
	2:45pm	0.000	1.400	0.000	1.400	0.175
	5:00pm	n/o	n/o	n/o	n/o	0.095
	10:00pm	0.000	1.800	0.000	1.500	0.022
7/21/2012	6:20am	n/o	n/o	n/o	n/o	0.014
7/22/2012	8:30pm	n/o	n/o	n/o	n/o	0.030
7/23/2012	6:15am	0.000	1.400	0.000	1.400	0.025
	2:45pm	0.000	1.500	0.000	1.500	0.037
	10:30pm	0.000	1.600	0.000	1.400	0.034
7/24/2012	6:15am	0.000	1.300	0.000	1.500	0.023
	2:30pm	0.000	1.500	0.000	1.500	0.025
	10:30pm	0.000	1.300	0.000	1.600	0.017
7/25/2012	6:15am	0.000	1.300	0.000	1.500	0.018
	2:45pm	0.000	1.400	0.000	1.400	0.022
	10:45pm	0.000	1.400	0.000	1.500	0.024
7/26/2012	6:15am	0.000	1.200	0.000	1.500	0.023
	2:45pm	0.000	1.700	0.000	1.500	0.026
	10:30pm	0.000	1.200	0.000	1.800	0.013
7/27/2012	6:15am	0.000	1.200	0.000	1.500	0.013
	2:45pm	0.000	1.500	0.000	1.500	0.017
	10:40pm	0.000	1.400	0.000	1.500	0.013
7/28/2012	6:00am	n/o	n/o	n/o	n/o	0.018
7/29/2012	11:30am	n/o	n/o	n/o	n/o	0.007
7/30/2012	6:15am	0.000	1.400	0.000	1.600	0.000
	2:30pm	0.000	1.400	0.000	1.700	0.004
	10:30pm	0.000	1.400	0.000	1.800	0.003
7/31/2012	6:15am	0.000	1.400	0.000	1.600	0.000
	2:30pm	0.000	1.700	0.000	1.600	0.009
	10:40pm	0.000	1.700	0.000	1.700	0.008

AUGUST

Date	Time	P01 Exhaust in mg/m3 Hg	P01 Pressure drop in inches	P08 Exhaust in mg/m3 Hg	P08 Pressure drop in inches	S14 Exhaust in mg/m3 Hg
8/1/2012	6:15am	0.000	1.300	0.000	1.600	0.006
	2:30pm	0.000	1.700	0.000	1.600	0.003
	10:30pm	0.000	1.200	0.000	1.600	0.015
8/2/2012	6:15am	0.000	1.100	0.000	1.500	0.008
	2:30pm	0.000	1.100	0.000	1.700	0.009
	10:30pm	0.000	1.100	0.000	1.800	0.004
8/3/2012	6:15am	0.000	1.100	0.000	1.500	0.013
	2:45pm	0.000	1.200	0.000	1.600	0.012
	10:55pm	0.000	1.100	0.000	1.600	0.015
8/4/2012	7:30am	n/o	n/o	n/o	n/o	0.008
8/5/2012	8:00am	n/o	n/o	n/o	n/o	0.014
8/6/2012	6:15am	0.000	1.200	0.000	1.700	0.014
	2:30pm	0.000	1.300	0.000	1.700	0.014
	10:30pm	0.000	1.200	0.000	1.800	0.007
8/7/2012	6:15am	0.000	1.000	0.000	1.600	0.014
	2:30pm	0.000	1.100	0.000	1.700	0.013
	10:30pm	0.000	1.100	0.000	1.800	0.007
8/8/2012	6:15am	0.000	1.000	0.000	1.700	0.010
	2:30pm	0.000	1.300	0.000	1.700	0.014
	10:30pm	0.000	1.100	0.000	1.800	0.013
8/9/2012	6:15am	0.000	1.000	0.000	1.600	0.014
	2:30pm	0.000	1.200	0.000	1.600	0.009
	10:35pm	0.000	1.100	0.000	1.900	0.006
8/10/2012	6:30am	0.000	1.000	0.000	1.900	0.006
	1:30pm	0.000	1.000	0.000	1.800	0.006
	3:30pm	0.000	1.100	0.000	1.800	0.006
	10:30pm	0.000	1.100	0.000	1.800	0.009
8/11/2012	5:45am	n/o	n/o	n/o	n/o	0.004
8/12/2012	8:30am	n/o	n/o	n/o	n/o	0.011
8/13/2012	6:30am	0.000	1.000	0.000	1.800	0.004
	2:45pm	0.000	1.000	0.000	1.900	0.006
	10:30pm	0.000	1.100	0.000	1.900	0.004
8/14/2012	6:30am	0.000	1.000	0.000	1.800	0.006
	2:30pm	0.000	1.000	0.000	2.000	0.004
	10:30pm	0.000	1.100	0.000	1.900	0.006
8/15/2012	6:15am	0.000	1.000	0.000	1.900	0.004
	2:30pm	0.000	1.000	0.000	1.800	0.006
	10:30pm	0.000	1.100	0.000	1.900	0.007
8/16/2012	6:15am	0.000	1.000	0.000	2.000	0.006
	2:00 pm	0.000	1.000	0.000	1.800	0.006
	10:30pm	0.000	1.100	0.000	1.900	0.003
8/17/2012	6:15am	0.000	1.000	0.000	1.900	0.004
	2:35pm	0.003	1.000	0.004	2.000	0.004
	9:20pm	0.000	1.100	0.000	2.100	0.005
8/18/2012	6:15am	n/o	n/o	n/o	n/o	0.000
8/19/2012	7:46am	n/o	n/o	n/o	n/o	0.003
8/20/2012	6:15am	0.000	1.000	0.000	1.800	0.009
	2:30pm	0.000	1.200	0.000	2.200	0.004
	10:30pm	0.000	1.200	0.000	1.900	0.002
8/21/2012	6:15am	0.000	1.000	0.000	1.900	0.000
	2:45pm	0.000	1.000	0.000	1.900	0.000
	10:30pm	0.000	1.100	0.000	1.300	0.000
8/22/2012	6:15am	0.000	1.000	0.000	1.900	0.000
	2:00pm	0.000	1.000	0.000	2.000	n/o
	10:30pm	0.000	1.000	0.000	2.100	0.000
8/23/2012	6:15am	0.000	1.000	0.000	2.000	0.000
	2:30pm	0.000	1.300	0.000	2.000	0.003
	10:10pm	0.000	1.300	0.000	2.100	0.005
8/24/2012	6:15am	0.000	1.000	0.000	2.000	0.000
	2:30pm	0.000	1.000	0.000	2.000	n/o
	10:10pm	0.000	1.100	0.000	2.000	0.000
8/25/2012	3:55pm	n/o	n/o	n/o	n/o	0.000
8/26/2012	5:08pm	n/o	n/o	n/o	n/o	0.000
8/27/2012	6:15am	0.000	1.000	0.000	2.000	0.000
	2:30pm	0.000	1.000	0.000	2.000	0.000
	10:30pm	0.000	1.000	0.000	2.000	0.000
8/28/2012	6:15am	0.000	1.000	0.000	2.000	0.000
	2:40pm	0.000	1.000	0.000	2.000	0.000
	10:30pm	0.000	1.000	0.000	2.100	0.000
8/29/2012	6:15am	0.000	1.000	0.000	2.000	0.006
	2:45pm	0.000	1.300	0.000	2.000	0.006
	10:30pm	0.000	1.200	0.000	2.000	0.004
8/30/2012	6:15am	0.000	1.200	0.000	2.000	0.005
	2:30pm	0.000	1.500	0.000	2.000	0.006
	10:30pm	0.000	1.400	0.000	2.000	0.004
8/31/2012	6:15am	0.000	1.000	0.000	2.000	0.000
	3:00pm	0.000	1.000	0.000	2.100	0.008
	10:20pm	0.000	1.100	0.000	2.200	0.000

SEPTEMBER

Date	Time	P01 Exhaust in mg/m3 Hg	P01 Pressure drop in inches	P08 Exhaust in mg/m3 Hg	P08 Pressure drop in inches	S14 Exhaust in mg/m3 Hg
9/1/2012	6:15am	n/o	n/o	n/o	n/o	0.000
9/2/2012	11:10am	n/o	n/o	n/o	n/o	0.000
9/3/2012	5:30am	n/o	n/o	n/o	n/o	0.000
9/4/2012	6:15am	0.000	1.600	0.000	2.000	0.000
	2:45pm	0.000	1.400	0.000	2.000	0.000
	10:30pm	0.000	1.500	0.000	2.000	0.000
9/5/2012	6:15am	0.000	1.300	0.000	2.100	0.000
	2:30pm	0.000	1.700	0.000	2.000	0.003
	10:30pm	0.000	1.600	0.000	2.100	0.004
9/6/2012	6:15am	0.000	1.300	0.000	2.000	0.004
	2:30pm	0.000	1.300	0.000	2.100	0.003
	10:30pm	0.000	1.300	0.000	2.100	0.003
9/7/2012	6:15am	0.000	1.300	0.000	2.100	0.004
	2:30pm	0.000	1.300	0.000	2.000	0.028
	10:10pm	0.000	1.300	0.000	2.100	0.000
9/8/2012	10:25am	n/o	n/o	n/o	n/o	0.000
9/9/2012	11:45am	n/o	n/o	n/o	n/o	0.000
9/10/2012	6:15am	0.000	1.500	0.000	2.100	0.000
	2:30pm	0.000	1.400	0.000	2.200	0.000
	10:30pm	0.000	1.400	0.000	2.100	0.000
9/11/2012	6:15am	0.000	1.300	0.000	2.100	0.000
	1:30pm	0.000	1.700	0.000	2.100	0.003
	10:30pm	0.000	1.600	0.000	2.100	0.011
9/12/2012	6:15am	0.000	1.700	0.000	2.100	0.006
	2:30pm	0.000	1.400	0.000	2.100	0.005
	10:30pm	0.000	1.500	0.000	2.100	0.003
9/13/2012	6:15am	0.000	1.500	0.000	2.300	0.004
	2:30pm	0.000	1.400	0.000	2.100	0.005
	10:30pm	0.000	1.500	0.000	2.200	0.003
9/14/2012	6:15am	0.000	1.300	0.000	2.100	0.004
	2:30pm	0.000	1.500	0.000	2.100	0.005
	10:15pm	0.000	1.400	0.000	2.200	0.011
9/15/2012	6:15am	n/o	n/o	n/o	n/o	0.008
9/16/2012	12:00pm	n/o	n/o	n/o	n/o	0.004
9/17/2012	6:15am	0.000	1.500	0.000	2.000	0.005
	2:30pm	0.000	1.400	0.000	2.000	0.007
	10:30pm	0.000	1.400	0.000	2.000	0.004
9/18/2012	6:15am	0.000	1.400	0.000	2.000	0.003
	2:30pm	0.000	1.600	0.000	2.100	0.003
	10:30pm	0.000	1.600	0.000	2.100	0.000
9/19/2012	6:15am	0.000	1.400	0.000	2.000	0.000
	2:30pm	0.000	1.700	0.000	2.200	0.003
	10:30pm	0.000	1.600	0.000	2.200	0.005
9/20/2012	6:15am	0.000	1.300	0.000	2.100	0.005
	2:30pm	0.000	1.400	0.000	2.200	0.004
	10:30pm	0.000	1.400	0.000	2.200	0.004
9/21/2012	6:15am	0.000	1.500	0.000	2.100	0.004
	2:45pm	0.000	1.500	0.000	2.100	0.009
	10:15pm	0.000	1.600	0.000	2.200	0.012
9/22/2012	6:00am	n/o	n/o	n/o	n/o	0.006
9/23/2012	12:18pm	n/o	n/o	n/o	n/o	0.009
9/24/2012	6:15am	0.000	1.300	0.000	2.100	0.003
	2:30pm	0.000	1.700	0.000	2.100	0.003
	10:50pm	0.000	1.700	0.000	2.100	0.003
9/25/2012	6:15am	0.000	1.300	0.000	2.100	0.005
	2:30pm	0.000	1.800	0.000	2.200	0.007
	10:30pm	0.000	1.600	0.000	2.200	0.004
9/26/2012	6:15am	0.000	1.400	0.000	2.200	0.003
	1:45pm	0.000	1.400	0.000	2.200	0.003
	10:30pm	0.000	1.600	0.000	2.200	0.000
9/27/2012	6:15am	0.000	1.400	0.000	2.200	0.003
	2:30pm	0.000	1.700	0.000	2.200	0.004
	10:30pm	0.000	1.800	0.000	2.300	0.002
9/28/2012	6:15am	0.000	1.500	0.000	2.200	0.004
	3:35pm	0.000	1.600	0.000	2.200	0.006
	10:05pm	0.000	1.600	0.000	2.400	0.004
9/29/2012	9:30am	n/o	n/o	n/o	n/o	0.000
9/30/2012	11:20am	n/o	n/o	n/o	n/o	0.000

OCTOBER

Date	Time	P01 Exhaust in mg/m3 Hg	P01 Pressure drop in inches	P08 Exhaust in mg/m3 Hg	P08 Pressure drop in inches	S14 Exhaust in mg/m3 Hg
10/1/2012	6:15am	0.000	1.400	0.000	2.200	0.000
	2:30pm	0.000	1.700	0.000	2.200	0.003
	10:30pm	0.000	1.700	0.000	2.200	0.004
10/2/2012	6:15am	0.000	1.500	0.000	2.100	0.003
	2:45pm	0.000	1.700	0.000	2.300	0.005
	10:30pm	0.000	1.700	0.000	2.200	0.004
10/3/2012	6:15am	0.000	1.500	0.000	2.200	0.005
		0.000	1.500	0.000	2.200	0.006
	10:30pm	0.000	1.800	0.000	2.200	0.003
10/4/2012	6:15am	0.000	1.400	0.000	2.200	0.003
	2:30pm	0.000	1.500	0.000	2.400	0.003
	10:30pm	0.000	1.700	0.000	2.300	0.003
10/5/2012	6:15am	0.000	1.700	0.000	2.400	0.003
	2:45pm	0.000	1.800	0.000	2.400	0.013
	10:30pm	0.000	1.800	0.000	2.500	0.012
10/6/2012	6:00am	n/o	n/o	n/o	n/o	0.000
10/7/2012	12:00pm	n/o	n/o	n/o	n/o	0.000
10/8/2012	6:15am	0.000	1.900	0.000	2.600	0.000
	2:30pm	0.000	2.000	0.000	2.200	0.000
	10:30pm	0.000	2.000	0.000	2.300	0.007
10/9/2012	6:15am	0.000	2.000	0.000	2.400	0.008
	2:30pm	0.000	2.200	0.000	2.400	0.003
	10:30pm	0.000	2.200	0.000	2.400	0.001
10/10/2012	6:15am	0.000	2.300	0.000	2.200	0.000
	2:15pm	0.000	2.400	0.000	2.300	0.000
	10:30pm	0.000	2.500	0.000	2.300	0.000
10/11/2012	6:15am	0.000	2.500	0.000	2.200	0.000
	2:30pm	0.000	2.600	0.000	2.300	0.006
	10:30pm	0.000	2.600	0.000	2.300	0.004
10/12/2012	6:15am	0.000	2.630	0.000	2.300	0.003
	3:10pm	0.000	2.000	0.000	2.300	0.000
	10:20pm	0.000	1.800	0.000	2.400	0.000
10/13/2012	5:00am	n/o	n/o	n/o	n/o	0.000
10/14/2012	11:00am	n/o	n/o	n/o	n/o	0.004
10/15/2012	6:15am	0.000	1.400	0.000	2.200	0.000
	2:30pm	0.000	1.700	0.000	2.200	0.000
	10:30pm	0.000	1.700	0.000	2.300	0.011
10/16/2012	6:15am	0.000	1.300	0.000	2.300	0.007
	2:30pm	0.000	1.300	0.000	2.200	0.006
	10:40pm	0.000	1.400	0.000	2.200	0.004
10/17/2012	6:15am	0.000	1.200	0.000	2.100	0.005
	2:30pm	0.000	1.200	0.000	2.200	0.004
	10:30pm	0.000	1.200	0.000	2.200	0.007
10/18/2012	6:15am	0.000	1.000	0.000	2.200	0.009
	2:30pm	0.000	1.200	0.000	2.100	0.013
	10:30pm	0.000	1.200	0.000	2.200	0.009
10/19/2012	6:15am	0.000	1.200	0.000	2.200	0.009
	2:30pm	0.000	1.700	0.000	2.300	0.010
	10:15pm	0.000	1.600	0.000	2.400	0.008
10/20/2012	11:00am	n/o	n/o	n/o	n/o	0.007
10/21/2012	1:00pm	n/o	n/o	n/o	n/o	0.000
10/22/2012	6:15am	0.000	1.200	0.000	2.200	0.000
	2:30pm	0.000	1.200	0.000	2.200	0.003
	10:45pm	0.000	1.400	0.000	2.200	0.000
10/23/2012	6:15am	0.000	1.400	0.000	2.200	0.000
	2:30pm	0.000	1.400	0.000	2.200	0.003
	10:35pm	0.000	1.600	0.000	2.300	0.003
10/24/2012	6:15am	0.000	1.200	0.000	2.200	0.003
	1:45pm	0.000	1.400	0.000	2.200	0.003
	10:30pm	0.000	1.300	0.000	2.200	0.000
10/25/2012	6:15am	0.000	1.400	0.000	2.200	0.003
	2:45pm	0.000	1.400	0.000	2.200	0.005
	10:30pm	0.000	1.400	0.000	2.200	0.000
10/26/2012	6:15am	0.000	1.200	0.000	2.400	0.003
	2:15pm	0.000	1.400	0.000	2.400	0.000
	10:30pm	0.000	1.400	0.000	2.300	0.000
10/27/2012	11:45am	n/o	n/o	n/o	n/o	0.000
10/28/2012	1:15pm	n/o	n/o	n/o	n/o	0.019
10/29/2012	6:15am	0.000	1.200	0.000	2.400	0.017
	2:45pm	0.000	1.200	0.000	2.200	0.012
	10:30pm	0.000	1.300	0.000	2.300	0.009
10/30/2012	6:15am	0.000	1.200	0.000	2.400	0.005
	2:45pm	0.000	1.300	0.000	2.400	0.010
	10:30pm	0.000	1.300	0.000	2.300	0.007
10/31/2012	6:15am	0.000	1.100	0.000	2.300	0.006
	2:45pm	0.000	1.300	0.000	2.300	0.035
	10:30pm	0.000	1.300	0.000	2.300	0.010

NOVEMBER

Date	Time	P01 Exhaust in mg/m3 Hg	P01 Pressure drop in inches	P08 Exhaust in mg/m3 Hg	P08 Pressure drop in inches	S14 Exhaust in mg/m3 Hg
11/1/2012	6:15am	0.000	1.200	0.000	2.400	0.007
	2:45pm	0.000	1.500	0.000	2.300	0.008
	10:40pm	0.000	1.400	0.000	2.400	0.007
11/2/2012	6:15am	0.000	1.300	0.000	2.300	0.007
	2:45pm	0.000	1.300	0.000	2.300	0.030
	10:30pm	0.000	1.300	0.000	2.300	0.051
11/3/2012	5:15am	n/o	n/o	n/o	n/o	0.042
11/4/2012	7:55pm	n/o	n/o	n/o	n/o	0.042
11/5/2012	6:15am	0.000	1.300	0.000	2.400	0.033
	2:45pm	0.000	1.400	0.000	2.300	0.015
	10:30pm	0.000	1.400	0.000	2.400	0.011
11/6/2012	6:15am	0.000	1.500	0.000	2.400	0.010
	2:45pm	0.000	1.500	0.000	2.200	0.008
	10:30pm	0.000	1.600	0.000	2.400	0.007
11/7/2012	6:15am	0.000	1.200	0.000	2.200	0.009
	2:45pm	0.000	1.300	0.000	2.300	0.007
	10:30pm	0.000	1.300	0.000	2.400	0.006
11/8/2012	6:15am	0.000	1.300	0.000	2.300	0.006
	2:45pm	0.000	1.400	0.000	2.400	0.007
	10:30pm	0.000	1.400	0.000	2.500	0.006
11/9/2012	6:15am	0.000	1.400	0.000	2.400	0.004
	2:45pm	0.000	1.300	0.000	2.400	0.020
	10:40pm	0.000	1.400	0.000	2.300	0.009
11/10/2012	5:00am	n/o	n/o	n/o	n/o	0.012
11/11/2012	11:00am	n/o	n/o	n/o	n/o	0.027
11/12/2012	6:15am	0.000	1.300	0.000	2.300	0.013
	2:45pm	0.000	1.200	0.000	2.400	0.009
	10:30pm	0.000	1.300	0.000	2.400	0.006
11/13/2012	6:15am	0.000	1.600	0.000	2.600	0.006
	2:45pm	0.000	1.400	0.000	2.400	0.005
	10:30pm	0.000	1.500	0.000	2.500	0.005
11/14/2012	6:15am	0.000	1.400	0.000	2.300	0.005
	2:45pm	0.000	1.600	0.000	2.600	0.005
	10:30pm	0.000	1.400	0.000	2.500	0.004
11/15/2012	6:15am	0.000	1.300	0.000	2.400	0.000
	2:45pm	0.000	1.300	0.000	2.400	0.004
	10:30pm	0.000	1.300	0.000	2.400	0.005
11/16/2012	6:15am	0.000	1.200	0.000	2.400	0.005
	2:45pm	0.000	1.300	0.000	2.600	0.006
	10:40pm	0.000	1.300	0.000	2.600	0.020
11/17/2012	6:15am	n/o	n/o	n/o	n/o	0.018
11/18/2012	5:30pm	n/o	n/o	n/o	n/o	0.018
11/19/2012	7:30am	0.000	1.200	0.000	2.400	0.019
	2:40pm	0.000	1.200	0.000	2.400	0.014
	10:30pm	0.000	1.200	0.000	2.300	0.014
11/20/2012	6:15am	0.000	1.200	0.000	2.400	0.008
	2:45pm	0.000	1.200	0.000	2.600	0.021
	10:30pm	0.000	1.400	0.000	2.700	0.009
11/21/2012	6:15am	0.000	1.500	0.000	2.600	0.030
	2:45pm	0.000	1.200	0.000	2.600	0.022
11/22/2012	9:30am	n/o	n/o	n/o	n/o	0.027
11/23/2012	7:00am	n/o	n/o	n/o	n/o	0.000
11/24/2012	6:30am	n/o	n/o	n/o	n/o	0.000
11/25/2012	5:00pm	n/o	n/o	n/o	n/o	0.000
11/26/2012	6:15am	0.000	2.400	0.000	2.600	0.000
	2:45pm	0.000	1.300	0.000	2.900	0.000
	10:30pm	0.000	1.400	0.000	3.000	0.000
11/27/2012	6:15am	0.000	1.800	0.000	3.400	0.000
	2:45pm	0.000	1.700	0.000	2.500	0.004
	10:30pm	0.000	1.800	0.000	2.600	0.009
11/28/2012	6:15am	0.000	1.200	0.000	2.700	0.009
	2:45pm	0.000	1.600	0.000	2.400	0.014
	10:30pm	0.000	1.600	0.000	2.400	0.005
11/29/2012	6:15am	0.000	1.200	0.000	2.400	0.004
	2:45pm	0.000	1.200	0.000	2.500	0.007
	10:30pm	0.000	1.300	0.000	2.500	0.005
11/30/2012	6:15am	0.000	1.200	0.000	2.400	0.004
	2:45pm	0.000	1.300	0.000	2.500	0.000
	10:40pm	0.000	1.300	0.000	2.400	0.004

DECEMBER

Date	Time	P01 Exhaust in mg/m3 Hg	P01 Pressure drop in inches	P08 Exhaust in mg/m3 Hg	P08 Pressure drop in inches	S14 Exhaust in mg/m3 Hg
12/1/2012	6:15am	n/o	n/o	n/o	n/o	0.003
12/2/2012	6:45pm	n/o	n/o	n/o	n/o	0.004
12/3/2012	6:15am	0.000	1.200	0.000	2.400	0.003
	2:45pm	0.000	1.500	0.000	2.400	0.004
	10:30pm	0.000	1.600	0.000	2.400	0.003
12/4/2012	6:15am	0.000	1.200	0.000	2.400	0.004
	2:45pm	0.000	1.300	0.000	2.500	0.004
	10:30pm	0.000	1.400	0.000	2.500	0.004
12/5/2012	6:15am	0.000	1.300	0.000	2.400	0.004
	2:45pm	0.000	1.200	0.000	2.500	0.007
	10:30pm	0.000	1.400	0.000	2.500	0.007
12/6/2012	6:15am	0.000	1.300	0.000	2.400	0.007
	2:15pm	0.000	1.600	0.000	2.500	0.007
	10:30pm	0.000	1.600	0.000	2.500	0.006
12/7/2012	6:15am	0.000	1.300	0.000	2.500	0.007
	2:45pm	0.000	1.500	0.000	2.500	0.006
	10:30pm	0.000	1.500	0.000	2.500	0.004
12/8/2012	6:30am	n/o	n/o	n/o	n/o	0.003
12/9/2012	11:25am	n/o	n/o	n/o	n/o	0.007
12/10/2012	6:15am	0.000	1.300	0.000	2.300	0.004
	2:45pm	0.000	1.300	0.000	2.400	0.004
	10:30pm	0.000	1.300	0.000	2.400	0.004
12/11/2012	6:15am	0.000	1.400	0.000	2.400	0.003
	2:45pm	0.000	1.500	0.000	2.500	0.005
	10:30pm	0.000	1.400	0.000	2.500	0.004
12/12/2012	6:15am	0.000	1.300	0.000	2.300	0.003
	2:45pm	0.000	1.700	0.000	2.400	0.006
	10:30pm	0.000	1.500	0.000	2.500	0.012
12/13/2012	6:15am	0.000	1.300	0.000	2.300	0.011
	2:45pm	0.000	1.600	0.000	2.400	0.011
	10:30pm	0.000	1.500	0.000	2.300	0.007
12/14/2012	6:15am	0.000	1.300	0.000	2.400	0.004
	2:45pm	0.000	1.200	0.000	2.600	0.008
	10:30pm	0.000	1.300	0.000	2.600	0.007
12/15/2012	6:15am	n/o	n/o	n/o	n/o	0.000
12/16/2012	1:30pm	n/o	n/o	n/o	n/o	0.009
12/17/2012	6:15am	0.000	1.200	0.000	2.400	0.007
	2:30pm	0.000	1.300	0.000	2.400	0.008
	10:30pm	0.000	1.300	0.000	2.400	0.006
12/18/2012	6:15am	0.000	1.200	0.000	2.400	0.004
	2:45pm	0.000	1.300	0.000	2.400	0.008
	10:30pm	0.000	1.500	0.000	2.400	0.005
12/19/2012	6:15am	0.000	1.300	0.000	2.300	0.003
	2:45pm	0.000	1.400	0.000	2.500	0.006
	10:30pm	0.000	1.400	0.000	2.600	0.008
12/20/2012	6:15am	0.000	1.300	0.000	2.300	0.010
	2:30pm	0.000	1.200	0.000	2.300	0.010
12/21/2012	6:15am	0.000	1.200	0.000	2.400	0.008
	3:00pm	0.000	1.300	0.000	2.500	0.007
	10:40pm	0.000	1.300	0.000	2.400	0.007
12/22/2012	6:15am	0.000	2.200	0.000	2.800	0.007
	1:00pm	0.000	2.300	0.000	2.800	0.014
12/23/2012	6:10pm	n/o	n/o	n/o	n/o	0.009
12/24/2012	6:15am	0.000	1.000	0.000	2.600	0.007
	1:10pm	0.000	1.600	0.000	2.600	0.027
12/25/2012	12:00pm	n/o	n/o	n/o	n/o	0.009
12/26/2012	6:15am	0.000	1.300	0.000	2.600	0.011
	2:45pm	0.000	1.000	0.000	2.400	0.007
	10:30pm	0.000	1.100	0.000	2.600	0.004
12/27/2012	6:15am	0.000	1.200	0.000	2.600	0.000
	2:30pm	0.000	1.400	0.000	2.500	0.005
	10:30pm	0.000	1.400	0.000	2.600	0.007
12/28/2012	6:15am	0.000	0.600	0.000	2.600	0.009
	2:45pm	0.000	1.000	0.000	2.400	0.007
	10:30pm	0.000	1.200	0.000	2.600	0.006
12/29/2012	6:15am	n/o	n/o	n/o	n/o	0.005
12/30/2012	1:07pm	n/o	n/o	n/o	n/o	0.006
12/31/2012	6:00am	0.000	1.400	0.000	2.600	0.003
	1:30pm	0.000	1.700	0.000	2.600	0.004

JANUARY

Date and Time	P01 Exhaust in mg/m3 Hg	P01 Pressure drop in inches	P08 Exhaust in mg/m3 Hg	P08 Pressure drop in inches	S14 Exhaust in mg/m3 Hg
1/1/2013 14:00	nop	nop	nop	nop	0.003
1/2/2013 6:15	0.000	1.6	0.000	3.3	0.000
1/2/2013 14:45	0.000	1.4	0.000	2.6	0.005
1/2/2013 22:30	0.000	1.6	0.000	2.6	0.007
1/3/2013 6:15	0.000	1.7	0.000	2.8	0.004
1/3/2013 14:45	0.000	2	0.000	2.7	0.006
1/3/2013 22:30	0.000	2.1	0.000	3	0.005
1/4/2013 6:15	0.000	2.8	0.000	3.1	0.006
1/4/2013 14:30	0.000	1.7	0.000	2.6	0.006
1/4/2013 22:15	0.000	1.9	0.000	2.9	0.005
1/5/2013 6:30	nop	nop	nop	nop	0.005
1/6/2013 12:15	nop	nop	nop	nop	0.007
1/7/2013 6:15	0.000	1.2	0.000	3.1	0.008
1/7/2013 14:45	0.000	1.2	0.000	2.6	0.012
1/7/2013 22:30	0.000	1.2	0.000	2.5	0.130
1/8/2013 6:15	0.000	1.1	0.000	2.5	0.012
1/8/2013 14:30	0.000	1.2	0.000	2.4	0.011
1/8/2013 22:30	0.000	1.2	0.000	2.5	0.010
1/9/2013 6:15	0.000	1.1	0.000	2.3	0.011
1/9/2013 14:30	0.000	1.3	0.000	2.5	0.008
1/9/2013 22:30	0.000	1.4	0.000	2.5	0.009
1/10/2013 6:15	0.000	1.2	0.000	2.6	0.016
1/10/2013 14:45	0.000	1.2	0.000	2.5	0.015
1/10/2013 22:30	0.000	1.3	0.000	2.6	0.010
1/11/2013 6:15	0.000	1.2	0.000	2.4	0.007
1/11/2013 14:45	0.000	1.2	0.000	2.4	0.007
1/11/2013 22:15	0.000	1.2	0.000	2.4	0.006
1/12/2013 14:00	nop	nop	nop	nop	0.004
1/13/2013 19:00	nop	nop	nop	nop	0.005
1/14/2013 6:15	0.000	1.3	0.000	3.2	0.006
1/14/2013 14:30	0.000	1.3	0.000	2.7	0.006
1/14/2013 22:30	0.000	1.5	0.000	3	0.007
1/15/2013 6:15	0.000	2	0.000	3	0.008
1/15/2013 14:45	0.000	1.2	0.000	2.5	0.008
1/15/2013 22:30	0.000	1.2	0.000	2.6	0.007
1/16/2013 6:15	0.000	1.3	0.000	2.8	0.006
1/16/2013 14:45	0.000	1.3	0.000	2.6	0.010
1/16/2013 22:30	0.000	1.4	0.000	2.6	0.013
1/17/2013 6:15	0.000	2	0.000	2.9	0.014
1/17/2013 14:45	0.000	1.5	0.000	2.7	0.008
1/17/2013 22:30	0.000	1.9	0.000	2.8	0.008
1/18/2013 6:15	0.000	3.5	0.000	3	0.009
1/18/2013 14:45	0.000	1	0.000	2.4	0.011
1/18/2013 22:45	0.000	1.6	0.000	2.4	0.010
1/19/2013 5:45	nop	nop	nop	nop	0.007
1/20/2013 6:45	nop	nop	nop	nop	0.008
1/21/2013 6:15	0.000	1.3	0.000	3.2	0.004
1/21/2013 14:30	0.000	3.2	0.000	3.1	0.018
1/21/2013 22:30	0.000	4.1	0.000	3.6	0.016
1/22/2013 6:15	0.000	1	0.000	4	0.015
1/22/2013 15:00	0.000	5.5	0.000	6.9	0.016
1/22/2013 22:30	0.000	6.2	0.000	8	0.019
1/23/2013 6:15	0.000	7.5	0.000	8	0.018
1/23/2013 14:30	0.000	2	0.000	2.7	0.017
1/23/2013 22:30	0.000	2.3	0.000	3.1	0.018
1/24/2013 6:15	0.000	2.3	0.000	3.1	0.017
1/24/2013 14:30	0.000	1	0.000	2.6	0.014
1/24/2013 22:30	0.000	1.4	0.005	2.7	0.018
1/25/2013 6:15	0.000	1.5	0.000	2.7	0.016
1/25/2013 14:30	0.000	1	0.000	2.6	0.012
1/25/2013 21:45	0.000	1.6	0.000	2.8	0.007
1/26/2013 6:00	nop	nop	nop	nop	0.007
1/27/2013 12:15	nop	nop	nop	nop	0.007
1/28/2013 6:15	0.000	1	0.000	2.2	0.007
1/28/2013 14:30	0.000	1	0.000	2.3	0.008
1/28/2013 22:30	0.000	1.2	0.000	2.4	0.007
1/29/2013 6:15	0.000	1	0.000	2.4	0.008
1/29/2013 14:00	0.000	1.2	0.000	2.4	0.011
1/29/2013 22:30	0.000	1.4	0.000	2.5	0.009
1/30/2013 6:15	0.000	1.2	0.000	2.4	0.008
1/30/2013 14:30	0.000	1.2	0.000	2.4	0.013
1/30/2013 22:30	0.000	1.2	0.000	2.5	0.009
1/31/2013 6:15	0.000	1.2	0.000	2.4	0.008
1/31/2013 14:45	0.000	1.2	0.000	2.4	0.010
1/31/2013 22:30	0.000	1.3	0.000	2.4	0.013

"nop' indicates that the system was not operating

FEBRUARY

Date and Time	P01 Exhaust in mg/m3 Hg	P01 Pressure drop in inches	P08 Exhaust in mg/m3 Hg	P08 Pressure drop in inches	S14 Exhaust in mg/m3 Hg
2/1/2013 6:15	0.000	1.2	0.000	2.4	0.014
2/1/2013 14:30	0.000	1.2	0.000	2.4	0.013
2/1/2013 22:30	0.000	1.2	0.000	2.4	0.016
2/2/2013 6:15	nop	nop	nop	nop	0.017
2/3/2013 9:15	nop	nop	nop	nop	0.015
2/4/2013 6:30	0.000	1	0.000	2.2	0.014
2/4/2013 14:45	0.000	1	0.000	2.4	0.021
2/4/2013 22:30	0.000	1.3	0.000	2.4	0.012
2/5/2013 6:15	0.000	1.2	0.000	2.3	0.011
2/5/2013 14:30	0.000	1.2	0.000	2.3	0.007
2/5/2013 22:30	0.000	1.6	0.000	2.3	0.006
2/6/2013 6:15	0.000	1.7	0.000	2.4	0.003
2/6/2013 14:30	0.000	1.3	0.000	2.4	0.008
2/6/2013 22:30	0.000	1.3	0.000	2.4	0.009
2/7/2013 6:15	0.000	1.2	0.000	2.3	0.010
2/7/2013 14:45	0.000	1.3	0.000	2.6	0.013
2/7/2013 22:30	0.000	1.5	0.000	2.6	0.000
2/8/2013 6:45	0.000	1.9	0.000	2.4	0.036
2/8/2013 14:30	0.000	1.4	0.000	2.3	0.036
2/8/2013 22:15	0.000	1.4	0.000	2.4	0.033
2/9/2013 6:15	nop	nop	nop	nop	0.023
2/10/2013 19:45	nop	nop	nop	nop	0.015
2/11/2013 6:15	0.000	1.4	0.000	2.3	0.000
2/11/2013 14:30	0.000	1.2	0.000	2.3	0.005
2/11/2013 22:30	0.004	1.8	0.004	2.2	0.019
2/12/2013 6:15	0.000	1.7	0.000	2.4	0.016
2/12/2013 13:45	0.000	1.7	0.000	2.4	0.018
2/12/2013 22:30	0.000	1.8	0.000	2.4	0.012
2/13/2013 6:15	0.000	1.2	0.000	2.4	0.021
2/13/2013 14:15	0.000	1.3	0.000	2.5	0.023
2/13/2013 22:30	0.000	1.4	0.000	2.5	0.035
2/14/2013 6:15	0.000	1.2	0.000	2.4	0.026
2/14/2013 14:30	0.000	1.3	0.000	2.4	0.014
2/14/2013 22:30	0.000	1.3	0.000	2.5	0.012
2/15/2013 6:15	0.000	1.3	0.000	2.5	0.008
2/15/2013 12:45	0.000	1.2	0.000	2.4	0.005
2/15/2013 22:30	0.000	1.2	0.000	2.4	0.005
2/16/2013 6:00	nop	nop	nop	nop	0.006
2/17/2013 11:00	nop	nop	nop	nop	0.010
2/18/2013 6:15	0.000	1.2	0.000	2.3	0.004
2/18/2013 14:30	0.000	1.2	0.000	2.3	0.073
2/18/2013 22:45	0.000	1.2	0.000	2.4	0.035
2/19/2013 6:15	0.000	1.2	0.000	2.3	0.040
2/19/2013 13:45	0.000	1.5	0.000	2.4	0.006
2/19/2013 22:30	0.000	1.6	0.000	2.4	0.019
2/20/2013 6:15	0.000	1.3	0.000	2.5	0.020
2/20/2013 14:45	0.000	1.2	0.000	2.5	0.011
2/20/2013 22:30	0.000	1.4	0.000	2.6	0.007
2/21/2013 6:15	0.000	1.2	0.000	2.5	0.024
2/21/2013 14:45	0.000	1.3	0.000	2.3	0.025
2/21/2013 22:30	0.000	1.4	0.000	2.4	0.012
2/22/2013 6:30	0.000	1.2	0.000	2.2	0.011
2/22/2013 15:15	0.000	1.2	0.000	2.3	0.007
2/22/2013 22:15	0.000	1.3	0.000	2.4	0.005
2/23/2013 6:15	nop	nop	nop	nop	0.003
2/24/2013 8:00	nop	nop	nop	nop	0.005
2/25/2013 6:15	0.000	1.3	0.000	2.3	0.000
2/25/2013 13:00	0.000	1.2	0.000	2.3	0.011
2/25/2013 22:30	0.000	1.2	0.000	2.4	0.007
2/26/2013 6:15	0.000	1.3	0.000	2.5	0.020
2/26/2013 14:30	0.000	1.3	0.000	2.3	0.014
2/26/2013 22:30	0.000	1.6	0.000	2.3	0.012
2/27/2013 7:00	0.000	1.3	0.000	2.4	0.011
2/27/2013 14:30	0.000	1.2	0.000	2.4	0.009
2/28/2013 6:15	0.000	1.2	0.000	2.4	0.006
2/28/2013 14:30	0.000	1.2	0.000	2.4	0.029
2/28/2013 22:30		1.2	0.000	2.4	0.031

"nop' indicates that the system was not operating

MARCH

Date and Time	P01 Exhaust in mg/m3 Hg	P01 Pressure drop in inches	P08 Exhaust in mg/m3 Hg	P08 Pressure drop in inches	S14 Exhaust in mg/m3 Hg
3/1/2013 6:15	0.000	1.2	0.000	2.2	0.027
3/1/2013 15:45	0.000	1.2	0.000	2.2	0.031
3/1/2013 19:45	0.000	1.4	0.000	2.4	0.020
3/2/2013 6:30	nop	nop	nop	nop	0.015
3/3/2013 10:00	nop	nop	nop	nop	0.015
3/4/2013 6:15	0.000	1.5	0.000	2.4	0.014
3/4/2013 14:30	0.000	1.2	0.000	2.4	0.016
3/4/2013 22:30	0.000	1.4	0.000	2.4	0.015
3/5/2013 6:15	0.000	1.2	0.000	2.4	0.014
3/5/2013 14:45	0.000	1.2	0.000	2.3	0.013
3/5/2013 22:30	0.000	1.2	0.000	2.4	0.012
3/6/2013 6:15	0.000	1.3	0.000	2.4	0.011
3/6/2013 14:45	0.000	1.3	0.000	2.3	0.008
3/6/2013 22:30	0.000	1.3	0.000	2.4	0.013
3/7/2013 6:15	0.000	1.2	0.000	2.4	0.013
3/7/2013 12:45	0.000	1.2	0.000	2.4	0.014
3/7/2013 22:30	0.000	1.2	0.000	2.4	0.041
3/8/2013 6:15	0.000	1.3	0.000	2.3	0.049
3/8/2013 14:30	0.000	1	0.000	2.4	0.026
3/8/2013 22:00	0.000	1.1	0.000	2.4	0.037
3/9/2013 6:30	nop	nop	nop	nop	0.023
3/10/2013 17:00	nop	nop	nop	nop	0.013
3/11/2013 6:15	0.000	1.2	0.000	2.4	0.028
3/11/2013 13:45	0.000	1.2	0.000	2.4	0.021
3/11/2013 22:30	0.000	1.2	0.000	2.4	0.020
3/12/2013 6:15	0.000	1.3	0.000	2.4	0.017
3/12/2013 14:45	0.000	1.2	0.000	2.4	0.017
3/12/2013 22:30	0.000	1.2	0.000	2.4	0.016
3/13/2013 6:15	0.000	1.2	0.000	2.4	0.016
3/13/2013 14:45	0.000	1.2	0.000	2.4	0.016
3/13/2013 22:30	0.000	1.2	0.000	2.5	0.027
3/14/2013 6:15	0.000	1.3	0.000	2.5	0.025
3/14/2013 14:45	0.000	1.3	0.000	2.5	0.024
3/14/2013 22:30	0.000	1.3	0.000	2.6	0.019
3/15/2013 6:15	0.000	1.3	0.000	2.4	0.021
3/15/2013 13:15	0.000	1.4	0.000	2.4	0.019
3/15/2013 22:00	0.000	1.4	0.000	2.4	0.018
3/16/2013 6:15	nop	nop	nop	nop	0.020
3/17/2013 10:15	nop	nop	nop	nop	0.018
3/18/2013 6:15	0.000	1.2	0.000	2.5	0.020
3/18/2013 14:30	0.000	1.5	0.000	2.4	0.022
3/18/2013 22:30	0.000	1.2	0.000	2.4	0.017
3/19/2013 6:15	0.000	1.2	0.000	2.4	0.016
3/19/2013 12:45	0.000	1.2	0.000	2.4	0.017
3/19/2013 22:30	0.000	1.2	0.000	2.4	0.037
3/20/2013 6:15	0.000	1.5	0.000	2.8	0.067
3/20/2013 14:45	0.000	1.3	0.000	2.6	0.031
3/20/2013 22:30	0.000	1.8	0.000	3	0.037
3/21/2013 6:15	0.000	2	0.000	3.3	0.040
3/21/2013 14:30	0.000	1	0.000	2.4	0.023
3/21/2013 22:30	0.000	1.2	0.000	2.6	0.147
3/22/2013 6:15	0.000	1	0.000	3.4	0.088
3/22/2013 13:30	0.000	1	0.000	3.4	0.071
3/22/2013 21:45	0.000	1.1	0.000	2.6	0.055
3/23/2013 6:15	nop	nop	nop	nop	0.035
3/24/2013 11:15	nop	nop	nop	nop	0.031
3/25/2013 6:15	0.000	1	0.000	2.4	0.014
3/25/2013 14:30	0.000	1	0.000	2.5	0.022
3/25/2013 22:30	0.000	1.1	0.000	2.4	0.020
3/26/2013 6:15	0.000	1.3	0.000	2.5	0.017
3/26/2013 14:45	0.000	1.2	0.000	2.5	0.019
3/26/2013 22:30	0.000	1.2	0.000	2.6	0.019
3/27/2013 6:15	0.000	1	0.000	2.5	0.017
3/27/2013 12:45	0.000	1.2	0.000	2.4	0.064
3/27/2013 22:30	0.000	1.2	0.000	2.4	0.041
3/28/2013 6:15	0.000	1.1	0.000	2.5	0.037
3/28/2013 14:45	0.000	1.2	0.000	2.5	0.049
3/28/2013 22:30	0.000	1.1	0.000	2.6	0.009
3/29/2013 6:30	0.000	1	0.000	2.4	0.006
3/29/2013 13:30	0.000	1.4	0.000	2.6	0.026
3/29/2013 22:15	0.000	1.4	0.000	2.6	0.040
3/30/2013 6:15	nop	nop	nop	nop	0.036
3/31/2013 15:45	nop	nop	nop	nop	0.008

"nop' indicates that the system was not operating

APRIL

Date and Time	P01 Exhaust in mg/m3 Hg	P01 Pressure drop in inches	P08 Exhaust in mg/m3 Hg	P08 Pressure drop in inches	S14 Exhaust in mg/m3 Hg
4/1/2013 6:15	0.000	1	0.000	2.4	0.007
4/1/2013 14:45	0.000	1	0.000	2.6	0.009
4/1/2013 22:15	0.000	1.4	0.000	2.6	0.008
4/2/2013 6:15	0.000	1.5	0.000	2.5	0.014
4/2/2013 14:45	0.000	1.1	0.000	2.1	0.015
4/2/2013 22:30		1.2	0.000	2.2	0.012
4/3/2013 7:00		1.2		2.2	
4/3/2013 13:45	0.000	1.2	0.000	2.1	0.004
4/3/2013 22:30		1.2		2.2	
4/4/2013 6:15	0.000	1.2	0.000	2.1	0.009
4/4/2013 14:30	0.000	1.5	0.000	2.1	0.010
4/4/2013 22:45		1.2		2.1	
4/5/2013 6:15	0.000	1.1	0.000	2	0.019
4/5/2013 14:30	0.000	1.3	0.000	2.1	0.183
4/5/2013 21:15	0.000	1.2	0.000	2	0.003
4/6/2013 13:30	nop	nop	nop	nop	0.003
4/7/2013 9:00	nop	nop	nop	nop	0.000
4/8/2013 6:15	0.000	1.3	0.000	2	0.000
4/8/2013 13:45	0.000	1.2	0.000	2	0.004
4/8/2013 22:30	0.000	1.2	0.000	2	0.053
4/9/2013 7:00	0.000	1	0.000	2	0.074
4/9/2013 14:30	0.000	1	0.000	2	0.044
4/9/2013 22:30	0.000	1.1	0.000	2.1	0.024
4/10/2013 6:15	0.000	1.1	0.000	2	0.024
4/10/2013 14:30	0.000	1.1	0.000	2	0.020
4/10/2013 22:30	0.000	1.2	0.000	2	0.017
4/11/2013 6:15	0.000	1.1	0.000	2	0.010
4/11/2013 14:30	0.000	1.5	0.000	2	0.014
4/11/2013 22:30	0.000	1.2	0.000	2	0.013
4/12/2013 6:15	0.000	1	0.000	2	0.011
4/12/2013 14:45	0.000	1	0.000	2	0.072
4/12/2013 22:15	0.000	1	0.000	2.1	0.010
4/13/2013 6:30	nop	nop	nop	nop	0.006
4/13/2013 10:15	nop	nop	nop	nop	
4/14/2013 11:00	0.000	1	0.000	2	0.000
4/15/2013 6:15	0.000	1	0.000	2	0.012
4/15/2013 14:15	0.000	1	0.000	2	0.028
4/15/2013 22:30	0.000	1.2	0.000	2	0.236
4/16/2013 6:15	0.000	1	0.000	1.9	0.153
4/16/2013 12:45	0.000	1	0.000	2	0.041
4/16/2013 22:30	0.000	1.2	0.000	2	0.040
4/17/2013 6:15	0.000	1	0.000	2	0.032
4/17/2013 14:00	0.000	1.2	0.000	2	0.038
4/17/2013 22:30	0.000	1.1	0.000	2	0.033
4/18/2013 6:15	0.000	1	0.000	1.9	0.014
4/18/2013 14:30	0.000	1	0.000	1.9	0.019
4/18/2013 22:30	0.000	1	0.000	2	0.016
4/19/2013 6:15	0.000	1	0.000	2	0.014
4/19/2013 14:45	0.000	1	0.000	2	0.014
4/19/2013 22:15	0.000	1	0.000	2.1	0.007
4/20/2013 7:30	nop	nop	nop	nop	0.015
4/21/2013 14:30	nop	nop	nop	nop	0.006
4/22/2013 6:15	0.000	1	0.000	2	0.000
4/22/2013 13:00	0.000	1	0.000	2	0.010
4/22/2013 22:30	0.000	1.1	0.000	2	0.014
4/23/2013 6:15	0.000	1.1	0.000	1.9	0.008
4/23/2013 14:30	0.000	1	0.000	1.9	0.026
4/23/2013 22:30	0.000	1	0.000	1.9	0.054
4/24/2013 6:15	0.000	1	0.000	1.9	0.046
4/24/2013 14:45	0.000	1.1	0.000	2	0.054
4/24/2013 22:30	0.000	1.1	0.000	2.1	0.025
4/25/2013 6:15	0.000	1	0.000	1.9	0.010
4/25/2013 14:30	0.000	1.2	0.000	1.9	0.026
4/25/2013 22:30	0.000	1.2	0.000	2	0.015
4/26/2013 6:15	0.000	1	0.000	1.8	0.003
4/26/2013 14:15	0.000	1	0.000	1.9	0.020
4/26/2013 22:00	0.000	1	0.000	2	0.026
4/27/2013 7:30	nop	nop	nop	nop	0.015
4/28/2013 17:00	nop	nop	nop	nop	0.000
4/29/2013 6:15	0.000	1	0.000	1.8	0.000
4/29/2013 14:00	0.000	1	0.000	1.8	0.015
4/29/2013 22:30	0.000	1.1	0.000	1.8	0.017
4/30/2013 6:15	0.000	1	0.000	1.8	0.021
4/30/2013 14:30	0.000	1	0.000	2	0.019
4/30/2013 22:30	0.000	1	0.000	2	0.022

"nop' indicates that the system was not operating

MAY

Date and Time	P01 Exhaust in mg/m3 Hg	P01 Pressure drop in inches	P08 Exhaust in mg/m3 Hg	P08 Pressure drop in inches	S14 Exhaust in mg/m3 Hg
5/1/2013 6:15	0.000	1	0.000	1.8	0.022
5/1/2013 13:00	0.000	1.2	0.000	1.8	0.033
5/1/2013 22:30	0.000	1.2	0.000	1.8	0.023
5/2/2013 6:15	0.000	1	0.000	1.8	0.012
5/2/2013 13:30	0.000	1.5	0.000	1.8	0.011
5/2/2013 22:45	0.000	1.1	0.000	1.8	0.011
5/3/2013 6:15	0.000	1	0.000	1.8	0.014
5/3/2013 14:45	0.000	1	0.000	1.7	0.003
5/3/2013 22:00	0.000	1.1	0.000	1.7	0.004
5/4/2013 6:30	nop	nop	nop	nop	0.004
5/5/2013 12:15	nop	nop	nop	nop	0.008
5/6/2013 6:30	0.000	1	0.000	1.8	0.045
5/6/2013 14:30	0.000	1	0.000	1.8	0.055
5/6/2013 22:30	0.000	1.1	0.000	1.8	0.027
5/7/2013 6:15	0.000	1	0.000	1.8	0.018
5/7/2013 14:30	0.000	1.1	0.000	1.8	0.028
5/7/2013 22:30	0.000	1.1	0.000	1.8	0.024
5/8/2013 6:15	0.000	1	0.000	1.7	0.024
5/8/2013 14:30	0.000	1	0.000	1.8	0.035
5/8/2013 22:30	0.000	1	0.000	1.8	0.028
5/9/2013 6:15	0.000	1	0.000	1.7	0.030
5/9/2013 14:30	0.000	1	0.000	1.8	0.024
5/9/2013 22:30	0.000	1	0.000	1.8	0.024
5/10/2013 6:15	0.000	1	0.000	1.7	0.023
5/10/2013 14:00	0.000	1	0.000	1.7	0.014
5/10/2013 22:00	0.000	1.1	0.000	1.8	0.048
5/11/2013 7:00	nop	nop	nop	nop	0.032
5/12/2013 13:00	nop	nop	nop	nop	0.048
5/13/2013 6:15	0.000	1	0.000	1.8	0.030
5/13/2013 14:00	0.000	1	0.000	1.7	0.037
5/13/2013 22:30	0.000	1	0.000	1.8	0.027
5/14/2013 6:15	0.000	1	0.000	1.7	0.027
5/14/2013 14:30	0.000	1.1	0.000	1.7	0.031
5/14/2013 22:30	0.000	1.1	0.000	1.8	0.027
5/15/2013 6:15	0.000	1	0.000	1.8	0.020
5/15/2013 14:30	0.000	1.2	0.000	1.8	0.031
5/15/2013 22:30	0.000	1.2	0.000	1.8	0.031
5/16/2013 6:15	0.000	1	0.000	1.7	0.026
5/16/2013 14:30	0.000	1.2	0.000	1.8	0.021
5/16/2013 22:30	0.000	1.2	0.000	1.8	0.016
5/17/2013 6:15	0.000	1.2	0.000	1.6	0.020
5/17/2013 14:30	0.000	1	0.000	1.7	0.044
5/17/2013 22:15	0.000	1.1	0.000	1.8	0.026
5/18/2013 7:30	nop	nop	nop	nop	0.021
5/19/2013 21:00	nop	nop	nop	nop	0.016
5/20/2013 6:15	0.000	1	0.000	1.6	0.016
5/20/2013 14:15	0.000	1	0.000	1.6	0.025
5/20/2013 22:30	0.000	1.1	0.000	1.8	0.029
5/21/2013 6:15	0.000	1.5	0.000	1.8	0.028
5/21/2013 13:00	0.000	1	0.000	1.7	0.023
5/21/2013 22:30	0.000	1	0.000	1.8	0.020
5/22/2013 6:15	0.000	1	0.000	1.6	0.026
5/22/2013 14:15	0.000	1	0.000	1.6	0.024
5/22/2013 22:30	0.006	1	0.000	1.8	0.018
5/23/2013 6:15	0.000	1	0.000	1.7	0.013
5/23/2013 14:30	0.000	1	0.000	1.9	0.019
5/23/2013 22:30	0.000	1	0.000	1.9	0.017
5/24/2013 6:15	0.000	1	0.000	1.9	0.015
5/24/2013 14:45	0.000	1	0.000	1.9	0.016
5/24/2013 22:00	0.000	1	0.000	1.9	0.018
5/25/2013 6:15	nop	nop	nop	nop	0.019
5/26/2013 14:45	nop	nop	nop	nop	0.013
5/27/2013 13:30	nop	nop	nop	nop	0.015
5/28/2013 6:15	0.000	1	0.000	1.9	0.014
5/28/2013 14:45	0.000	1.3	0.000	1.9	0.014
5/28/2013 22:30	0.000	1	0.000	2	0.012
5/29/2013 6:15	0.000	1.2	0.000	1.9	0.013
5/29/2013 14:30	0.000	1.2	0.000	1.9	0.014
5/29/2013 22:30	0.000	1.3	0.000	1.9	0.015
5/30/2013 6:15	0.000	1	0.000	1.8	0.014
5/30/2013 14:30	0.000	1	0.000	1.8	0.016
5/30/2013 22:30	0.000	1	0.000	1.8	0.018
5/31/2013 6:15	0.000	1	0.000	1.5	0.017
5/31/2013 14:30	0.000	1	0.000	1.9	0.055
5/31/2013 22:00	0.000	1	0.000	1.8	0.054

"nop' indicates that the system was not operating

JUNE

Date and Time	P01 Exhaust in mg/m3 Hg	P01 Pressure drop in inches	P08 Exhaust in mg/m3 Hg	P08 Pressure drop in inches	S14 Exhaust in mg/m3 Hg
6/1/2013 18:30	nop	nop	nop	nop	0.033
6/2/2013 17:00	nop	nop	nop	nop	0.022
6/3/2013 6:15	0.000	1	0.000	1.8	0.013
6/3/2013 13:30	0.000	1	0.000	1.6	0.015
6/3/2013 22:30	0.000	1.2	0.000	1.6	0.009
6/4/2013 6:15	0.000	1	0.000	1.9	0.010
6/4/2013 14:30	0.000	1.2	0.000	1.8	0.013
6/4/2013 22:30	0.000	1.2	0.000	1.8	0.010
6/5/2013 6:15	0.000	1	0.000	1.9	0.010
6/5/2013 14:30	0.000	1	0.000	1.9	0.013
6/5/2013 22:30	0.000	1	0.000	2	0.013
6/6/2013 6:15	0.000	1	0.000	1.6	0.013
6/6/2013 14:30	0.000	1.3	0.000	1.6	0.013
6/6/2013 22:30	0.000	1.2	0.000	1.6	0.010
6/7/2013 6:15	0.000	1	0.000	1.6	0.012
6/7/2013 13:30	0.000	1.2	0.000	1.7	0.017
6/7/2013 22:15	0.003	1.1	0.000	1.8	0.018
6/8/2013 6:15	nop	nop	nop	nop	0.017
6/9/2013 10:45	nop	nop	nop	nop	0.020
6/10/2013 6:15	0.000	1	0.000	1.6	0.022
6/10/2013 12:45	0.000	1	0.000	1.6	0.031
6/10/2013 22:30	0.000	1.1	0.000	1.8	0.025
6/11/2013 6:15	0.000	1	0.000	1.6	0.026
6/11/2013 14:30	0.000	1	0.000	1.6	0.026
6/11/2013 22:30	0.000	1	0.000	1.6	0.022
6/12/2013 6:15	0.000	1.6	0.000	1.2	0.023
6/12/2013 14:30	0.000	1.8	0.000	1	0.019
6/12/2013 22:30	0.000	1.8	0.000	1	0.021
6/13/2013 6:15	0.000	1	0.000	1.7	0.015
6/13/2013 14:30	0.000	1	0.000	1.8	0.013
6/13/2013 22:30	0.000	1	0.000	2	0.012
6/14/2013 6:15	0.000	1	0.000	1.6	0.013
6/14/2013 14:30	0.000	1	0.000	1.7	0.015
6/14/2013 22:00	0.000	1	0.000	1.9	0.016
6/15/2013 7:15	nop	nop	nop	nop	0.012
6/16/2013 5:30	nop	nop	nop	nop	0.015
6/17/2013 6:15	0.000	1.2	0.000	1.7	0.013
6/17/2013 13:15	0.000	1	0.000	1.7	0.012
6/17/2013 22:30	0.000	1.1	0.000	1.7	0.013
6/18/2013 6:15	0.000	1	0.000	1.6	0.015
6/18/2013 13:15	0.000	1.1	0.000	1.7	0.009
6/18/2013 22:30	0.000	1.2	0.000	1.8	0.004
6/19/2013 6:15	0.000	1	0.000	1.6	0.007
6/19/2013 14:30	0.000	1	0.000	1.7	0.011
6/19/2013 22:30	0.000	1.1	0.000	1.8	0.010
6/20/2013 6:15	0.000	1	0.000	1.7	0.013
6/20/2013 14:30	0.000	1.1	0.000	1.7	0.016
6/20/2013 22:30	0.000	1.2	0.000	1.7	0.012
6/21/2013 6:15	0.000	1	0.000	1.6	0.015
6/21/2013 14:30	0.000	1	0.000	1.6	0.017
6/21/2013 22:30	0.000	1	0.000	1.8	0.015
6/22/2013 5:45	nop	nop	nop	nop	0.015
6/23/2013 9:00	nop	nop	nop	nop	0.010
6/24/2013 6:15	0.000	1	0.000	1.6	0.012
6/24/2013 14:30	0.000	1.1	0.000	1.7	0.119
6/24/2013 22:30	0.000	1.5	0.000	1.7	0.014
6/25/2013 6:15	0.000	1	0.000	1.6	0.017
6/25/2013 12:30	0.000	1	0.000	1.5	0.022
6/25/2013 22:30	0.000	1	0.000	1.5	0.012
6/26/2013 6:15	0.000	1	0.000	1.6	0.015
6/26/2013 14:30	0.000	1	0.000	1.6	0.015
6/26/2013 22:30	0.000	1	0.000	1.6	0.016
6/27/2013 6:15	0.000	1	0.000	1.4	0.015
6/27/2013 14:30	0.000	1	0.000	1.4	0.015
6/27/2013 22:30	0.000	1	0.000	1.4	0.010
6/28/2013 6:15	0.000	1	0.000	1.6	0.012
6/28/2013 22:00	0.000	1	0.000	1.2	0.011
6/29/2013 11:45	nop	nop	nop	nop	0.021
6/30/2013 16:15	nop	nop	nop	nop	0.007

"nop' indicates that the system was not operating

JULY

Date and Time	P01 Exhaust in mg/m3 Hg	P01 Pressure drop in inches	P08 Exhaust in mg/m3 Hg	P08 Pressure drop in inches	S14 Exhaust in mg/m3 Hg
7/1/2013 6:15	0.000	1.3	0.000	1.6	0.010
7/1/2013 13:00	0.000	1.1	0.000	1.4	0.011
7/1/2013 22:30	0.000	1	0.000	1.6	0.010
7/2/2013 6:15	0.000	1	0.000	1.5	0.012
7/2/2013 14:30	0.000	1	0.000	1.5	0.008
7/2/2013 22:45	0.000	1	0.000	1.6	0.008
7/3/2013 6:15	0.000	1	0.000	1.5	0.009
7/3/2013 14:00	0.000	1	0.000	1.4	0.012
7/3/2013 22:30	0.000	1.1	0.000	1.5	0.008
7/4/2013 6:00	nop	nop	nop	nop	0.008
7/5/2013 5:45	0.000	1.2	0.000	1.4	0.008
7/5/2013 13:45	0.000	0.7	0.000	1.4	0.010
7/5/2013 21:30	0.000	1.1	0.000	1.3	0.007
7/6/2013 16:00	0.000	0.7	0.000	1.6	0.007
7/7/2013 11:15	0.000	1	0.000	1.5	0.008
7/8/2013 6:15	0.000	1	0.000	1.5	0.008
7/8/2013 13:45	0.000	1.5	0.000	1.6	0.011
7/8/2013 22:30	0.000	1.4	0.000	1.5	0.011
7/9/2013 6:15	0.000	1	0.000	1.6	0.011
7/9/2013 14:30	0.000	1.3	0.000	1.5	0.025
7/9/2013 22:30	0.000	1.2	0.000	1.6	0.015
7/10/2013 6:15	0.000	1.2	0.000	1.4	0.012
7/10/2013 14:00	0.000	1	0.000	1.6	0.009
7/10/2013 22:30	0.000	1	0.000	1.6	0.009
7/11/2013 6:15	0.000	1	0.000	1.6	0.008
7/11/2013 14:30	0.000	1.4	0.000	1.7	0.012
7/11/2013 22:30	0.000	1.2	0.000	1.6	0.010
7/12/2013 6:15	0.000	1	0.000	1.5	0.012
7/12/2013 14:15	0.000	1	0.000	1.6	0.012
7/12/2013 22:00	0.000	1	0.000	1.5	0.015
7/13/2013 8:00	nop	nop	0.000	nop	0.017
7/14/2013 13:15	nop	nop	0.000	nop	0.045
7/15/2013 7:45	0.000	1.1	0.000	1.5	0.023
7/15/2013 14:15	0.000	1.3	0.000	1.6	0.032
7/15/2013 22:15	0.000	1.1	0.000	1.6	0.002
7/16/2013 6:15	0.000	1	0.000	1.6	0.022
7/16/2013 13:30	0.000	1.1	0.000	1.7	0.022
7/16/2013 22:00	0.000	1.2	0.000	1.7	0.023
7/17/2013 6:15	0.000	1.2	0.000	1.6	0.021
7/17/2013 14:30	0.000	1.2	0.000	1.6	0.027
7/17/2013 22:00	0.000	1.4	0.000	1.8	0.023
7/18/2013 6:15	0.000	1	0.000	1.6	0.022
7/18/2013 14:30	0.000	1.3	0.000	1.7	0.022
7/18/2013 22:00	0.000	1.2	0.000	1.8	0.021
7/19/2013 6:30	0.000	1	0.000	1.6	0.017
7/19/2013 15:15	0.000	1	0.000	1.7	0.018
7/19/2013 22:00	0.000	1.2	0.000	1.8	0.019
7/20/2013 19:30	nop	nop	nop	nop	0.017
7/21/2013 11:45	nop	nop	nop	nop	0.018
7/22/2013 6:15	0.000	1	0.000	1.5	0.013
7/22/2013 13:00	0.000	1.3	0.000	1.5	0.017
7/22/2013 22:30	0.000	1.2	0.000	1.6	0.015
7/23/2013 6:15	0.000	1	0.000	1.6	0.013
7/23/2013 14:15	0.000	1.3	0.000	1.7	0.013
7/23/2013 22:30	0.000	1.2	0.000	1.8	0.011
7/24/2013 6:15	0.000	1	0.000	1.6	0.012
7/24/2013 14:30	0.000	1.1	0.000	1.7	0.011
7/24/2013 22:30	0.000	1.2	0.000	1.8	0.013
7/25/2013 6:15	0.000	1.3	0.000	1.6	0.013
7/25/2013 14:30	0.000	1.2	0.000	1.8	0.010
7/25/2013 22:30	0.000	1.2	0.000	1.6	0.010
7/26/2013 6:15	0.000	1	0.000	1.6	0.008
7/26/2013 14:30	0.000	1	0.000	1.6	0.015
7/26/2013 22:00	0.000	1.2	0.000	1.6	0.011
7/27/2013 6:15	nop	nop	nop	nop	0.010
7/28/2013 13:30	nop	nop	nop	nop	0.007
7/29/2013 7:00	0.000	1.4	0.000	1.6	0.006
7/29/2013 15:15	0.000	1.4	0.000	1.6	0.007
7/29/2013 22:30	0.000	1.4	0.000	1.6	0.005
7/30/2013 6:30	0.000	1.2	0.000	1.4	0.005
7/30/2013 14:45	0.000	1.2	0.000	1.8	0.041
7/30/2013 22:30	0.000	1.2	0.000	1.8	0.035
7/31/2013 6:45	0.000	1	0.000	1.6	0.031
7/31/2013 14:15	0.000	1	0.000	1.6	0.028
7/31/2013 22:30	0.000	1.1	0.000	1.6	0.026

"nop' indicates that the system was not operating

AUGUST

Date and Time	P01 Exhaust in mg/m3 Hg	P01 Pressure drop in inches	P08 Exhaust in mg/m3 Hg	P08 Pressure drop in inches	S14 Exhaust in mg/m3 Hg
8/1/2013 6:30	0.000	1	0.000	1.6	0.028
8/1/2013 14:30	0.000	1	0.000	1.6	0.020
8/1/2013 22:30	0.000	1	0.000	1.6	0.023
8/2/2013 6:45	0.000	1.2	0.000	1.8	0.021
8/2/2013 15:00	0.000	1.2	0.000	1.8	0.038
8/2/2013 22:30	0.000	1.3	0.000	1.8	0.075
8/3/2013 6:30	nop	nop	nop	nop	0.016
8/4/2013 6:15	nop	nop	nop	nop	0.106
8/5/2013 6:15	0.000	1.2	0.000	1.6	0.080
8/5/2013 13:30	0.000	1.2	0.000	1.8	0.079
8/5/2013 22:30	0.000	1.2	0.000	1.8	0.120
8/6/2013 6:15	0.000	1	0.000	1.7	0.138
8/6/2013 14:30	0.000	1	0.000	1.8	0.066
8/6/2013 22:30	0.000	1	0.000	1.8	0.027
8/7/2013 6:15	0.000	1.1	0.000	1.6	0.020
8/7/2013 14:30	0.000	1.4	0.000	1.8	0.018
8/7/2013 22:30	0.000	1	0.000	1.8	0.020
8/8/2013 6:15	0.000	1.1	0.000	1.7	0.015
8/8/2013 14:30	0.000	1.3	0.000	1.8	0.012
8/8/2013 22:30	0.000	1.2	0.000	1.8	0.012
8/9/2013 6:15	0.000	1.3	0.000	1.7	0.011
8/9/2013 14:30	0.000	1.2	0.000	1.9	0.014
8/9/2013 22:00	0.000	1.3	0.000	1.8	0.011
8/10/2013 6:15	nop	nop	nop	nop	0.009
8/11/2013 10:15	nop	nop	nop	nop	0.009
8/12/2013 6:15	0.000	1.1	0.000	1.7	0.005
8/12/2013 14:30	0.000	1.2	0.000	1.8	0.008
8/12/2013 22:30	0.000	1.2	0.000	1.8	0.007
8/13/2013 6:15	0.000	1.2	0.000	1.6	0.007
8/13/2013 14:15	0.000	1.2	0.000	1.8	0.021
8/13/2013 22:30	0.000	1.2	0.000	1.8	0.095
8/14/2013 6:15	0.000	1	0.000	1.6	0.074
8/14/2013 14:00	0.000	1.2	0.000	1.6	0.030
8/14/2013 22:30	0.000	1	0.000	1.6	0.020
8/15/2013 6:15	0.000	1	0.000	1.6	0.024
8/15/2013 14:30	0.000	1.4	0.000	1.7	0.018
8/15/2013 22:30	0.000	1.4	0.000	1.8	0.010
8/16/2013 6:15	0.000	1	0.000	1.6	0.015
8/16/2013 14:30	0.000	1.2	0.000	1.7	0.011
8/16/2013 22:00	0.000	1.2	0.000	1.8	0.180
8/17/2013 10:00	nop	nop	nop	nop	0.066
8/18/2013 6:45	nop	nop	nop	nop	0.060
8/19/2013 6:15	0.000	1.3	0.000	1.7	0.040
8/19/2013 14:00	0.000	1	0.000	1.6	0.031
8/19/2013 22:30	0.000	1.2	0.000	1.8	0.015
8/20/2013 6:15	0.000	1.2	0.000	1.6	0.017
8/20/2013 12:45	0.000	1	0.000	1.7	0.012
8/20/2013 22:30	0.000	1.2	0.000	1.8	0.009
8/21/2013 6:15	0.000	1.3	0.000	1.7	0.011
8/21/2013 14:30	0.000	1.6	0.000	1.8	0.016
8/21/2013 22:30	0.000	1.2	0.000	1.8	0.014
8/22/2013 6:15	0.000	1	0.000	1.6	0.025
8/22/2013 14:30	0.000	1.2	0.000	1.6	0.014
8/22/2013 22:30	0.000	1.2	0.000	1.6	0.009
8/23/2013 6:15	0.000	1	0.000	1.6	0.013
8/23/2013 14:30	0.000	1.7	0.000	1.8	0.016
8/23/2013 22:00	0.000	1.2	0.000	1.8	0.026
8/24/2013 6:00	nop	nop	nop	nop	0.009
8/25/2013 8:15	nop	nop	nop	nop	0.005
8/26/2013 6:15	0.000	1.2	0.000	1.6	0.007
8/26/2013 13:45	0.000	1.3	0.000	1.8	0.007
8/26/2013 22:00	0.000	1.2	0.000	1.8	0.020
8/27/2013 6:15	0.000	1.3	0.000	1.6	0.019
8/27/2013 14:30	0.000	1.3	0.000	1.7	0.017
8/27/2013 22:30	0.000	1.1	0.000	1.8	0.014
8/28/2013 6:15	0.000	1	0.000	1.7	0.011
8/28/2013 14:30	0.000	1.4	0.000	1.7	0.008
8/28/2013 22:30	0.000	1.2	0.000	1.8	0.007
8/29/2013 6:15	0.000	1.1	0.000	1.7	0.010
8/29/2013 14:30	0.000	1.8	0.000	2	0.014
8/29/2013 22:30	0.000	1.2	0.000	1.8	0.009
8/30/2013 6:15	0.000	1.1	0.000	1.8	0.010
8/30/2013 15:15	0.000	1.2	0.000	1.8	0.014
8/30/2013 22:15	0.000	1.3	0.000	1.8	0.024
8/31/2013 12:15	nop	nop	nop	nop	0.016

"nop' indicates that the system was not operating

SEPTEMBER

Date and Time	P01 Exhaust in mg/m3 Hg	P01 Pressure drop in inches	P08 Exhaust in mg/m3 Hg	P08 Pressure drop in inches	S14 Exhaust in mg/m3 Hg
9/1/2013 10:30	nop	nop	nop	nop	0.022
9/2/2013 11:45	nop	nop	nop	nop	0.025
9/3/2013 6:15	0.000	1.2	0.000	1.8	0.011
9/3/2013 14:30	0.000	1.3	0.000	1.9	0.012
9/3/2013 22:30	0.000	1.2	0.000	2	0.012
9/4/2013 6:15	0.000	1	0.000	1.9	0.011
9/4/2013 14:30	0.000	1.7	0.000	1.9	0.009
9/4/2013 22:30	0.000	1	0.000	1.8	0.005
9/5/2013 6:15	0.000	1	0.000	1.9	0.010
9/5/2013 13:15	0.000	1.7	0.000	2	0.010
9/5/2013 22:30	0.000	1.2	0.000	1.8	0.008
9/6/2013 6:15	0.000	1	0.000	1.8	0.009
9/6/2013 14:30	0.000	1	0.000	1.7	0.008
9/6/2013 21:30	0.000	1	0.000	2	0.020
9/7/2013 5:30	nop	nop	nop	nop	0.032
9/8/2013 12:30	nop	nop	nop	nop	0.038
9/9/2013 6:15	0.000	1	0.000	1.8	0.017
9/9/2013 13:00	0.000	1	0.000	1.8	0.024
9/9/2013 22:30	0.000	1	0.000	1.8	0.027
9/10/2013 6:15	0.000	0.8	0.000	1.9	0.030
9/10/2013 14:00	0.000	0.9	0.000	1.8	0.036
9/10/2013 22:30	0.000	1.1	0.000	1.8	0.074
9/11/2013 6:15	0.000	1	0.000	1.8	0.074
9/11/2013 14:00	0.000	1	0.000	1.8	0.034
9/11/2013 22:30	0.000	1.1	0.000	1.8	0.019
9/12/2013 6:15	0.000	0.8	0.000	1.7	0.015
9/12/2013 14:00	0.000	0.8	0.000	1.8	0.012
9/12/2013 22:30	0.000	1.1	0.000	1.8	0.019
9/13/2013 6:15	0.000	0.8	0.000	2	0.008
9/13/2013 14:00	0.000	0.8	0.000	2	0.035
9/13/2013 22:00	0.000	1	0.000	2	0.015
9/14/2013 6:15	nop	nop	nop	nop	0.014
9/15/2013 4:30	nop	nop	nop	nop	0.017
9/16/2013 6:15	0.000	0.8	0.000	1.9	0.016
9/16/2013 13:00	0.000	0.9	0.000	1.8	0.014
9/16/2013 23:00	0.000	0.8	0.000	1.7	0.007
9/17/2013 6:15	0.000	0.8	0.000	1.8	0.006
9/17/2013 13:30	0.000	0.8	0.000	2	0.005
9/17/2013 22:30	0.000	1	0.000	1.8	0.003
9/18/2013 6:15	0.000	0.8	0.000	2	0.005
9/18/2013 14:00	0.000	0.9	0.000	1.9	0.004
9/18/2013 22:30	0.000	0.9	0.000	1.8	0.003
9/19/2013 6:15	0.000	0.8	0.000	1.8	0.006
9/19/2013 14:00	0.000	0.8	0.000	1.8	0.008
9/19/2013 22:30	0.000	1	0.000	1.8	0.007
9/20/2013 6:15	0.000	0.8	0.000	1.8	0.009
9/20/2013 14:00	0.000	0.8	0.000	1.9	0.030
9/20/2013 22:00	0.000	1	0.000	2	0.008
9/21/2013 9:15	nop	nop	nop	nop	0.006
9/22/2013 10:00	nop	nop	nop	nop	0.003
9/23/2013 6:15	0.000	0.8	0.000	1.9	0.005
9/23/2013 13:30	0.000	0.8	0.000	1.9	0.007
9/23/2013 22:30	0.000	0.9	0.000	1.8	0.008
9/24/2013 6:15	0.000	0.8	0.000	1.9	0.007
9/24/2013 12:30	0.000	0.8	0.000	1.8	0.006
9/24/2013 22:30	0.000	1.1	0.000	1.8	0.010
9/25/2013 6:15	0.000	0.8	0.000	1.9	0.007
9/25/2013 12:30	0.000	1.4	0.000	1.8	0.007
9/25/2013 22:30	0.000	1.2	0.000	1.8	0.008
9/26/2013 6:15	0.000	1	0.000	1.8	0.008
9/26/2013 14:00	0.000	1.6	0.000	1.9	0.009
9/26/2013 22:30	0.000	1.2	0.000	2	0.020
9/27/2013 6:15	0.000	1	0.000	1.8	0.017
9/27/2013 13:30	0.000	1.2	0.000	2	0.010
9/27/2013 22:00	0.000	1.2	0.000	1.8	0.014
9/28/2013 5:45	nop	nop	nop	nop	0.019
9/29/2013 11:00	nop	nop	nop	nop	0.007
9/30/2013 6:15	0.000	1.1	0.000	1.9	0.007
9/30/2013 12:30	0.000	1.8	0.000	1.9	0.006
9/30/2013 22:30	0.000	1.2	0.000	2	0.006

"nop' indicates that the system was not operating

OCTOBER

Date and Time	P01 Exhaust in mg/m3 Hg	P01 Pressure drop in inches	P08 Exhaust in mg/m3 Hg	P08 Pressure drop in inches	S14 Exhaust in mg/m3 Hg
10/1/2013 6:15	0.000	1	0.000	1.9	0.009
10/1/2013 14:00	0.000	1	0.000	1.9	0.009
10/1/2013 22:30	0.000	1	0.000	1.9	0.006
10/2/2013 6:15	0.000	1	0.000	1.8	0.010
10/2/2013 14:00	0.000	1.2	0.000	2	0.010
10/2/2013 22:30	0.000	1.2	0.000	2	0.010
10/3/2013 6:15	0.000	1.2	0.000	2	0.015
10/3/2013 14:00	0.000	1.3	0.000	1.8	0.010
10/3/2013 22:30	0.000	1.2	0.000	1.9	0.010
10/4/2013 6:15	0.000	1.3	0.000	1.7	0.009
10/4/2013 14:00	0.000	1.3	0.000	1.8	0.011
10/4/2013 22:00	0.000	1.3	0.000	1.8	0.009
10/5/2013 6:15	nop	nop	nop	nop	0.012
10/6/2013 17:45	nop	nop	nop	nop	0.018
10/7/2013 6:00	0.000	1.2	0.000	1.8	0.023
10/7/2013 14:30	0.000	1.2	0.000	1.9	0.015
10/7/2013 22:30	0.000	1.2	0.000	1.8	0.012
10/8/2013 6:15	0.000	1	0.000	2	0.009
10/8/2013 13:15	0.000	1.3	0.000	1.8	0.009
10/8/2013 22:15	0.000	1.2	0.000	1.8	0.006
10/9/2013 6:15	0.000	1	0.000	2	0.008
10/9/2013 14:15	0.000	1	0.000	1.8	0.006
10/9/2013 22:45	0.000	1.2	0.000	1.8	0.007
10/10/2013 6:15	0.000	1	0.000	2	0.005
10/10/2013 14:30	0.000	1.2	0.000	2	0.008
10/10/2013 22:30	0.000	1.2	0.000	1.8	0.007
10/11/2013 6:15	0.000	1.2	0.000	2	0.009
10/11/2013 14:30	0.000	1.4	0.000	2	0.009
10/11/2013 22:00	0.000	1.4	0.000	2	0.007
10/12/2013 8:00	nop	nop	nop	nop	0.012
10/13/2013 15:00	nop	nop	nop	nop	0.017
10/14/2013 6:15	0.000	1.4	0.000	2	0.005
10/14/2013 14:30	0.000	1.3	0.000	1.9	0.006
10/14/2013 22:30	0.000	1.2	0.000	3	0.006
10/15/2013 6:15	0.000	1.3	0.000	2.9	0.010
10/15/2013 12:45	0.000	1.2	0.000	1.8	0.009
10/15/2013 22:30	0.000	1.1	0.000	1.8	0.006
10/16/2013 6:15	0.000	1.2	0.000	1.9	0.011
10/16/2013 14:30	0.000	1.5	0.000	1.9	0.010
10/16/2013 22:30	0.000	1.4	0.000	1.9	0.010
10/17/2013 6:15	0.000	1.2	0.000	2.3	0.011
10/17/2013 14:30	0.000	1.7	0.000	1.8	0.010
10/17/2013 22:30	0.000	1.4	0.000	1.8	0.007
10/18/2013 6:15	0.000	1.2	0.000	1.9	0.011
10/18/2013 13:30	0.000	1.4	0.000	2	0.071
10/18/2013 22:00	0.000	1.4	0.000	1.7	0.113
10/19/2013 6:45	0.000	1	0.000	1.9	0.128
10/20/2013 8:00	0.000	1.7	0.000	1.9	0.012
10/21/2013 6:15	0.000	1.6	0.000	1.8	0.006
10/21/2013 13:45	0.000	1.5	0.000	1.9	0.007
10/21/2013 22:30	0.000	1.2	0.000	1.9	0.006
10/22/2013 6:15	0.000	1.2	0.000	1.8	0.008
10/22/2013 14:30	0.000	1.6	0.000	1.8	0.009
10/22/2013 22:30	0.000	1.8	0.000	1.8	0.010
10/23/2013 6:15	0.000	1.3	0.000	1.7	0.009
10/23/2013 13:45	0.000	1.5	0.000	1.7	0.088
10/23/2013 22:30	0.000	1.4	0.000	1.7	0.035
10/25/2013 6:15	0.000	1	0.000	1.6	0.045
10/25/2013 14:45	0.000	1.4	0.000	1.8	0.029
10/25/2013 22:00	0.000	1.4	0.000	1.7	0.252
10/26/2013 10:30	0.000	1.2	0.000	1.8	0.064
10/27/2013 7:15	0.000	1.4	0.000	1.8	0.003
10/28/2013 6:15	0.000	1.3	0.000	1.8	0.030
10/28/2013 13:00	0.000	1.2	0.000	1.8	0.024
10/28/2013 22:30	0.000	1.2	0.000	1.9	0.018
10/29/2013 6:15	0.000	1.2	0.000	1.8	0.024
10/29/2013 14:30	0.000	1.3	0.000	1.7	0.020
10/29/2013 22:30	0.000	1.3	0.000	1.8	0.017
10/30/2013 6:15	0.000	1.2	0.000	1.8	0.026
10/30/2013 14:30	0.000	1.3	0.000	1.8	0.019
10/30/2013 22:30	0.000	1.2	0.000	1.7	0.014
10/31/2013 6:15	0.000	1.1	0.000	1.7	0.017
10/31/2013 14:30	0.000	1.6	0.000	1.6	0.015
10/31/2013 22:30	0.000	1.4	0.000	1.6	0.008

"nop' indicates that the system was not operating

"nop' indicates that the system was not operating

NOVEMBER

Date and Time	P01 Exhaust in mg/m3 Hg	P01 Pressure drop in inches	P08 Exhaust in mg/m3 Hg	P08 Pressure drop in inches	S14 Exhaust in mg/m3 Hg
11/1/2013 6:15	0.000	1.2	0.000	1.8	0.011
11/1/2013 14:30	0.000	1.2	0.000	1.8	0.012
11/1/2013 22:15	0.000	1.2	0.000	1.8	0.083
11/2/2013 6:15	0.000	1.2	0.000	1.8	0.068
11/2/2013 17:00	nop	nop	nop	nop	0.017
11/3/2013 15:00	nop	nop	nop	nop	0.016
11/4/2013 6:15	0.000	1.2	0.000	1.8	0.022
11/4/2013 13:30	0.000	1.3	0.000	1.8	0.015
11/4/2013 22:30	0.000	1.2	0.000	1.8	0.016
11/5/2013 6:15	0.000	1.1	0.000	1.8	0.016
11/5/2013 14:30	0.000	1.3	0.000	1.9	0.018
11/5/2013 22:15	0.000	1.2	0.000	1.8	0.016
11/6/2013 6:15	0.000	1	0.000	1.8	0.024
11/6/2013 14:30	0.000	1.6	0.000	1.8	0.012
11/6/2013 22:30	0.000	1.4	0.000	1.9	0.013
11/7/2013 6:15	0.000	1.3	0.000	1.8	0.015
11/7/2013 14:30	0.000	1.4	0.000	1.8	0.023
11/7/2013 22:30	0.000	1.3	0.000	1.8	0.016
11/8/2013 6:15	0.000	1.4	0.000	1.8	0.022
11/8/2013 14:30	0.000	1.2	0.000	1.8	0.012
11/8/2013 22:00	0.000	1.4	0.000	1.8	0.008
11/9/2013 6:30	0.000	1.2	0.000	1.6	0.012
11/10/2013 13:15	0.000	1.4	0.000	1.7	0.006
11/11/2013 6:15	0.000	1.4	0.000	1.7	0.004
11/11/2013 14:30	0.000	1.7	0.000	1.9	0.005
11/11/2013 22:30	0.000	1.8	0.000	2	0.008
11/12/2013 6:15	0.000	1.8	0.000	1.9	0.010
11/12/2013 14:30	0.000	1.3	0.000	1.8	0.067
11/12/2013 22:30	0.003	1.4	0.006	2	0.131
11/13/2013 6:15	0.000	1.3	0.000	1.9	0.017
11/13/2013 14:30	0.000	1.7	0.000	1.9	0.018
11/13/2013 22:30	0.000	1.8	0.000	2	0.020
11/14/2013 6:15	0.000	1.3	0.000	1.8	0.022
11/14/2013 14:30	0.000	1.7	0.000	1.7	0.036
11/14/2013 22:30	0.000	1.4	0.000	1.8	0.020
11/15/2013 6:15	0.000	1.2	0.000	1.7	0.017
11/15/2013 14:30	0.000	1.7	0.000	1.6	0.023
11/15/2013 22:00	0.000	1.5	0.000	1.7	0.026
11/16/2013 6:15	0.000	1.4	0.000	1.8	0.015
11/17/2013 12:45	0.000	1.4	0.000	1.7	0.018
11/18/2013 6:15	0.000	1.5	0.000	1.7	0.012
11/18/2013 14:15	0.000	1.4	0.000	1.7	0.015
11/18/2013 22:30	0.000	1.4	0.000	1.8	0.009
11/19/2013 6:15	0.000	1.5	0.000	1.7	0.009
11/19/2013 13:30	0.000	1.6	0.000	1.8	0.010
11/19/2013 22:30	0.000	1.6	0.000	1.8	0.007
11/20/2013 6:15	0.000	1.3	0.000	1.8	0.005
11/20/2013 14:30	0.000	1.7	0.000	1.7	0.007
11/20/2013 22:30	0.000	1.6	0.000	1.8	0.007
11/21/2013 6:15	0.000	1.4	0.000	1.7	0.011
11/21/2013 14:00	0.000	1.2	0.000	1.8	0.010
11/21/2013 22:30	0.000	1.4	0.000	1.8	0.007
11/22/2013 6:15	0.000	1.4	0.000	1.9	0.010
11/22/2013 14:30	0.000	1.5	0.000	1.8	0.009
11/22/2013 22:00	0.000	1.5	0.000	1.8	0.007
11/23/2013 6:15	nop	nop	nop	nop	0.007
11/24/2013 10:00	nop	nop	nop	nop	0.007
11/25/2013 6:15	0.000	1.6	0.000	2	0.003
11/25/2013 14:30	0.000	1.7	0.000	1.9	0.005
11/25/2013 22:30	0.000	1.7	0.000	1.9	0.006
11/26/2013 6:15	0.000	1.3	0.000	1.9	0.006
11/26/2013 14:30	0.000	1.3	0.000	1.7	0.006
11/26/2013 22:30	0.000	1.3	0.000	1.7	0.006
11/27/2013 6:15	0.000	1.3	0.000	1.8	0.007
11/27/2013 14:30	0.000	1.3	0.000	1.7	0.005
11/28/2013 9:00	nop	nop	nop	nop	0.006
11/29/2013 6:30	0.000	1.4	0.000	1.9	0.005
11/30/2013 7:30	0.000	1.4	0.000	1.9	0.025

"nop' indicates that the system was not operating

"nop' indicates that the system was not operating

DECEMBER

Date and Time	P01 Exhaust in mg/m3 Hg	P01 Pressure drop in inches	P08 Exhaust in mg/m3 Hg	P08 Pressure drop in inches	S14 Exhaust in mg/m3 Hg
12/1/2013 16:00	0.000	1.4	0.000	1.9	0.039
12/2/2013 6:15	0.000	1.4	0.000	1.7	0.038
12/2/2013 14:30	0.000	1.6	0.000	1.8	0.480
12/2/2013 22:30	0.000	1.2	0.000	1.6	0.348
12/3/2013 6:15	0.000	1.4	0.000	1.8	0.208
12/3/2013 14:30	0.000	1.6	0.000	1.8	0.043
12/3/2013 22:30	0.000	1.2	0.000	2	0.028
12/4/2013 6:15	0.000	1	0.000	1.7	0.025
12/4/2013 14:30	0.000	1.2	0.000	1.7	0.022
12/4/2013 22:30	0.000	1.2	0.000	1.8	0.016
12/5/2013 6:15	0.000	1.2	0.000	1.8	0.006
12/5/2013 14:30	0.000	1.2	0.000	1.9	0.005
12/5/2013 22:30	0.000	1.4	0.000	1.9	0.000
12/6/2013 6:15	0.000	1.3	0.000	1.9	0.003
12/6/2013 12:00	0.000	1.3	0.000	1.9	0.006
12/7/2013 6:15	0.000	1.2	0.000	2	0.000
12/8/2013 11:15	0.000	1.2	0.000	2	0.000
12/9/2013 6:15	0.000	1.2	0.000	2	0.003
12/9/2013 14:30	0.000	1.2	0.000	1.9	0.003
12/9/2013 22:30	0.000	1.2	0.000	1.9	0.007
12/10/2013 6:15	0.000	1.2	0.000	2	0.012
12/10/2013 13:15	0.000	1.6	0.000	1.8	0.003
12/10/2013 22:30	0.000	1.4	0.000	1.8	0.000
12/11/2013 6:15	0.000	1.3	0.000	1.9	0.000
12/11/2013 14:00	0.000	1.3	0.000	2	0.022
12/11/2013 22:30	0.000	1.2	0.000	2	0.092
12/12/2013 6:15	0.000	1.2	0.000	1.8	0.044
12/12/2013 14:30	0.000	1.3	0.000	1.7	0.012
12/12/2013 22:30	0.000	1.3	0.000	1.8	0.006
12/13/2013 6:15	0.000	1.4	0.000	1.8	0.010
12/13/2013 14:00	0.000	1.3	0.000	1.8	0.029
12/13/2013 22:00	0.000	1.7	0.000	1.8	0.042
12/14/2013 6:15	0.000	1.2	0.000	2	0.019
12/15/2013 7:00	0.000	1.2	0.000	2	0.018
12/16/2013 6:15	0.000	1.2	0.000	2	0.008
12/16/2013 12:45	0.000	1.3	0.000	1.9	0.009
12/16/2013 22:30	0.000	1.4	0.000	1.7	0.007
12/17/2013 6:45	0.000	1.4	0.000	1.7	0.009
12/17/2013 13:30	0.000	1.6	0.000	1.8	0.008
12/17/2013 22:30	0.000	1.4	0.000	1.8	0.005
12/18/2013 6:15	0.000	1.3	0.000	1.8	0.007
12/18/2013 14:30	0.000	1.3	0.000	1.7	0.010
12/18/2013 22:15	0.000	1.2	0.000	1.8	0.011
12/19/2013 6:15	0.000	1	0.000	1.6	0.012
12/19/2013 14:30	0.000	1.2	0.000	1.7	0.012
12/19/2013 22:30	0.000	1.3	0.000	1.8	0.095
12/20/2013 6:15	0.000	1.2	0.000	1.8	0.019
12/20/2013 15:30	0.000	1.2	0.000	1.8	0.120
12/20/2013 22:00	0.000	1.2	0.000	1.8	0.108
12/21/2013 6:15	0.000	1.2	0.000	1.8	0.104
12/21/2013 10:30	nop	nop	nop	nop	0.030
12/22/2013 9:45	nop	nop	nop	nop	0.014
12/23/2013 6:15	0.000	1.2	0.000	1.8	0.006
12/23/2013 13:30	0.000	1.4	0.000	1.8	0.008
12/23/2013 22:30	0.000	1.8	0.000	1.8	0.011
12/24/2013 6:30	0.000	2.1	0.000	2.8	0.008
12/24/2013 13:30	0.000	1	0.000	1.8	0.005
12/25/2013 8:45	0.000	1	0.000	2	0.004
12/26/2013 5:45	0.000	1	0.000	2	0.003
12/26/2013 14:30	0.000	1	0.000	1.6	0.004
12/26/2013 22:45	0.000	1	0.000	1.6	0.004
12/27/2013 6:00	0.000	1	0.000	1.8	0.005
12/27/2013 14:45	0.000	1	0.000	1.6	0.005
12/27/2013 22:15	0.000	1	0.000	1.8	0.005
12/28/2013 6:15	0.000	1	0.000	1.6	0.007
12/29/2013 9:00	nop	nop	nop	nop	0.015
12/30/2013 6:15	0.000	1.3	0.000	1.7	0.006
12/30/2013 14:15	0.000	1	0.000	1.7	0.005
12/30/2013 22:00	0.000	1.1	0.000	1.8	0.004
12/31/2013 6:00	0.000	1	0.000	1.6	0.003
12/31/2013 13:30	0.000	1	0.000	1.7	0.008

"nop' indicates that the system was not operating

"nop' indicates that the system was not operating

O

WDNR Laboratory Certification

State of Wisconsin
Department of Natural Resources

WISCONSIN
DEPT. OF NATURAL RESOURCES

recognizes

Wisconsin Certification under NR 149

of

Veolia ES Technical Solutions, LLC

Laboratory Id: **246076050**

as a laboratory licensed to perform environmental sample analysis in support of covered environmental programs (ch. NR149.02 Note) for the parameter(s) specified in the attached Scope of Accreditation.

August 31, 2016

Expiration Date

August 12, 2015

Issued on

Steven Geis, Chief
Environmental Science Services

Cathy Stepp, Secretary
Department of Natural Resources

This certificate does not guarantee validity of data generated, but indicates the methodology, equipment, quality control practices, records, and proficiency of the laboratory have been reviewed and found to satisfy the requirements of ch. NR 149, Wis. Adm. Code.

Scope of Accreditation

Veolia ES Technical Solutions, LLC
1275 Mineral Springs Drive
Port Washington, WI 53074

Laboratory Id: **246076050**
Expiration Date: **08/31/16**
Issued Date: **08/12/15**

Wisconsin Certification under NR 149
Matrix: Solid (Waste, Soil & Tissue)

Class: Waste Characterization Assays
Corrosivity, Liquids *by Waste Assays*
Ignitability, Setaflash Closed Cup *by Waste Assays*
Waste Analysis, Other *by Waste Assays*

The laboratory named above is hereby licensed under ch. NR 149, Wis. Adm. Code for the parameters listed in this attachment.
* Analyte groups are defined and listed at http://dnr.wi.gov by searching keywords "Lab Certification:".

P

Household Hazardous Waste Collection Facility Plan of Operation

PLAN OF OPERATION

HOUSEHOLD REPORT FOR HAZARDOUS WASTE COLLECTION

VEOLIA ES TECHNICAL SOLUTIONS, L.L.C.
1275 MINERAL SPRINGS DRIVE
PORT WASHINGTON, WISCONSIN
WID988566543

August 2013

1.0 INTRODUCTION

Veolia ES Technical Solutions, L.L.C. (VESTS) has developed this Plan of Operation (PO) as a Household Hazardous Waste Permanent Collection Facility (HHWPCF) to comply with the requirements of NR666 Subchapter HH. The HHWPCF is located at VESTS licensed operating under EPA I.D. WID988566543 and Wisconsin Department of Natural Resources (WDNR) FID# 246076050 and is located at 1275 Mineral Springs Drive, Port Washington, Wisconsin. The HHWPSF has been integrated in the TSDF's Feasibility Plan of Operation Report (FPOR) and will frequently refer to this document.

The HHWPCF has developed a household hazardous waste (HHW) program whereby local residents can dispose of wastes such as pesticides and herbicides, used paint thinners, paint and household batteries. The HHWPCF also provides services to very small quantity generators.

2.0 STANDARDS FOR DESIGN (NR666.902)

The TSDF is located at 1275 Mineral Springs Drive in the Northwestern ¼ of the Southeastern ¼ of Section 32, Township 11 North, Range 22 East, in the City of Port Washington, Ozaukee County, Wisconsin. As required in NR666.902(1)(a), according to National Flood Insurance Program flood boundary and floodway maps, the site is not located within the 100-yr floodplain. The location of the 100-year floodplain relative to the site is shown on Figure 2-2 in the TSDF's FPOR.

According to the Wisconsin Wetland Inventory (WWI) map, included as Figure 2-3, an area classified as 'open water' is mapped directly north of the TSDF. The 'open water' on the WWI map is the retention basin previously described. An area of emergent vegetation (cattails) has formed in the northern portion of the basin. The active portion or past operations of the TSDF are not located in the wetland (NR666.902(1)(b)).

The facility is not located in a critical habitat for threatened or endangered species (NR666.902(1)(c)).

The maximum amount of HHW does not exceed 80,000 pounds (NR666.902(2) and NR666.910(1)).

The HHW storage locations are located indoors (NR666.902(3). The indoor storage prevents run-off from hazardous waste handling areas to other areas of the facility, the environment, or to prevent flooding. The spill containment capacity of the facility is discussed with respect the storage rooms in the FPOR Section 5.0. The floor of the hazardous waste container TSDF storage areas is continuous base concrete floors (NR666.902(4). The floor system of the HHW area is an impervious concrete floor.

The containers are stored in the storage rooms are on raised steel grate to prevent contact with any freestanding liquids, which may occur from a spill (NR666.902(5)). The containers in the HHW area are stored on plastic containment pallets.

As described Section 5.5.1 of the FPOR, the capacity of the containment system in each storage pod is greater than 10% of the volume of the containers or the volume of the largest container, whichever is greater (NR666.902(6)). The plastic containment pallets also provide 10% capacity.

Spilled or leaked waste is removed from the collection area in a timely manner to prevent overflow or within 24 hours, whichever is less (NR666.902(7)). The TSDF's Contingency Plan outlined in Section 9.0 of the FPOR is implemented for spill cleanup.

3.0 STANDARDS FOR OPERATION (NR666.903)

3.1 Notification (NR666.903(1)).

On August 18, 1999, the TSDF submitted a Plan of Operation for the Household Hazardous Waste (HHW Plan of Operation) Permanent Collection Facility to the WDNR. This submittal served as the one time notification required in NR666.903(1)).

3.2 Storage Time Limit (NR666.903(3)).

The storage of HHW is no longer than one year from the date the waste is received. The TSDF's inventory system is used to demonstrate the storage date of the HHW.

3.3 Container Management (NR666.903(4)).

Drums and containers of HHW are labeled with the words "hazardous waste" or other words that identify the contents of the container (NR666.903(4)(a)). The containers are properly labeled, marked and placarded, as applicable, before being transported from the TSDF in accordance with the applicable DOT regulations for hazardous materials under 49 CFR Part 172.

Each container is marked to identify its inventory number, its contents (e.g., profile number) and the date accumulation began (NR666.903(4)(b)). .

The majority of the HHW are packaged in their original containers the placed into DOT approved shipping containers. The containers are in good condition and compatible with the waste being stored (NR666.903(4)(c)). These containers are then accumulated in the HHW area depicted in Drawing D3 in the FPOR. In some instances, HHWs are consolidated or commingled into other hazardous waste streams, as appropriate. This consolidation or commingling occurs in the storage pods. The resulting container is the stored in the permitted storage pods.

Hazardous waste containers retained in the HHW area are kept closed and sealed to ensure minimal vapor escape and to prevent spillage if the containers were accidentally overturned. The containers are closed except when adding or removing waste

(NR666.903(4)(d). The containers are opened, handled, and stored to prevent rupture and leaks (NR666.903(4)(e)). Drums (85-gal and 55-gal) are sealed tightly with a top head and bolt ring or a bung cap. Other intermediate sized containers are sealed with tight-fitting lids (e.g., metal, plastic, and polyethylene). Drums and containers are checked for proper sealing during weekly inspection. Containers holding ignitable or reactive waste are located at least 50 feet from the facility's property line.

A weekly inspection of the TSDF is completed, including the HHW area. The goals of the weekly inspections of the container storage areas is ensure conditions are adequate to prevent environmental or human health incidents (NR666,903(4)(f)). Immediate actions are taken and documented to correct the problems found during the inspection.

The container storage areas for HHW are maintained to allow for the unobstructed movement of personnel, fire protection and spill control equipment in an emergency (NR666.903(4)(g).

3.4 IGNITABLE, REACTIVE OR INCOMPATIBLE WASTE (NR666.903(5))

The hazardous waste storage rooms are constructed of 4-hour fire prevention concrete walls, ceiling, and floor. The storage rooms have a total surface area of approximately 2,498 sf for hazardous waste storage, as described in Section 3.1 of the FPOR. To prevent accidental ignition or reaction of ignitable or reactive wastes, the following sources of ignition are excluded from the TSDF: open flames, smoking, cutting and welding, hot or sparking equipment, and radiant heat. Also, "No Smoking" and "Danger-Unauthorized Personnel Keep Out" signs are placed at the entrances of the TSDF and conspicuous places in the TSDF to warn personnel of the potential fire hazard. Non-sparking lights for illumination, non-sparking ventilation ducts, and heat detectors (as part of the connection to the fire alarm annunciation panel) are located in the TSDF pods.

3.5 SECURITY SYSTEM (NR666.903(6)

Security at the TSDF is provided throughout a 24-hour day. Entry/exit and use of the storage rooms is controlled by the Operations Manager. "Danger Hazardous Waste Storage Area-Unauthorized Personnel Keep Out" and "No Smoking" signs are placed at all entrances of the storage rooms and loading dock areas to serve as warnings to VESTS personnel or clientele.

- The overhead door to the household hazardous waste (HHW) collection area remains closed, except during hours of HHW operation or when supplies for the facility are transferred through the door. An attendant is located inside the facility when the door is open.

- The entrance door leading into the laboratory area of the facility remains closed. The door does not provide direct access to any hazardous waste operation area within the

facility. The door has signage indicating "ALL VISITORS MUST SIGN IN AT OFFICE".

- The doors leading directly to the hazardous waste storage rooms and the retort room from outside the building are locked. The doors do not have access handles or door knobs to allow for entry. Access to the hazardous waste storage rooms is only gained from inside the building. These inside doors to the hazardous waste storage rooms are closed and locked during non-operating hours. One of the functions that facility operations personnel serve while working in the area of the hazardous waste storage rooms is to serve as an attendant. The attendant is located at the loading dock area, adjacent to the access doors during operating hours. The attendant routinely moves waste in and out of the storage rooms as part of the operations.

3.6 PREPAREDNESS AND PREVENTION

The TSDF is designed to prevent, minimize, and control releases of hazardous waste. The preparedness and prevention features of the facility include fire protection, communications, security, spill containment and a back-up power generator. These features have been designed and implemented to facilitate the protection of air, groundwater and surface water during facility operations. Details regarding the preparedness and prevention actions for the TSDF are found in Section 5 of the FPOR.

3.7 EMERGENCY EQUIPMENT

3.7.1 FIRE PROTECTION AND CONTROL SYSTEMS

The design of the TSDF, which includes the segregation of wastes by the use of storage rooms, prevents total involvement of all hazardous waste stored at the facility in the event of a fire, explosion, or spill release. The segregation of wastes within storage rooms allows for a specific fire protection system for classes of waste.

A dry-line sprinkler system is installed, in accordance with the City of Port Washington building code ordinances, throughout the ceilings of the PPE emergency response materials room, office/laboratory area, above the storage room ceilings, the fluorescent lamp recycling area and room, the retort room, and the household hazardous waste accumulation area. The system is maintained by an outside vendor knowledgeable in the type of system. The dry-line sprinkler system contains sprinklers with a temperature rating of 165 °F. The water supply from the City of Port Washington has a hydrostatic pressure of approximately 100 psi. A water flow release will activate the fire alarm system. The accompanying air pressure system maintains pressure at approximately 35 psi. A malfunction in the airline system is detected by a high-low pressure switch and will activate a supervisory alarm. If the main water valve is turned, a tamper switch detector will activate a trouble alarm.

A Halogen 1301 Fire Protection System is installed in Storage Rooms 1, 2, and 3. A thermal and photoelectric detector is present in the rooms to detect an existing fire or explosion. The two fire protection systems, the Halogen 1301 Fire Protection System and

the dry-line sprinkler system, are monitored using a control unit panel. The control panels are divided into different zones based on detector, halogen flow, water flow, and trouble and alarm conditions.

Activation of a compatible two-wire detector or any normally open fire alarm initiating device will sound the audible devices, trip a municipal box, notify a remote station, annunciate a fire zone, and energize supplementary relays. The control unit panel is maintained by an outside vendor knowledgeable with the unit.

3.7.2 COMMUNICATION EQUIPMENT

The TSDF control unit(s) has a direct connection module to HSM Security (Honeywell) who monitors the system and will notify the Ozaukee County Sheriff's Dispatch Center, who subsequently notifies the City of Port Washington Fire Department during an emergency. Security Knox-Boxes are located at the facility drive gate entrance and office/laboratory area entrance of the TSDF. These boxes provide keys to ensure quick access to the fire alarm control unit(s) for the Fire Department during an emergency alarm. Pagers, with alarm signals, are worn during non-business hours by the Emergency Coordinator (EC) or a designated alternate for immediate emergency contact.

Telephones are available in the office/laboratory area that will be used for emergency contacts of the City of Port Washington Police and Fire Departments. In addition, an intercom system will be used to warn personnel during an emergency. The intercom system allows personnel to communicate throughout the facility. In addition, a mobile phone that will be used for external or off-site communication during a fire or chemical spill in the TSDF will be retained in the office/laboratory area. The mobile phone will allow the EC or Alternate to view the scene of operations while summoning other emergency assistance.

3.8 TESTING AND MAINTENANCE OF EMERGENCY EQUIPMENT (NR666.903(9)

Emergency and spill control equipment and materials are inspected weekly to ensure proper function and adequate supplies if an emergency occurs. Vermiculite retained for spill cleanup checked for condition and amount available. SCBA checked for functionality and tank air supply. Spill response tools, eyewash station, and fire extinguishers checked for full capacity/condition.

The fire extinguishers and fire suppression systems are inspected weekly by VESTS employees.. In addition, the extinguishers are inspected yearly by an outside vendor. The fire suppression systems are inspected semi-annually by an outside vendor.

3.9 CONTINGENCY PLAN (NR666.903(10)

The Contingency Plan for the TSDF is presented in Section 8.0 of the FPOR. The Plan describes actions to be taken by VESTS personnel in response to emergencies. The plan is to ensure that site personnel are prepared to respond to any eventuality which may occur during the managing of hazardous wastes at the TSDF in a manner that minimizes hazards to human health and the environment in the event of a release.

3.10 EMERGENCY COORDINATOR (NR666.903(11)

The Contingency Plan for the TSDF is presented in Section 8.0 of the FPOR and outlines the Emergency Coordinators and their roles and responsibilities

3.11 PERSONNEL TRAINING (NR666.903(12))

Training of personnel is completed to instruct and refresh employees on performing operations that maintain facility compliance. The program is directed by the Operations Manager and implemented by the EHS Manager and includes training on hazardous waste handling procedures, Contingency Plan implementation, and emergency response. The training program is designed to ensure that facility personnel are able to respond effectively to emergencies through reviewing the Contingency Plan, the emergency procedures, the emergency equipment and emergency systems. The training covers the following:

- Procedures for using, inspecting, repairing and replacing facility emergency and monitoring equipment including fire extinguishers, water sprinkler and Halon systems, alarm panels, and mercury vapor monitoring instruments.
- Key parameters for shutting off process operations including lamp recycling machines and retorts.
- Alarm and communication systems.
- Responding to fires and explosions.
- Responding to incidents that could lead to groundwater contamination.

The level of training is dependent on the job title and area of responsibility relative to hazardous waste management. Experienced employees complete training as an annual review. New employees complete initial training within 6 months of the date of assignment/employment. Employees are not allowed to work in the facility in unsupervised positions until they have completed the training requirements.

Training records and job descriptions are maintained at the TSDF. The training records contain a written job description for each job title, a training matrix for each job title, a list of employees filling the job title positions, records of completed training including date, content of training and proficiency documentation as necessary by the regulatory requirement.

Training records will be kept on current (active) employees until the closure of the facility. Training records on former employees are retained for three (3) years for the date the employee last worked.

3.12 ANNUAL HAZARDOUS WASTE REPORT (NR666.903(13)

An Annual Hazardous Waste Activity Report is completed and submitted to the WDNR by March 1 of each year. The report includes general facility information, quantities of waste received and stored, updated closure costs, a waste minimization report, and certification.

3.13 RECORDKEEPING (NR666.903(14)

Copies of annual reports and results of any certified laboratory hazardous waste analysis are retained for three (3) years.

3.14 BULKING OPERATIONS (NR666.903(15)

The TSDF conducts hazardous waste bulking operations. The bulking operations are not considered hazardous waste treatment because the physical, chemical, or biological character or composition of the waste will not be changed so that the waste is rendered less hazardous. The bulking operations are subject to the requirements of NR664.0017(2) regarding the commingling of compatible wastes and NR664.0172 regarding the management of containers. Wastes that are candidates for bulking include wastes of the same waste codes, wastes of similar EPA codes, and chemically compatible wastes. Before wastes are recontainerized or bulked, the Operations Manager, or appointee, makes an initial determination of chemical compatibility based on incoming waste characterization information supplied by the generator and the analytical results of the qualitative screening analysis. Only those waste streams that readily lend themselves to this process are considered, and only those wastes approved by the Operations Manager or appointee are bulked. Also, bulking is not intended to eliminate EPA codes. Wastes are only bulked if they are chemically compatible, and not in such a way as to remove a characteristic from the waste.

3.15 TREATMENT (NR666.903(16)

Treatment of HHW is not conducted as part of this Plan of Operation. VESTS does collect mercury-contaminated debris or mercury-contaminated devices with the HHW. This material will be entered into the mercury recovery/retort operation located at the TSDF.

3.16 VERY SMALL QUANTITY GENERATOR WASTE (NR666.903(17)

Hazardous waste from very small quantity generators are accepted at the TSDF. The following information is retained for a minimum of three (3) years from receipt of the waste:

- The generator's company name and location, including street address, city and state.
- The quantity and type of waste.
- The date the waste was accepted by the TSDF.

4.0 TRANSPORTATION REQUIREMENTS (NR666.905)

The operations of the TSDF are supported by the VESTS's licensed transportation services that transports incoming hazardous wastes from generator facilities and transports outgoing waste to the appropriate treatment or disposal facilities. Loading and unloading of waste generally occurs during normal hours (6:00 a.m. to 11:30 p.m.), or during non-business hours under the approval of the Operations Manager. The operations are principally conducted in the loading dock areas along the south side of the facility (Drawing D3 of FPOR).

The provisions of NR666.905(2) and (3) are not applicable to the Plan of Operation on the basis that all shipments are manifested and the TSDF does not "self-transport" the HHW. The transportation functions are conducted under separate US EPA Identification Number.

4.1 CONTAINER PACKAGING AND LABELING (NR666.905(b) – (e)

Drums and containers are properly package labeled, marked and placarded, as applicable, before being transported from the TSDF in accordance with the applicable DOT regulations for hazardous materials under 49 CFR Part 172. Upon receipt of hazardous waste drums or containers into the TSDF, the drums or containers are immediately inspected for proper marking, labeling, and placarding. According to the waste description and designated DOT hazard class, each drum or container is segregated based on compatibility. Each container will be marked to identify the generator, its inventory number, its contents (e.g., profile number) and the date each period of accumulation began.

4.2 MANIFESTING (NR666.905(f))

A hazardous waste manifest is created for each shipment of HHW. Sufficient copies are created to be retained by the TSDF, each transporter, the owner or operator of the designated facility, and copies to be submitted to the WDNR. A copy of the signed return manifest is sent to the WDNR for outside of Wisconsin shipments within 30 days for receiving a copy from the designated facility.

Hazardous waste manifest copies documenting the shipment are retained as part of the TSDF operating records for a minimum of 3 years.

4.3 LAND DISPOSAL RESTRICTION STANDARDS (NR666.905(g))

The land disposal restriction (LDR) standards of NR668.07 are followed for shipment of HHW for site. LDR forms are maintained with the manifest records for a minimum of 5 years.

5.0 CLOSURE REQUIREMENTS (NR666.909)

The permanent household hazardous waste (HHW) collection operations are not cover under the TSDF licensing requirements. However the HHW operations are coved under NR666 Subpart HH. The following closure plan covers the applicable requirements of NR666.909. Because NR664.0110(3)(a) may be applicable, the following procedures have been included in the FPOR for the HHW operations.

Initially, containers of HHW will be properly identified, then labeled and marked for shipment to permitted TSDFs. Within 90 days after receiving the final volume of HHW, the volume of waste will be shipped to an off-site TSDF, recycling facility, or another permanent collection facility (NR666.909(2)(a)). After removal and disposal of wastes, the accumulation areas will be thoroughly decontaminated. The cleaning of the remaining building surfaces including floors, walls, berms, ceilings, and doors will be completed. The cleaning activities will utilize mercury abatement solutions (e.g., Mercon-X®). The surfaces will then scrubbed with a dilute soap solution, and rinsed by water and steam cleaning if necessary to remove residues and contaminants (NR666.909(2)(b)).

Waste wash and rinse liquids will be collected and placed in individual 55-gal drums or bulked in tankers. Analysis of the waste liquids will be conducted by an outside laboratory to identify potentially hazardous constituents. If the waste cleaning liquids are found to be hazardous, disposal will be completed at an appropriate TSDF (NR666.909(3)(b)). The effectiveness of the decontamination will be checked by air monitoring and/or wipe tests (with subsequent laboratory analysis) of the representative areas. If such tests reveal that certain contaminants are still present, the decontamination procedures will again be implemented and repeated until the area is deemed safe and nonhazardous.

Field personnel involved in the clean-up and decontamination will require proper training in hazardous waste handling and safety in accordance with developed Site Health and Safety Plan (HASP). The HASP will outline specific PPE to be used by personnel and may include:

1. SCBA, SAR, or appropriate full-face cartridge respirator.

2. Chemical resistant protective clothing, including but not limited to, suits, over-boots, and gloves.

PPE will be decontaminated in accordance to the procedures outlined in Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities, 1985, U.S. Department of Health and Human Services, NIOSH Publication No. 85-115 or disposed of. Decontamination rinse solutions will be collected in 5-gal plastic buckets or 55-gal steel drums. These waste solutions will be checked for contaminants and hazardous characteristics by an outside analytical laboratory. If necessary, the wastes will be disposed of at appropriate TSDFs.

In accordance with the provisions of NR666.909(3)(c), within 60 days of the completion of closure, the Operation Manager will submit to the WDNR a report summarizing the activities performed to meet the requirements in NR666.909(3)(a) and (b).

The HHW operations to not store more than 80,000 pounds of hazardous waste and therefore the financial responsibility requirements of NR666.910 are not required.

Q

Closure Cost Support Documentation

THE ENVIRONMENTAL QUALITY COMPANY ®

Generator Approval Notification

September 18, 2012

Customer: VEOLIA ENVRONMENTAL SERVICES
Fax: (262) 284-3775

ENVIRONMENTAL MANAGER
VEOLIA SPECIAL SERVICES
1275 MINERAL SPRINGS DR
PORT WASHINGTON, WI 53074

This Generator Approval Notification acknowledges the acceptability of waste material(s) into the EQ environmental protection facility identified below and ensures that this facility has the appropriate permit(s) issued by federal and state regulatory agencies to properly transport, treat, and/or dispose of the waste material(s).

EQ FACILITY: Michigan Disposal Waste Treatment Plant (MID000724831)
49350 North I-94 Service Drive, Belleville, Michigan 48111

Approval Number: 062096EA

Generator EPA ID: WID988566543 **Expires On:** 09/17/2013
Waste Common Name: METAL PROCESS WASTE DEBRIS
Comments: No metal fines. No Al, Zn, Be, or Mg dusts. Debris > 2 1/2" and <3x3x3 ft in size, and >50% of each container by volume, based on visual inspection. Piping must be open and empty. No pressurized containers. No organic codes. No UHCs. Crushed drums less than 20% of each load by volume. Inner containers <75% intact. Nondebris that can be easily separated will not be sent. Reactive CN- <250 mg/kg. No free mercury.
Primary Waste Code: U151
Secondary Waste Codes: D004, D005, D006, D007, D008, D009, D010, D011, F006, F007, F008, F009, F010, F011, F012, F019, P092

The Approval(s) listed above are based upon characterization information supplied to EQ by the Customer and the generator (if other than the Customer). The Customer is ultimately responsible for the accuracy and completeness of all such information, whether provided by the Customer or the generator. The Customer must notify the EQ Resource Team immediately upon knowledge of any changes to this information. This Approval and all wastes which are transported, delivered, or tendered to EQ under this Approval shall be subject to the attached Standard Terms and Conditions.

The Approval(s) will expire on the date(s) noted. Any new Approvals obtained from EQ on future business will be valid for a period of one (1) year from the date of issuance. Within 60 days of the Approval Expiration Date, you will be notified of the requirements for recertification.

PRICE CONFIRMATION

Customer Account: 001015
Fax: (262) 284-3775

August 01, 2013

ENVIRONMENTAL MANAGER
VEOLIA ENVRONMENTAL SERVICES
1275 MINERAL SPRINGS DRIVE
PORT WASHINGTON, WI 53074

This Price Confirmation acknowledges the acceptability of the waste described and ensures the noted EQ facility identified below has the appropriate permit(s) issued by federal and state regulatory agencies to properly transport, treat and/or dispose of the waste material(s) listed below. The Approval(s) are based upon information supplied to EQ by your company. The generator identified is ultimately responsible for the accuracy and completeness of the characterization information provided and any other information that was provided during the technical approval process. The generator must notify EQ immediately upon knowledge of any changes to this information. The Approval(s) and Price(s) listed below will expire on the date(s) noted. Any new Approvals obtained from EQ on future business will be valid for a period of one (1) year from the date of issuance. For further information, refer to EQ's Standard Terms and Conditions. (Attached). Please prepare any Purchase/Work Orders for EQ - The Environmental Quality Company. To coordinate delivery of your waste stream(s), please contact customer service at (800) 592-5489.

I, _____ hereby certify that I have reviewed the information
(Authorized Customer Signature)

contained in this confirmation and agree to its contents and terms and conditions as set forth.

Printed Name: Kevin D Shaver Date: 8/1/13 Purchase/Work Order: _____

Please note the following:

- *An energy surcharge will be applied to all waste streams received at EQ's fixed based TSDF operations. The energy surcharge will be adjusted quarterly, based upon the U.S. Department of Labor Consumer Price Index (CPI) - Energy. The appropriate energy surcharge will be applied to the waste treatment/disposal fee(s) based on the date of waste receipt. For more information on the current energy surcharge, please contact customer service at (800) 592-5489.*
- *Additional fees may apply at the time of delivery for assistance in off-loading or due to non-conforming waste.*
- *The specified pricing is contingent upon the waste conforming to the approved profile.*
- *All containers must meet D.O.T. requirements.*
- *Quoted bulk disposal charges for solid materials will be billed by the cubic yard if the truckload density is less than 2,000 pounds per cubic yard. If the truckload density is greater than 2,000 pounds per cubic yard then bulk charges will be billed by the ton regardless of the approved container. EQ personnel will monitor all shipments.*
- *The Michigan DEQ will assess a manifest fee for all hazardous waste manifests used in the State of Michigan.*

Generator Name: VEOLIA SPECIAL SERVICES **EPA ID No.:** WID988566543

Waste Common Name: METAL PROCESS WASTE DEBRIS

Waste Code(s): U151 D004 D005 D006 D007 D008 D009 D010 D011 F006 F007 F008 F009 F010 F011 F012 F019 P092

Approval No: 062096EA **Expiration Date:** 09/17/2013

EQ Facility Name & ID Number: Michigan Disposal Waste Treatment Plant (MID000724831)

Type of Service	*Price*	*Unit*	*Min. Qty.*
Treatment and Disposal - Additional $10.00 Hazardous Surcharge per unit	$156.81	CYB	N/A
Treatment and Disposal - Additional $2.20 Hazardous Surcharge per unit	$124.45	DM55	N/A
Wayne Disposal Host Community Agreement Royalty Fee	$1.65	CYB	N/A
Wayne Disposal Host Community Agreement Royalty Fee	$0.45	DM55	N/A

No metal fines. No Al, Zn, Be, or Mg dusts. Debris > 2 1/2" and <3x3x3 ftin size, and >50% of each container by volume, based on visual inspection. Piping must be open and empty. No pressurized containers. No organic codes. No UHCs. Crushed drums less than 20% of each load by volume. Inner containers <75% intact. Nondebris that can be easily separated will not be sent. Reactive CN- <250 mg/kg. No free mercury. Send LDR with each load.

STANDARD TERMS AND CONDITIONS

The Agreement between the Customer and EQ - The Environmental Quality Company and/or its member companies (hereinafter "EQ") related to or associated with Delivered Waste, as herein defined, shall be governed by the following Standard Terms and Conditions in addition to the terms and conditions contained in any Waste Profile Form, Customer Approval Quote Confirmation, Generator Approval Notification, Notice of Waste Approval Expiration, and/or Credit Agreement associated with such Delivered Waste.

The Customer may use its standard forms (such as purchase orders, acknowledgments of orders, and invoices) to administer its dealings under this Agreement for convenience purposes, but all provisions thereof in conflict with these terms and conditions shall be deemed stricken.

Definitions

"Acceptable Waste" shall mean any hazardous waste, as defined under applicable State or federal law, determined by EQ as acceptable for treatment and/or disposal in accordance with this Agreement.

"Delivered Wastes" shall mean all wastes (i) which are transported, delivered, or tendered to EQ by the Customer; (ii) which the Customer has arranged for the transport, delivery or tender to EQ; or (iii)) which are transported, delivered, or tendered to EQ under a Credit Agreement between the Customer and EQ.

"Non-Conforming Wastes" shall mean wastes that (a) are not in accordance in all material respects with the warranties, descriptions, specifications or limitations stated in the Waste Profile Form and this Agreement; (b) have constituents or components of a type or concentration not specifically identified in the Waste Profile Form (i) which increase the nature or extent of the hazard and risk undertaken by EQ in treating and/or disposing of the waste, or (ii) for whose treatment and/or disposal a Waste Management Facility is not designed or permitted, or (iii) which increase the cost of treatment and/or disposal of waste beyond that specified in EQ's price quote; or (c) are not properly packaged, labeled, described, or placarded, or otherwise not in compliance with United States Department of Transportation and United States Environmental Protection Agency regulations.

Control of Operations.

EQ shall have sole control over all aspects of the operation of any treatment and/or disposal facility of EQ receiving Delivered Wastes under this Agreement (hereinafter, "Waste Management Facility"), including, without limitation, maintaining EQ's desired volume of Acceptable Wastes being delivered to any Waste Management Facility by the Customer or any other person or entity.

Identification of Waste.

For each waste material to be transported, delivered, or tendered to EQ under this Agreement, the Customer shall provide, or cause to be provided, to EQ a representative sample of the waste material and a completed Waste Profile Form containing a physical and chemical description or analysis of such waste material, which description shall conform with any and all guidelines for waste acceptance provided by EQ. On the basis of EQ's analysis of such representative sample of the waste material and such Waste Profile Form, EQ will determine whether such wastes are Acceptable Wastes. EQ does not make any guarantee that it will handle any waste material or any particular quantity or type of waste material, and EQ reserves the right to the decline to transport, treat and/or dispose of waste material. The Customer shall promptly furnish to EQ any information regarding known, suspected or planned changes in the composition of the waste material. Further, the Customer shall promptly inform EQ of any change in the characteristic or condition of the waste material which becomes known to the Customer subsequent to the date of the Waste Profile Form.

Non-Conforming Wastes.

In the event that EQ at any time discovers that any Delivered Waste is Non-Conforming Waste, EQ may reject or revoke its acceptance of the Non-Conforming Waste. The Customer shall have seven (7) days to direct an alternative lawful manner of disposition of the waste, unless it is necessary by reason of law or otherwise to move the Non-Conforming Waste prior to expiration of the seven (7) day period. If the Customer does not direct an alternative disposal, at its option, EQ may return any such Non-Conforming Wastes to the Customer, and the Customer shall pay or reimburse EQ for all costs and expenses incurred by EQ in connection with the receipt, handling, sampling, analyses, transportation and return to the Customer of such Non-Conforming Wastes. If it is impossible or impractical for EQ to return the Non-Conforming Waste to the Customer, the Customer shall reimburse EQ for all costs, of any type or nature whatsoever, incurred by EQ, solely because such Delivered Waste was Non-Conforming Waste (including, but not limited to, all costs associated with any remedial steps necessary, due to the nature of the Non-Conforming Waste, in connection with material with which the Non-Conforming Waste may have been commingled and all expenses and charges for analyzing, handling, locating, preparing for transporting, storing and disposing of any Non-Conforming Waste).

Customer Warranty - Acceptable Wastes.

All Delivered Wastes shall be Acceptable Wastes and shall conform in all material respects to the description and specifications contained in the Waste Profile Form. The information set forth in the Waste Profile Form or any manifest, placard or label associated with any Delivered Wastes, or otherwise represented by the Customer or the generator (if other than the Customer) to EQ, is and shall be true, accurate and complete as of the date of receipt of the involved waste by EQ.

Customer Warranty - Title to Wastes.

Either the Customer or the generator (if other than the Customer) shall hold clear title, free of any all liens, claims, encumbrances, and charges to Delivered Waste until such waste is accepted by EQ.

Customer Warranty - Compliance with Laws.

The Customer shall comply with all applicable federal, state and local environmental statutes, regulations, and other governmental requirements, as well as directives issued by EQ from time to time, governing the transportation, treatment and/or disposal of Acceptable Wastes, including, but not limited to, all packaging, manifesting, containerization, placarding and labeling requirements.

Customer Warranty - Updating Information.

If the Customer receives information that Delivered Waste or other hazardous waste described in the Waste Profile Form, or some component of such waste, presents or may present a hazard or risk to persons, property or the environment which was not disclosed to EQ, or if the Customer or generator (if other than the Customer) has changed the process by which such waste results, the Customer shall promptly report such information to EQ in writing.

Customer Indemnity.

The Customer shall indemnify, defend and hold harmless EQ, and its affiliated or related companies, and all of their respective present or future officers, directors, shareholders, employees and agents from and against any and all losses, damages, liabilities, penalties, fines, forfeitures, demands, claims, causes of action, suits, costs and expenses (including, but not limited to, reasonable costs of defense, settlement, and reasonable attorneysÆ fees), which may be asserted against any or all of them by any person or any governmental agency, or which any or all of them may hereafter suffer, incur, be responsible for or pay out, as a result of or in connection with bodily injuries (including, but not limited to, death, sickness, disease and emotional or mental distress) to any person (including EQ's employees), damage (including, but not limited to, loss of use) to any property (public or private), or any requirements to conduct or incur expense for investigative, removal or remedial expenses in connection with contamination of or adverse effect on the environment, or any violation or alleged violation of any statutes, ordinances, orders, rules or regulations of any governmental entity or agency, caused or arising out of (i) a breach of this Agreement by the Customer, (ii) the failure of any warranty of the Customer to be true, accurate and complete, or (iii) any willful or negligent act or omission of the Customer, or its employees or agents in connection with the performance of this Agreement.

Force Majeure.

EQ shall not be liable for any failure to accept, receive, handle, treat, and/or dispose of Delivered Waste due to an act of God, fire, casualty, flood, war, strike, lockout, labor trouble, failure of public utilities, equipment failure, facility shutdown, injunction, accident, epidemic, riot, insurrection, destruction of operation or transportation facilities, the inability to procure materials, equipment, or sufficient personnel or energy in order to meet operational needs without the necessity of allocation, the failure or inability to obtain any governmental approvals or to meet Environmental Requirements (including, but not limited to voluntary or involuntary compliance with any act, exercise, assertion, or requirement of any governmental authority) which may temporarily or permanently prohibit operations of EQ, the Customer, or the Generator, or any other circumstances beyond the control of EQ which prevents or delays performance of any of its obligations under this Agreement.

Governing Laws

This Agreement shall in all respects be governed by and shall be construed in accordance with the laws of the State of Michigan applied to contracts executed and performed wholly within such state.

Bulk Disposal Charges

Quoted bulk disposal charges for solid materials will be billed by the cubic yard, if the waste density is less than 2,000lbs./cubic yard. If waste density is greater than 2,000 lbs./cubic yard, then bulk disposal charges will be billed by the ton, regardless of the approved container.

WM-Mercury Waste, Inc.
21211 Durand Avenue, Union Grove, Wisconsin 53182-9711
Phone: 800-741-3343 or 262-878-2599
Fax: 262-878-2699

Exhibit A - Veolia ES Technical Solutions, LLC - 04.06.2012

April 6, 2012

Kevin Shaver
Veolia ES Technical Solutions, LLC
1275 Mineral Springs Drive
Port Washington, WI 53074

RE: Mercury Reclamation and Recycling

Dear Kevin Shaver,

Thank you for considering WM-Mercury Waste, Inc. as your mercury reclamation and recycling management partner. WM-Mercury Waste, Inc. is your complete source for the highest quality of mercury recycling and universal waste disposal in the nation. Being the largest processor of mercury-containing products and contaminated waste, we have the capacity to handle substantial volumes of mercury waste safely and efficiently.

We understand the demands of regulatory compliance and it is our commitment to provide you the assistance you require. WM-Mercury Waste, Inc. has all local, state and federal permits and licenses to accept and process your waste as described.

WM-Mercury Waste, Inc. offer our clients a broad spectrum of services and benefits that enable you to focus on your core business while knowing your waste is being managed by the leaders in mercury recovery. Some of the benefits of conducting business with WM-Mercury Waste, Inc. are:

- **Retort-Best Demonstrated Available Technology (BDAT)**
- **Fully Permitted RCRA Part B Facility**
- **$10,000,000 Pollution Liability Policy**
- **Certificate of Recovery**
- **Turnkey Services**

WM-Mercury Waste, Inc. has made a significant investment in state of the art technology allowing us to offer our customers a competitive price for mercury waste management. The retort process is considered to be the most environmentally friendly disposal option available for mercury products. The following pricing is offered for treatment, recycling and disposal. We look forward to working with you and helping you with your waste disposal needs. If you have any questions or need further assistance, you may contact our Customer Service group at 1-800-741-3343. Please feel free to contact me any time at the number below.

Sincerely,

Justine Bryant
Technical Services Manager
Direct: 262-878-0184

Jessica Sorenson
Customer Service
Direct: 262-878-0261

WASTE MANAGEMENT

Veolia ES Technical Solutions, LLC

2013 STANDARD PRICING
EFFECTIVE JANUARY 1, 2013
(Schedule A)

Commodity/Description	Price	Unit
RETORT - *Analytical Required (Includes: *Activated Carbon/COD Vials/Debris/Dental Amalgam/Devices-Equipment/Lab Packs/*Soil)		
20 Yard Roll Off	$ 48,000.00	Each
Cubic Yard Box	$ 2,600.00	Each
31 - 55 Gallon	$ 1,250.00	Per Drum
17 - 30 Gallon	$ 675.00	Per Drum
6 - 16 Gallon	$ 450.00	Per Drum
< 6 Gallon	$ 250.00	Per Drum

* **Additonal Waste Profiles available, contact Customer Service for pricing:** Activated Carbon/Batteries/Broken Lamps/Calcium Phosphate Powder/ COD Bulk/COD Vials/Crushed Lamps/Debris/Dental/Devices/Electronic Equipment/Expired Electronics/Filter Cake/Fluorescent Bulbs/ Ignitron/Lab Packs/Non-PCB Ballasts/PCB Ballasts/Regulators/Relays/Sludge/Soil/Switches/Wash Water.

Terms and Conditions

* All rates that are billed per pound will be based on gross weight.
* The above rates are based on an approved waste material profile. Profiles requiring analytical data are: Activated Carbon, Sludge, Soil, and Filter Media. Contact Customer Service for a copy of our Waste Analysis Testing Requirements.
* All batteries are required to be taped or they will be rejected.
* Transportation rates are quoted on a per shipment basis. Please contact your CSR for actual rates prior to scheduling a pickup. If transportation is arranged by WM, demurrage charges will apply after 1 hr. load/ 1 hr. unload at the rate of $100.00/hr.
* Minimum invoice charge of $50.00.
* An energy/fuel surcharge fee, currently at 4%, is applied to every invoice total amount.
* All roll offs are required to have a pre-approved picture of actual loaded roll off. Roll offs will be emptied and returned on a pre-arranged schedule. No on-site scale is available. If you require weight tickets they will need to be acquired prior to delivery.
* In addition to the terms above, the services provided under this quote will be subject to the terms and conditions in the National Services Agreement dated ***April 14, 2000*** between the two parties.

Signature

1/5/13
Date

Kevin D Shaver

From: Bryant, Justine <jbryant@wm.com>
Sent: Monday, July 08, 2013 11:42 AM
To: Kevin D Shaver
Subject: RE: Pricing

Powder 55g/$200
Crushed Lamps 55g/$300

Justine Bryant
Technical Service Mgr, WM Mercury Waste, Inc.
jbryant@wm.com

WM Mercury Waste, Inc.
21211 Durand Ave.
Union Grove, WI 53182
Tel 262 878 0184
Cell 262 422 1176

-----Original Message-----
From: Kevin D Shaver [mailto:kevin.shaver@veoliaes.com]
Sent: Monday, July 08, 2013 10:53 AM
To: Bryant, Justine
Subject: RE: Pricing

Justine: Is the phosphor powder and crushed lamps pricing still at $260.00/55-gallon drum and $312.00/55-gallon drum , respectively?

Thanks

Kevin D. Shaver
Operations Manager
Veolia ES Technical Solutions, L.L.C.
1275 Mineral Springs Drive
Port Washington, WI 53074
Tel: 262-243-8909 Fax: 262-284-3775
E-Mail: kevin.shaver@veoliaes.com
Website: www.veoliaes.com

Service First. Safety Always.

R

Waste Minimization Plan

WASTE MINIMIZATION PLAN
FOR
VEOLIA ES TECHNICAL SOLUTIONS, L.L.C.
1275 MINERAL SPRINGS DRIVE
PORT WASHINGTON, WI 53074
WID 988566543

Veolia ES Technical Solutions, L.L.C. (VESTS) operates a Resource Conservation and Recovery Act (RCRA) permitted hazardous waste storage facility (TSDF), EPA I.D. WID 988566543 and Wisconsin Department of Natural Resources (WDNR) FID# 246076050, located at 1275 Mineral Springs Drive, Port Washington, Wisconsin. The TSDF primarily operates as destination facility for the recycling of universal waste including mercury containing lamps and mercury containing devices. The TSDF also operates four mercury recovery furnaces (retorts) to recover elemental mercury from the lamps, devices and hazardous waste debris containing mercury.

Sections 3002(b) and 3005(h) of RCRA require hazardous waste generators and owners of TSDFs to have a waste minimization program in place. The purpose of this document is to outline VESTS Mineral Springs Drive facility's waste minimization program. The key elements of a waste minimization program include the following:

- Top Management Support
- Characterization of Waste Generation and Waste Management Costs
- Periodic Waste Minimization Assessments
- Cost Allocation System
- Encouraging Technology Transfer
- Program Implementation and Evaluation

The Waste Minimization Plan (Plan) is supported by the facility's Environmental Management System (EMS), which has been developed and certified in accordance with requirements of ISO 14001-2004.

1.0 Top Management Support

Veolia North America (VNA) management's commitment to waste minimization is best depicted in the company's overall mission to the environment through our Environmental Policy Statement, which is "Resourcing the World". The Policy is attached to this Program. The Policy outlines the principal aspects of the mission, including VNA's commitment to environmental compliance, environmental preservation. This commitment to environmental preservation supports VNA's efforts to actively recycle, resuse and eliminate waste, which supports this Plan. In addition, VESTS senior management commitment to the environment and waste minimization is outlined in Environmental Policy E-008.

2.0 Characterization of Waste Generation and Waste Management Costs

The TSDF allows for the economical management of a wide variety of hazardous waste for primarily industrial clientele. The TSDF's Feasibility and Plan of Operation Report (FPOR) contains a section entitled "Waste Analysis Plan" (WAP) that outlines the procedures the TSDF will take to properly characterize and accept waste streams from the clientele. Once the waste stream has arrived at the facility, representative samples are taken and analyzed to confirm the waste conforms to the pre-acceptance profile information.

The by-product wastes from recycling activities are segregated based on the physical and chemical properties. These by-product wastes are managed to minimize the amount of waste requiring disposal. Examples of waste streams destined for recycling instead of disposal include:

- Recycling of cardboard, wooden pallets, stretch-wrap and plastic pail.
- Recycling of various metals and metal drums.
- Recycling of aluminum end-caps from fluorescent lamp recycling.
- Alternative reuse of silica glass for lamps for abrasive media.
- Recovery of metals from Compact Fluorescent Lamp (CFL) bases.
- Recovery of mercury from lamp phosphor powder.
- Recovery of rare earth elements from post-retort phosphor powder.
- Recovery and resale of mercury from articles, devices and debris.
- Recycling of oils.

VESTS also evaluates the costs for managing the wastes. As part of a publicly traded company, VESTS is always looking to reduce costs and thereby increase profits. However, VESTS considers long-term liability and potential environmental impacts when considering waste material management alternatives, In order to protect the long-term liability of the company, all final disposal sites must be audited and approved in accordance with corporate policies and procedures.

3.0 Periodic Waste Minimization Assessments

As part of the TSDF's ISO 14001 program, the potential environmental impacts of the facility are reviewed on an annual basis. As part of this review, each impact is reviewed as a possible target for improvement. In addition, as part of our New Technology Review Program, environmental impacts are reviewed. The review includes the following elements:

- Identifying opportunities at all points in a process where materials can be prevented from becoming a waste,
- Evaluating material substitution opportunities to reduce the toxicity of waste generation,
- Evaluating operational changes to reduce waste generation,
- Educational outreach programs to assist in our waste minimization activities, and

- Analyzing waste stream opportunities based on the true costs associated with waste management and cleanup.

These reviews are documented as part of the EHS. Some examples of past waste minimization activities have included the following;

- Installation of a breathing air system for respiratory protection instead of generating respirator cartridges.
- Segregation and recycling of stretch wrap.
- Recycling of plastic pails.
- Replacement of chiller unit for retort operation to use non-ozone depleting refrigerant.
- Upgrading lighting in the facility to higher energy efficient fixtures.

4.0 Cost Allocation System

VESTS allocates the true cost of disposal to the specific activities responsible for generating the waste as opposed to lumping all waste disposal-related expenses into "overhead" This costs are review monthly as part of the overall profit/loss evaluation for the facility.

While we can manage our cost of internally generated wastes, these costs can be directly proposal to the amount of waste received from our customers.

5.0 Encouraging Technology Transfer

The VESTS Mineral Springs facility is one of four (4) similar locations operating by VESTS across the United States. These facilities routinely share technology to improve operating efficiencies and opportunities for waste minimization. In addition, VESTS is a member of the Association of Lighting and Mercury Recyclers (ALMR), which meets several times per year and discuss the overall technology and marketplace trends.

VE has a large technology research group located in France who can support pilot program testing and contributes initiative technology to the world-wide operations. If our customers inquire about potential waste minimization, waste reuse or waste recycling opportunities, VESTS can use this resource to provide a solution. The customer may also be encouraged to seek technical waste minimization information from trade associations, government or university assistance programs, and other clearinghouses.

6.0 Program Implementation and Evaluation

As previously discussed this Plan is support by the efforts of the ISO 14001 EMS Program. The implementation and evaluation is principally completed by the EHS Council and the Operations Manager. Implementation of any suggestions and specific targets and objectives will be documented in accordance with the EMS. This Plan will be reviewed on an annual basis ensure the execution of the Plan and update the Plan as necessary.

VEOLIA

VEOLIA NORTH AMERICA

Environmental Policy Statement

As the global leader in optimized resource management providing solutions in water, waste and energy management, Veolia North America is committed to sustainable development and environmental stewardship. Serving municipal, commercial and industrial customers throughout North America, our environmental policy reflects our responsibility and our challenge toward **"Resourcing the World"** – reinforcing our unique ability to support an interconnected world with limited resources and growing needs.

Environmental compliance and preservation is a commitment shared by all employees at all levels of the organization and as such, is a condition of employment.

We commit to maintain compliance with all applicable environmental laws, regulations and contractual requirements.

We utilize policies, procedures, standards and systems to ensure proper management of our environmental aspects and impacts to reduce and control pollution and to meet our continual improvement expectation.

We operate under the premise that sustainability is about continuing to grow and prosper while preserving natural resources. This includes being selective in our choice of products, processes and services to ensure that our supply chain reflects our commitment to sustainability. We embrace continual improvement and when safer and more environmentally sound methods are identified, we will move promptly to adopt these practices in a responsible manner whenever possible.

We ensure our employees receive necessary and required training regarding relevant environmental matters and activities. We promote a heightened level of awareness at all times and **a culture of inclusion for proposing, setting and achieving our environmental and sustainability goals, objectives and targets.**

We communicate our environmental commitment to our employees, customers, industry associates, suppliers and the general public.

We count on your commitment, support and involvement.

Veolia North America supports and conforms to the Veolia Sustainable Development Charter, Environmental Policy and Ethics Guide.

We endeavor to actively recycle, reuse materials and eliminate waste to minimize environmental impacts and promote recovery of limited resources. These principles will be integrated into our business decisions.

We continuously improve our environmental performance through our environmental management system, technology innovations, process optimization, due diligence and the exchange of global best practices.

Terry Mah, VNA CEO and President

Steve Hopper, VNA President and COO – Industrial

William DiCroce, VNA President and COO – Municipal & Commercial

signed on June 13, 2014

S

Solid Waste Management Processing Facility Plan of Operation

ONYX

December 5, 2001

Mr. Mark Stohl
Wisconsin Department of Natural Resources
9531 Rayne Road, Suite IV
Sturtevant, WI 53177

RE: Modification of Solid Waste Processing Facility License #3870
Superior Special Services, Inc.
1275 Mineral Springs Drive
Port Washington, WI 53074

Dear Mr. Stohl:

On August 22, 2001, Superior Special Services, Inc. (Superior) submitted a *Plan of Modification* for our solid waste processing license and the May 30, 1997 Plan of Operation. As outlined on page 5, under section NR 502.08(4)(l), Superior indicated that the equipment from the former large-scale solidification process would be removed form the facility. This letter is to inform the Wisconsin Department of Natural Resources (WDNR) the equipment has been removed from the facility. In addition, the concrete curbing that had surrounded the Maxon Mini-Maxcrete cement mixer has been removed from the facility and managed as a non-hazardous solid waste.

Superior has not received any comment or correspondence from the WDNR regarding our August 22, 2001 submittal. We trust the above information completes the documentation for the changes to the May 30, 1997 Plan of Operation.

If you have any questions regarding this submittal, please call me at (262) 243-8909.

Sincerely,

SUPERIOR SPECIAL SERVICES, INC.

Kevin D. Shaver, CHMM
General Manager

Cc: Sandra Miller, WDNR

Superior Special Services, Inc.
1275 Mineral Springs Drive, Port Washington, WI 53074
phone: 262 243 8900 • fax: 262 284 3775

VIVENDI Environment

ONYX

August 22, 2001

Mr. Mark Stohl
Wisconsin Department of Natural Resources
9531 Rayne Road, Suite IV
Sturtevant, WI 53177

RE: Modification of Solid Waste Processing Facility License #3870
Superior Special Services, Inc.
1275 Mineral Springs Drive
Port Washington, WI 53074

Dear Mr. Stohl:

Superior Special Services, Inc. (Superior) is submitting the enclosed *Plan of Modification* for our solid waste processing license and the May 30, 1997 Plan of Operation. As discussed in our May 24, 2001 meeting and subsequent conversations, Superior is modifying our solid waste processing operation to discontinue the large-scale separation and solidification operations. Superior will continue to use the processing license for small-scale solidification processing, storage and consolidation of solid waste. The enclosed *Plan of Modification* reflects these changes.

Superior is requesting that Wisconsin Department of Natural Resources (WDNR) review this submittal and modify the Department's December 8, 1997 letter of Conditional Approval Plan/Findings of Fact to reflect the enclosed changes. For your convenience, a copy of this letter has been included in Appendix C of the *Plan of Modification*.

Superior recognizes that a plan review fee may apply to this submittal, in accordance with NR 520.04(4)(a), if the total review time exceeds four (4) hours. Please contact me if a review fee needs to be submitted.

If you have any questions regarding this submittal, please call me at (262) 243-8909.

Sincerely,

SUPERIOR SPECIAL SERVICES, INC.

Kevin D. Shaver, CHMM
General Manager

Enclosure: *Plan of Modification*

Superior Special Services, Inc.
Onxy Environmental Services
1275 Mineral Springs Drive, Port Washington, WI 53074
tel: 262 243 8900 • fax: 262 284 3775

VIVENDI Environment

PLAN MODIFICATION

PLAN OF OPERATION REPORT
SOLID WASTE PROCESSING FACILITY

SUPERIOR SPECIAL SERVICES, INC.
1275 MINERAL SPRINGS DRIVE
PORT WASHINGTON, WISCONSIN

AUGUST 2001

Superior Special Services, Inc.
Onyx Environmental Services
1275 Mineral Springs Drive, Port Washington, WI 53074
tel: 262 243 8900 • fax: 262 284 3775

VIVENDI Environment

PLAN MODIFICATION

PLAN OF OPERATION REPORT
SOLID WASTE PROCESSING FACILITY

SUPERIOR SPECIAL SERVICES, INC.
1275 MINERAL SPRINGS DRIVE
PORT WASHINGTON, WISCONSIN

August 2001

I, B. Todd Watermolen, hereby certify that I am a registered Professional Engineer in the State of Wisconsin in accordance with ch. A-E4, Wis. Adm. Code and that this report has been prepared in accordance with the Rules of Professional Conduct in ch. A-E8, Wis. Adm. Code.

Prepared by: _____ 8/20/01
B. Todd Watermolen, P.E. — Date
Superior Services, Inc. – V.P. Engineering

Prepared by: _____ 8/20/01
Kevin D. Shaver, CHMM — Date
Superior Special Services, Inc.- General Manager

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E	Wisconsin NR149 Laboratory Certification
F	Disposal Facility List
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Superior Special Services, Inc.
Solid Waste Processing Facility
Port Washington, Wisconsin
Plan of Operation
NR 502.08(4)

INTRODUCTION AND PURPOSE

Superior Special Services, Inc. (Superior) operates a Solid Waste Processing Facility located at 1275 Mineral Springs Drive in Port Washington, Wisconsin. These operations comprise only a limited portion of the total operations at the location. Other operations include the licensed storage of hazardous waste, operation of a 10-day hazardous waste transfer station, solid waste and hazardous waste transportation services, collection and processing of universal waste (primarily fluorescent lamps), and collection of household hazardous waste. The Wisconsin Department of Natural Resources (WDNR) licenses these operations in accordance with various plans of operations and conditions of operation.

This Solid Waste Processing Facility Plan Modification is provided to comply with the Wisconsin Department of Natural Resources (WDNR) regulations, specifically NR 502.08(4). The current permitted solid waste processing facility (License 03870) is being modified due to changes in our business. The modification consist of the following items:

- Removal of a 20,000-gallon Frac storage tank
- Removal of a 1,100-gallon poly storage tank
- Decontamination and filling of a phase separation pit
- Discontinuation of large-scale phase solidification operation
- Removal of large-scale solidification equipment, including peristaltic pump, Maxon Mini-Maxcrete cement mixer, 225-barrel silo used for fly ash storage
- Continued storage of non-hazardous solid and liquid waste in drums and cubic yard boxes
- Continued consolidation of solid non-hazardous waste into roll-off container
- Continued small-scale solidification of liquid non-hazardous waste in drums
- Modifying the physical space of the phase-separation pit and 20,000-gallon Frac storage tank location for processing universal fluorescent lamp recycling

Overall the changes listed above simply the operations of this solid waste processing facility.

PLAN MODIFICATION

This Plan Modification is organized to follow the NR 502.08(4) requirements in a paragraph by paragraph description. Many paragraphs are redundant in description but address the specific requirements of the NR 502.08 citation. This modification supercedes the original Plan of Operation Report dated May 30, 1997. However, the original plan has been modified to reflect the changes described in the introduction.

NR 502.08 (4)(a) A legal description of the property and the facility boundaries

The part of the SE 1/4 of Section 32, Township 11 North, Range 22 East, City of Port Washington, Ozaukee County, Wisconsin, described as follows:

Commencing at the East ¼ of Section 32, thence West, 1890.80 feet, thence S 00 16' 50" E, 792.05 feet to the point beginning, thence continuing S 00 16' 50" E, 1132.44 feet, thence S 89 47' 49" W, 440.00 feet, thence N 00 16' 50" W, 1134.00 feet, thence. East 440.00 feet to the point of beginning, containing 11.45 acres.

A letter from the City of Port Washington Director of Public Works describing the legal description of the property is enclosed in Appendix A.

NR 502.08 (4)(b) The present ownership of the proposed facility property.

The property is owned and operated by Superior Special Services, Inc., a wholly owned subsidiary of Superior Services, Inc.

NR 502.08 (4)(c) Land uses within 1/4 mile of the proposed facility. Particular note shall be made of parks, hospitals, nursing homes and areas of archaeological and historical significance.

The facility is located in an industrial park on the southern edge of Port Washington. The areas to the immediately surrounding the property are zoned industrial and currently contain light manufacturing as shown in Figure 2-1, Figure 2-2, and Drawing D-1.

Parks, hospitals, nursing homes, and areas of archaeological and historical significance are not known to exist within ¼ mile of the facility.

NR 502.08 (4)(d) The proposed service area, including population and major industries

Superior Special Services, Inc. is a Wisconsin-based company that serves waste generators, though the current client base, located across the United States. The client base includes a variety of industrial, commercial, retail, governmental, and residential customers.

NR 502.08(4)(e) The consistency of facility development with county solid waste plans and land use plans.

Superior is proposing to perform these operations at an existing licensed and fully permitted hazardous waste TSDF and Solid Waste Processing facility. As such, the facility already complies with the appropriate local zoning ordinances and the Waste Facility Siting Board approval. A copy of the Waste Facility Siting Board approval is provided in Appendix B.

NR 502.08(4)(f) The predominant types of vegetation and wildlife within the proposed facility boundaries.

The waste handling will occur within the fenced boundaries of Superior's Special Services, Inc.'s facility. Vegetation within the area is limited to grass and shrubs. There is no wildlife within the facility fencing.

NR 502.08(4)(g) The persons responsible for facility construction and operation.

Kevin D. Shaver, General Manager, is the person responsible for the construction, modification, and operation of the facility.

NR 502.08(4)(h) A timetable for facility construction, shakedown and operation, and an operation schedule for the facility. All facilities operated more than 4 hours per day shall be equipped with a toilet and wash basin or have those facilities available within a reasonable distance.

The facility operates as a solid waste processing facility connected to adjoining hazardous waste storage facility and lamp recycling facility. The majority of the facility is existing and operates as a hazardous waste storage and lamp recycling facility. The facility is currently operating the solid waste processing facility under WDNR License #3870, the May 30, 1997 Plan of Operation, and the Conditional Approval Plan of Operation Modifications dated August 26, 1997 and December 8, 1997.

Superior is proposing to modify the existing May 30, 1997 Plan of Operation to reflect the removal phase separation and large-scale solidification processing operations. On February 21, 2001, Superior submitted a letter to the WDNR indicating our intent to modify the solid

waste processing at the facility. On March 12, 2001, the WDNR responded to the letter and Superior submitted a clarification letter on April 26, 2001. Copies of the correspondence are provided in Appendix C. On June 19, 2001 Superior submitted documentation from Montgomery Watson, dated June 1, 2001, regarding the inspection of the solidification pit. As outlined in the June 19, 2001 letter, Superior's intentions are to fill-in the pit with clean, compacted, aggregate fill and cover the pit with a concrete slab. The north wall of the pit/dock area will be enclosed and will prevent rainwater from entering the building area. The construction activities commenced on July 7, 2001 and to be completed by September 30, 2001. A construction documentation report will be submitted upon completion of construction.

The facility is currently operating from 6:30 a.m. to 12:00 a.m. Monday through Friday. A third shift may be added should the volumes dictate. The third shift will operate from 11:30 p.m. to 6:30 a.m. Monday to Saturday. The facility is also open the first Saturday of each month from 8:00 a.m. to 12:00 p.m. to collect household hazardous waste.

The facility is equipped with three toilet facilities, five wash basins, and one shower.

NR 502.08 (4)(i) A complete materials balance for the facility, specifying amounts and characteristics of products and wastes generated by the facility.

Historically, the facility received approximately 40,000 to 60,000 gallons of non-hazardous solid waste per month. However, with the proposed discontinuation of phase-separation and large-scale solidification process, the volume of waste is anticipated to be less than 1,000 gallons per month. The majority of the wastes received will be non-hazardous solids received in drum or cubic yard boxes that will be consolidated into roll-off containers. Because the large-scale solidification process will be discontinued, Superior will no longer utilize fly ash from electrical power plants as the solidification agent.

Small-scale solidification will be conducted in 55-gallon drums. The solidification agent will be oil dry, corn cob, or saw dust. The agent will be added to the liquid waste so that the resulting processed waste has no free liquids. The solidification process will occur on a portable secondary containment skid.

All empty drums that are produced as a result of processing will be sent for recycling. Any empty drums that are not suitable to be recycled will be crushed and land filled at either Superior Services or Onyx North America Landfills.

Prior to acceptance at the facility, all wastes will be reviewed and approved by the corporate approvals group in accordance with the Waste Analysis Plan outlined in our Feasibility and Plan of Operation Report (FPOR), under NR 600. This group functions at a level independent of the revenue generating operations such as the Port Washington facility. In order to be approved, the generator must complete a Special Waste Profile Sheet (Appendix D). If the generator is disposing of virgin product, or a spill of virgin

product, the laboratory analysis can be replaced with a material safety data sheet (MSDS). For other wastes, the profile will be accompanied by laboratory analysis from a State of Wisconsin certified laboratory. The approval group contains degreed personnel who have been trained to recognize unacceptable and incompatible materials, thus further reducing the potential risk of explosion or fire.

Superior Special Services, Inc. currently holds a State of Wisconsin Laboratory Certification (Appendix D). Analysis performed at the on-site laboratory is also included in Appendix D.

Analysis that cannot be performed at Superior's laboratory will be sent off-site to a contract laboratory. Our Regulatory Affairs Group audits all off-site laboratories utilized by Superior.

NR 502.08(4)(j) The estimated quantities and characteristics of wastes containing free liquids resulting from facility operation and methods of their treatment and disposal. All wastewater resulting from the process shall be discharged into a sanitary sewer or other system approved by the department.

Superior Special Services does not anticipate producing any liquids as a result of the modified processing. No wastewater will be produced as a result of the operations.

NR 502.08(4)(k) The names and locations of all solid waste disposal facilities at which solid waste from the processing plant will be disposed, and potential contractual arrangements and distribution plans for recovered solid wastes or products produced.

The list of Superior's approved disposal facilities not owned by Superior is outlined in Appendix F. All solid waste generated from the process will be disposed of at a Superior Services, Inc., or Onyx North America Landfill. The principal landfill will be Superior's Glacier Ridge Landfill located in Horicon, Wisconsin and Superior Hickory Meadows Landfill located in Hilbert, Wisconsin.

NR 502.08(4)(l) A proposed design providing enclosure for all installed processing equipment. Explosion prone equipment such as primary shredders shall be placed in a separate room with explosion venting or explosion suppression.

Drawing D-3 provides a layout of the facility and location of all processing activities. Equipment used in the former large-scale solidification process will be removed from the facility, including the following:

-Peristaltic Pump
-Maxon Mini-Maxcrete cement mixer

-225 Barrel Silo with 150 sq. ft. bag house with air vibrator & pop off valve, and electric transfer screw auger
-20,000 gallon Frac Tank
-1,100-gallon poly tank

Small-scale solidification will be conducted in 55-gallon drums. The solidification agent will be oil dry, corn cob, or saw dust. Liquids will be added to the agent so that the resulting processed waste has no free liquids. The solidification process will occur on a portable secondary containment skid.

Waste material transferred to a 20-yard roll-off container will occur under roof inside the north dock area or under the south loading dock area.

NR 502.08(4)(m) A proposed design providing for shrouding and dust collection and removal equipment for the receiving area and all dry processing units such as shredders, screens, air classification devices, magnetic separators, and similar equipment and all conveyor transfer points where dust is generated. Any air collected in this manner shall be directed through appropriate air pollution control equipment before being discharged.

The removal of the large-scale solidification process will remove the following sources of dust generation: loading the silo, transferring the fly ash from the silo to the mixer unit, and mixing the ash with the liquid. No other dry processing or transferring operations are planned for the facility that will result in dust generation. The oil dry, corn cob, or saw dust used in the small-scale solidification will be managed in bag quantities, thereby reducing the potential for air borne dust.

NR 502.08(4)(n) A discussion of any additional procedures for the control of dust, odors, fire, windblown materials and potential explosions and for handling the wastes in the event of a facility breakdown. Dust within a facility shall be controlled so that operators are not exposed to undue health risks.

The phase-separation and large-scale solidification operations at the facility will be discontinued under the modification. This greatly reduces the potential for mechanical breakdown of processing equipment. The incidental remaining processing equipment includes a forklift(s) for handing the containerized waste and a drum crusher for the empty drums. If the forklift(s) experience a mechanical breakdown, a forklift will be temporarily rented. If the drum crusher experiences a breakdown, a mobile crushing unit will be temporarily placed on-site.

If the facility can not accept non-hazardous solid waste, the waste will be redirected to other Superior or Onyx facilities licensed to handle these wastes.

The processing operations at this location will be limited to transfer of small quantities of materials into 55-gallon drums inside the facility. The transfer of larger quantities into roll-off containers or tankers will take place in the loading dock areas and on an impermeable surface (concrete). The roll-off box is stationed inside the facility to eliminate any dust or other windblown emissions. Superior believes these procedures will adequately address the requirements to control fugitive dust, odors, and windblown materials.

NR 502.08(4)(o) A proposed design providing for all buildings enclosing processing to have a sloped concrete floor with floor drains connected to a sanitary sewer or other system approved by the Department.

Drawing D-3 provides a facility layout showing the locations where non-hazardous wastes are handled. The figure also indicates the locations for hazardous waste storage, household hazardous waste accumulation, and universal waste processing and accumulation. The figure indicates the location of all safety equipment. Any non-hazardous liquid waste will be stored on portable secondary containment skids and located on concrete floors. The concrete floors are not sloped toward floor drains that are connected to sanitary sewers. The concrete floor and concrete block walls provide secondary containment. Should a spill occur during the storage or transfer of liquids, the operator will immediately contain the spill and the residue will be cleaned-up with an absorbent material such as oil dry.

The phase-separation and solidification operations have been discontinued and the associated equipment including the mixer unit, the 1,100-gallon tank, and the 20,000-gallon frac tank will be removed from the facility. All waste for the phase-separation pit has been removed and the pit, along with the 1,100-gallon and 20,000-gallon frac tanks, have been decontaminated. A summary of the pit decontamination and pit integrity inspection is included in Appendix C. The original pit was constructed with 6" concrete. All joints of the pit had voclay waterstop-RX applied, which prevents migration of liquids outside the pit. Geosynthetic clay liner was be placed along the surface of evacuated slopes to the side of the cement tank. Site soils consist of silica clays that meet or exceed the permeability requirements for landfill liner systems. The dimensions of the pit are 44 ft long, 13.5 ft wide and 5 ft deep with a sloped pad into the base of the pit for unloading and clean out purposes. The floor of the receiving area was sloped into the pit to serve as a secondary containment for all activities occurring in the area. Safety rails surrounded the perimeter of the pit. The four (4) inch concrete curb and associated railing located along the eastern side of the pit will be removed. The current structural integrity of the pit will be maintained, filled with clean aggregate fill, and the surface will be covered with a five (5) inch fibercrete slab.

At the northeast end of the building is a bay designed to hold a 20-yard roll off box. The floor of the bay is constructed with 8-inch thick concrete slab. The floor contains a sump located in the back one third of the bay. The sump is 3 inches in diameter by 4 ft deep and

is set 3 inches below the finished floor. The bottom of the sump is a 4 inches concrete bottom seal joint. The bay is sloped to the sump. The bay is set 4 ft below the elevation of the floor and is 25ft in length. Safety rails surrounds the west and southern walls of the pit to prevent any accidental falls into the pit. This bay will be maintained and used to stage a roll-off box. The roll-off box will be used to accumulate solid waste generated at the facility, contain wastes from the small scale solidification process, and collect the consolidated solid non hazardous wastes.

The phase-separation and large-scale solidification activities were conducted in the enclosed pit area located in the northwest corner of the facility. This area is being further enclosed, closing the north wall of the building and installing 12-foot overhead door in the northeast corner. The former pit area will be used to house two lamp-recycling machines and a roll-off box to accumulate byproduct glass from the recycling operation. These operations are covered under the requirements of NR625.06.

NR502.08(4)(p) A proposed design providing for all processing, receiving or storage areas not enclosed by a building to be graded at a minimum 1% slope and surfaced with a material which will adequately support heavy equipment, resist frost action, provide a wearing surface and prevent contamination of groundwater. Runoff from these areas shall be directed to a sanitary sewer or other system approved by the department.

All activities will be enclosed and located on impervious concrete floor.

NR502.08(4)(q) A discussion of the quality and quantity of air discharge from plant operations and the need for any permits. For thermal processing facilities, the report shall include a proposed design to provide adequate temperature and residence time in the reaction chambers to assure complete processing and necessary air pollution control equipment to meet state air pollution control regulations.

Based upon a review of NR 400, Superior believes that the revised waste processing operations, as proposed in this modification, will not result in any air discharges or additional air permitting requirements. The large-scale solidification system is being removed under this modification, including the storage silo and Maxon mixer. The facility currently holds an air pollution control permit # 94-JSB-248 for its fluorescent lamp recycling and mercury retort operations.

NR 502.08(4)(r) A discussion of the types of vehicles and access routes used to transport solid waste to and from the facility, including the estimated increase in traffic, and traffic flow patterns within the facility.

The vehicles used to transport solid waste to and from the facility will consist primarily of semitrailers, roll-off trucks, straight trucks, and pick up trucks. Vehicles coming from the south will use the following route:

Interstate 43 north to State Highway 32. State Highway 32 northeast to Sunset Road Sunset Road east to Mineral Springs Drive Mineral Springs Drive south to the facility.

Vehicles coming from the north will follow:

Interstate 43 south to State Highway 33 State Highway 33 east to State Highway 32. State Highway 32 south to Sunset Road Sunset Road east to Mineral Springs Drive Mineral Springs Drive south to the facility .

A map indicating the flow of traffic is presented in Figure 2-3. The modification will result in a reduction of the traffic flow to the facility.

Traffic data from the Wisconsin Department of Transportation is also included in Appendix G and summarized on Figure 2-3.

NR 502.08(4)(s) A proposed design providing for access roads of all weather construction and a maximum of 10% grade. The intersection of the access road with an existing highway shall be designed to provide sufficient sight distance and provide minimum interference with traffic on existing highways.

A typical cross-section of the roadway entering and exiting the facility is shown on Figure 2-4. According to the City of Port Washington, the roadways near the facility do not have weight or bearing capacity restrictions.

NR 502.08(4)(t) A proposed design limiting access to the processing facilities by means of fencing, natural barriers or other means.

Superior Special Service's facility has been permitted for hazardous waste storage since 1991. The entire facility is enclosed with a six-foot cyclone fence with barbed wire on top of the fence. The gate is closed and locked when the facility is closed.

NR 502.08(4)(u) Information to document that the size and configuration of the facility grounds, building and equipment, including the facility layout, drainage structures, building design, and major facility equipment, as specified to be shown in the engineering plans are adequate for management of the proposed waste quantities and processes.

The facility is divided into the following areas:

-2,700 sq ft of permitted hazardous waste storage,
-2,675 sq ft of southern receiving area and aisle way,
-2,250 sq ft of covered southern loading dock,
-990 sq ft of household hazardous waste collection area,
-3,784 sq ft of lamp recycling and retort processing area,
-900 sq ft of office and laboratory area,
-1,380 sq ft of material storage
-2,000 sq ft of solid waste processing and storage area,
-1,900 sq ft of solid waste phase-separation area

In addition, an adjacent office building is approximately 3,500 sq ft in size. The layout of the facility is provided in Drawing D-3.

The modification to the existing building lay out will consist of discontinuing the use of the 1,900 sq ft area used for solid waste phase-separation and converting it to lamp recycling processing. The remaining 2,000 sq ft of solid waste processing and storage area will remain in-place. However, the Maxon mixer and associated secondary containment curb will be removed from the area. As previously discussed, containers of liquid non-hazardous solid waste will be stored on spill pallets. In addition, non-hazardous solid wastes may be stored inside the permitted hazardous waste storage pods.

The current processing consists of three distinct operations, transfer, phase separation, and solidification. However, the phase separation and solidification process operations will be discontinued with acceptance of this modification. The transfer operations remain and consist of the pouring or commingling of smaller containers into larger containers. Typically small containers are transferred into 55-gallon drums, and 55-gallon drums are transferred into roll-offs or tankers. The small containers are physically poured into the 55-gallon drums. The 55-gallon drums of solid materials are emptied into a roll-off container via the use of a forklift-mounted drum inverter. The 55-gallon drums of liquid are pumped into tankers using a truck-mounted vacuum pump.

As discussed, the large-scale solidification process is being eliminated and therefore following equipment will be taken out service:

-a 20,000 gallon liquid storage tank,
-a storage silo for absorbent,
-a Maxon brand mixer,
-a 1,100-gallon poly tank.

Small-scale solidification will be conducted in 55-gallon drums. The solidification agent will be oil dry, corn cob, or saw dust. Liquids will be added to the agent so that the resulting processed waste has no free liquids. The solidification process will occur on a portable secondary containment skid.

At this time, there will be no compacting, grinding, compression, or tamping used as methods of volume reduction.

NR 502.08(4)(v) Provisions for the protection of groundwater and surface water during facility construction and operation.

The facility is already constructed and is regulated under the hazardous waste feasibility and plan of operation report (FPOR) and the existing solid waste processing plan of operation. Therefore, protection of the groundwater and surface waters during the construction phase has already been addressed. The facility has been designed and constructed to protect the environment. Storm water runoff is controlled via paved parking lots that empty into valve-controlled storm water sewer system. The valve is closed at all times to contain any potential spills and opened only to allow storm water runoff. The loading dock areas are located under cover. All bulking and transfer activities will occur within the facility or within the loading dock areas, which are covered.

NR 502.08(4)(w) A discussion of possible operational hazards and necessary safety precautions.

If a fire or explosion would occur, the facility has an existing contingency plan and defined emergency response procedures designed to comply with NR 630.22. A copy is enclosed in Appendix H. The entire facility is equipped with a sprinkler system, excluding the southern loading dock area and the existing phase-separation area. The modifications to the facility will include the addition of a sprinkler system in the former phase-separation area. The adjoining hazardous waste storage rooms are protected by two Halon 1301 fire suppression systems. In addition, portable fire extinguishers are located throughout the facility.

In order to prevent back injuries and potential spills, all drums will be emptied through the use of a forklift- mounted drum inverter. One of the forklifts currently used by the facility is an explosion proof, intrinsically safe, "EE" rated forklift so as to eliminate sparks and source of ignition.

Employees working with the non-hazardous wastes will be wearing Level D personnel protection equipment, and safety eye glasses with side shields. All operations employees are provided work uniforms that must be changed at the end of each workday. The employees are also required to wear steel-toed shoes. Because the facility also is a

permitted hazardous waste storage facility under NR 600, the employees are trained annually for all possible hazards that may exist at the facility.

All visitors must check: in at the front office and must be escorted at all times while in the facility. All visitors must also wear safety glasses.

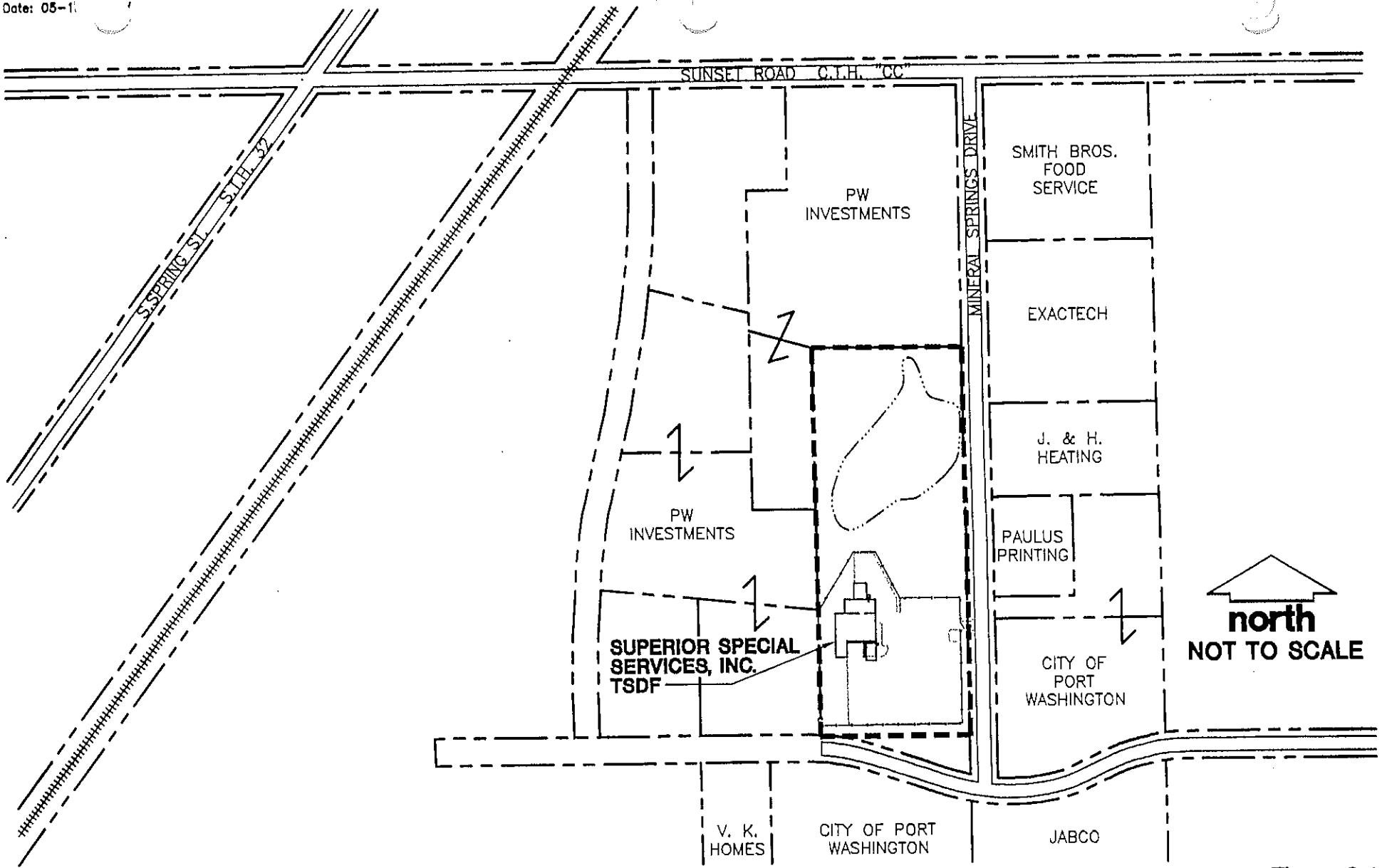
NR 502.08(4)(x) Procedures for facility closure.

The procedure for closure of the remaining solid waste processing permit will consist of the steps:

- Removal of solid waste and off-site disposal at a licensed and permitted solid waste landfill
- Reuse of portable secondary containment skids/pallets
- Manual or mechanical sweeping and cleaning of the solid waste processing area and associated equipment.

The Superior Special Services facility also has a closure plan under the hazardous waste FPOR. We provide financial assurance as provided by means of a letter of credit. A copy is submitted to the Department annually.

Date: 05-1



LEGEND

PROPERTY LINE

APPROXIMATE LOCATION OF STORMWATER RETENTION POND

NOTE

ZONING I-2 FOR ALL AREAS SHOWN.

Figure 2-1
Zoning and Adjacent Landowners Plan
Superior Special Services, Inc.
Port Washington, Wisconsin

MONTGOMERY WATSON

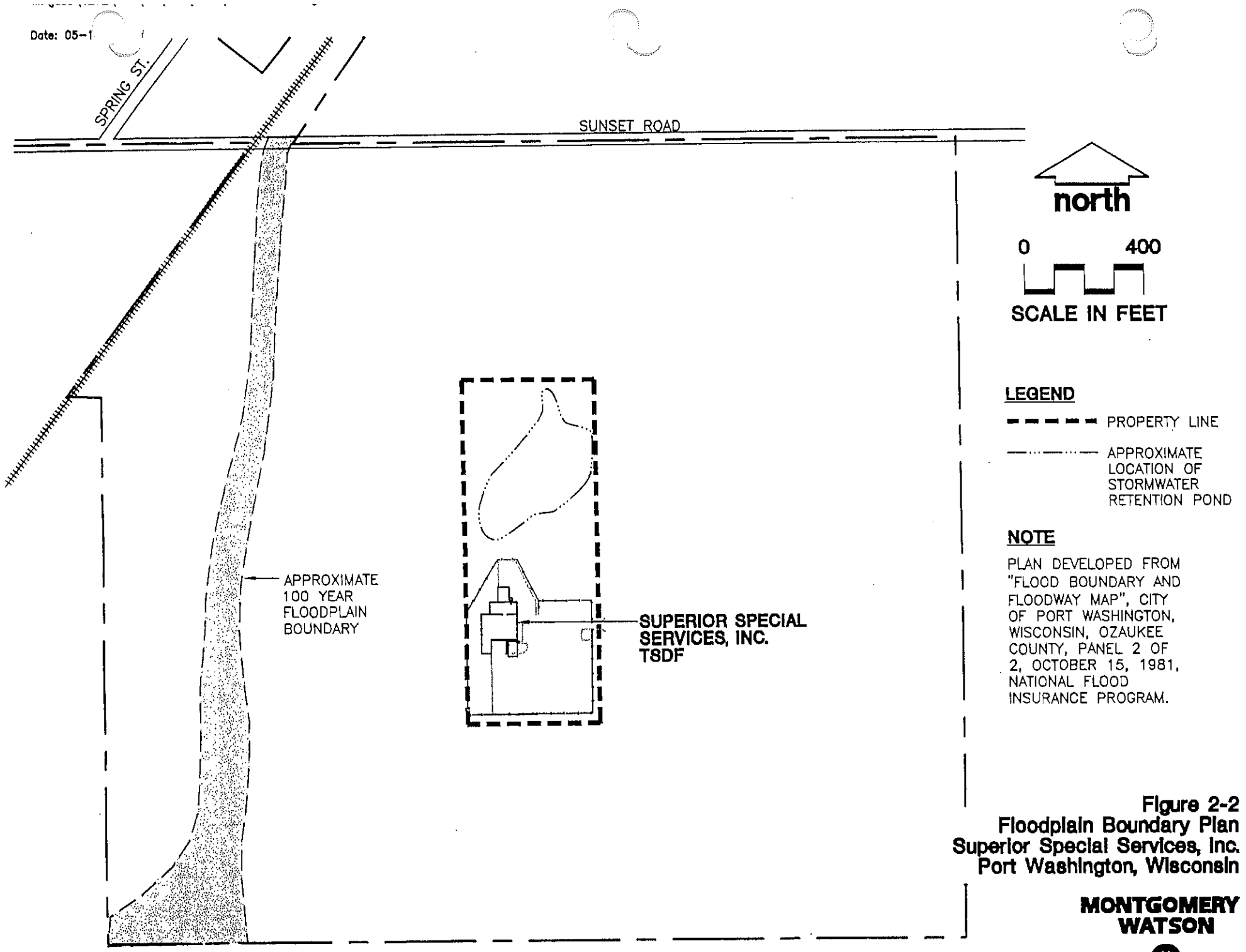


Figure 2-2
Floodplain Boundary Plan
Superior Special Services, Inc.
Port Washington, Wisconsin

MONTGOMERY WATSON

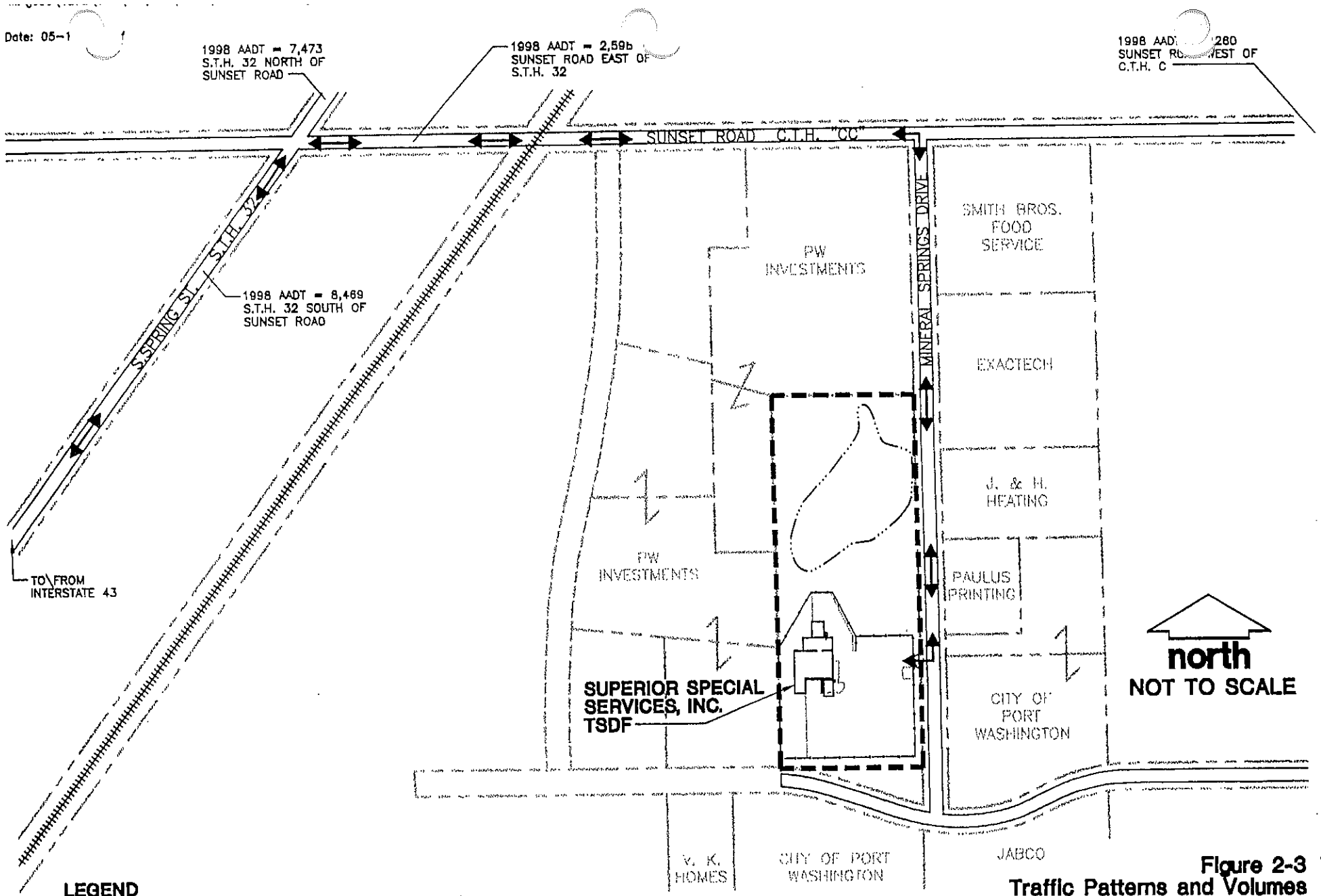
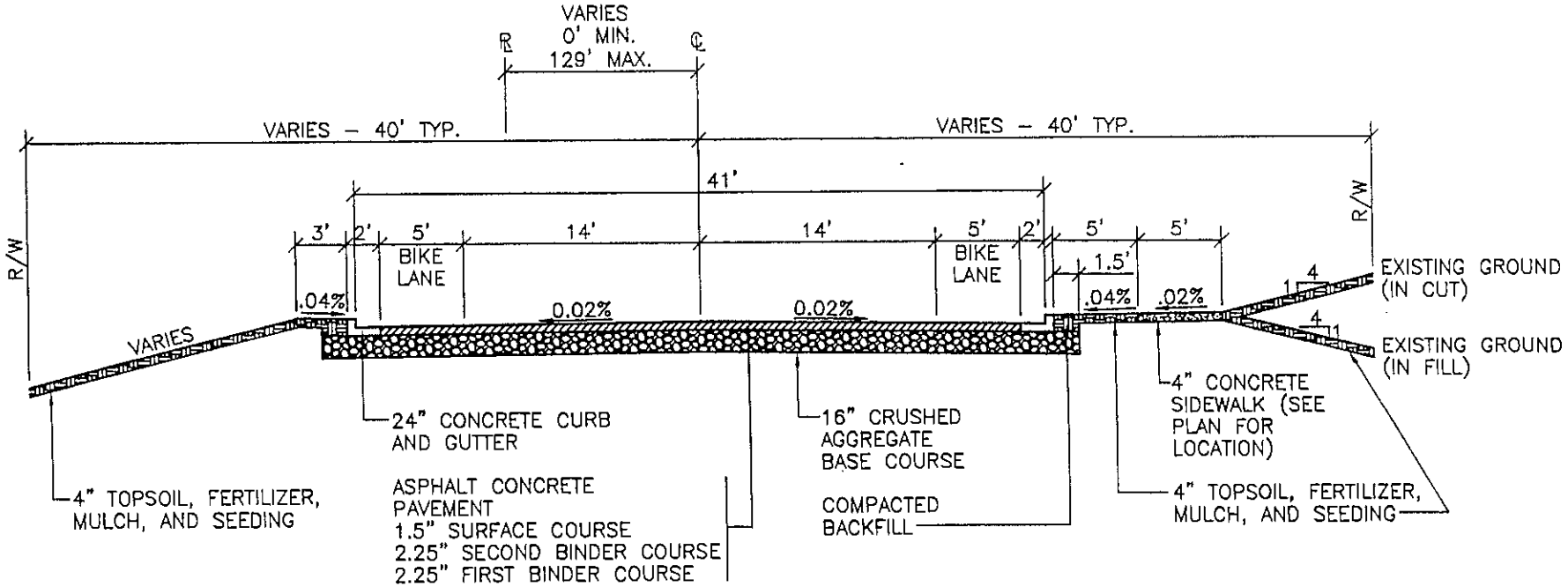


Figure 2-3
Traffic Patterns and Volumes
Superior Special Services, Inc.
Port Washington, Wisconsin

MONTGOMERY WATSON



0 10

SCALE IN FEET

Figure 2-4
Roadway Typical Cross-Section
Superior Special Services, Inc.
Port Washington, Wisconsin

MONTGOMERY WATSON

T

Storage Room Floor Documentation

120'-0"

FILL PILASTERS W/ 3000 PSI CONC. # 1 "4 VERT

UNHEATED STORAGE

6" CONC. FLR (4000 PSI) W/ 6X6/6-6 MESH - CURE & SEAL - SAW CUT CONTROL JOINTS 1/4 FLR. DEPTH - KEYWAY CONSTRUCTION JOINTS - SEAL CUT JOINTS & EXPOSED EDGES SAW AS SOON AS SURFACE IS FIRM ENOUGH SO THAT IT WILL NOT BE TORN OR DAMAGED BY THE BLADE

2X4 STUDS @ 16" O.C. - 1/2" PLYWOOD WAREHOUSE SIDE - 5/8" DRYWALL LAB SIDE - WALL TO BE 10' HIGH W/ R-13 INSULATION - CEILING HEIGHT 9'-0" @ LAB AREA HEAT & A.C. LAB AREA ONLY

THIS WALL TO UNDER SIDE OF ROOF DECK

3'4" x 7'0" "A" LABLE

10'-0"

THIS FLR TO BE SAME AS ROOMS 7 & 9

THIS WALL TO UNDERSIDE OF ROOF DECK

10'x10' GR. DR.

SHWR STALL TO COMPLY W/ ILHR 52.61.2

10'x10' STEEL O.H. DR.

PROVIDE VENTILATION FOR HOOD

COLD STORAGE

49'-0"

3'4" x 7'0" MTL DR.

SIM.

4" WIDE - 4" HIGH CURB

8" 4HR. PRE-CAST PLANK OVER

ALUM GRATE - GRATE TO BE FLUSH W/ FINISH FLR @ DOORS & CURBS

29'-0"

4 HR. CONC. BLK

ALUM. GRATE - GRATE TO BE FLUSH W/ WALK

8" 4HR. PRE-CAST PLANK OVER

1½" STYROFOAM - LAM TO BLK - 5/8" DRYWALL ON OR EMERGENCY SHWR & EYE WASH

3'4" x 7'0" INSUL. MTL DR.

4 HR. CONC. BLK 10'-8"

8" 2HR. CONC. BLK - FULLY TO UNDERSIDE OF PRE-CAST PLANK

ALUM GRATE - GRATE TO BE FLUSH W/ WALK WAY & CURBS

3'4" x 7'0" "A" LABLE

3'4" x 7'0" MTL DR.

8" 4HR. PRE-CAST PLANK OVER

BEAST STOCK - FILL CORES W/ WATER REPELLENT VERMICULITE

4" WIDE - 4" HIGH CURB

THIS FLR TO BE SAME AS ROOMS 7 & 9 - 6" THICK DEPRESS 2" @ CENTER

8"x8" ST. CMU DR.

3'0" x 7'0" INSUL. DR.

4000 PSI CONC. FLR. W/ FLY ASH & POLYPROPYLENE FIBERS - CURBS, FLR & WALK WAY TO BE MONOLITHIC POUR - 2" SLUMP W/ SUPERPLASTICIZER (6"-7" SLUMP) WET CURE & COVER W/ VISQUEEN - DAMPEN SUB GRADE BEFORE PLACEMENT OF CONC. - SUBGRADE TO BE WELL COMPACTED & SMOOTH -

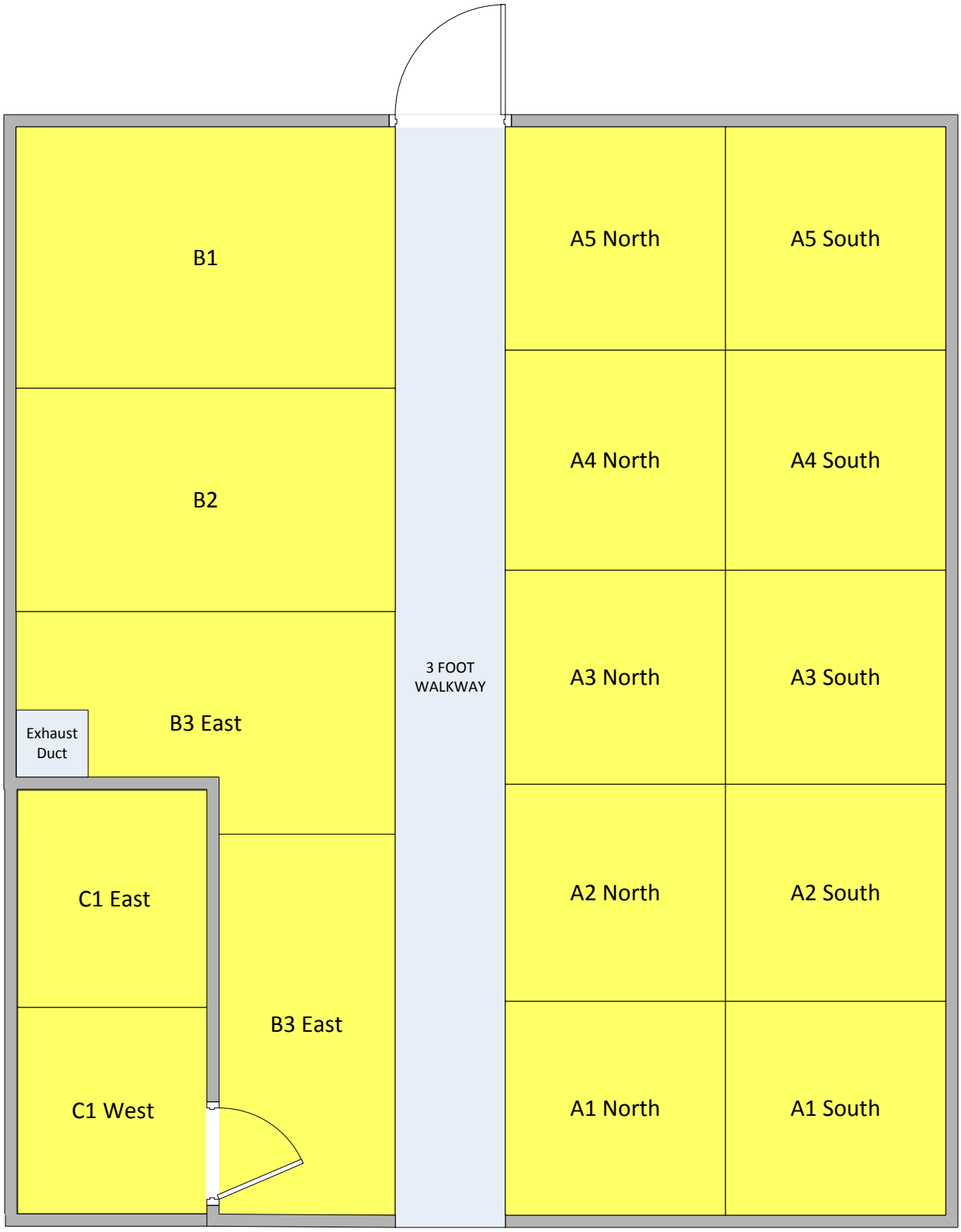
1'-0" 30'-0" 1'-0" 2'-8" 8'-0" 4'-0" 8'-0" 4'-0" 8'-0" 4'-0" 8'-0" 6'-0" 3'-4" 1'-0" 30'-0" 1'-0"

1½" Ø PIPE RAILING

20 foot ranches

FLOOR PLAN

SCALE 1/8" = 1'-0"



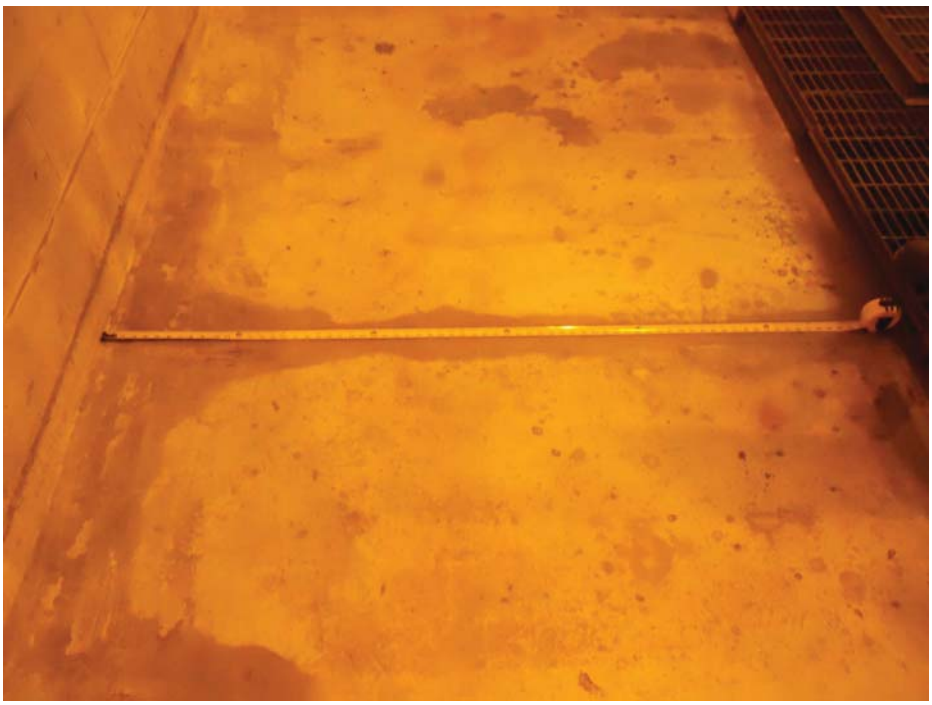
Containment Floor Photos
Storage Pods 1A, 1B and 1C
August 2014

A-1 NORTH – NO VISIBLE CRACKS

A-1 SOUTH – NO VISIBLE CRACKS

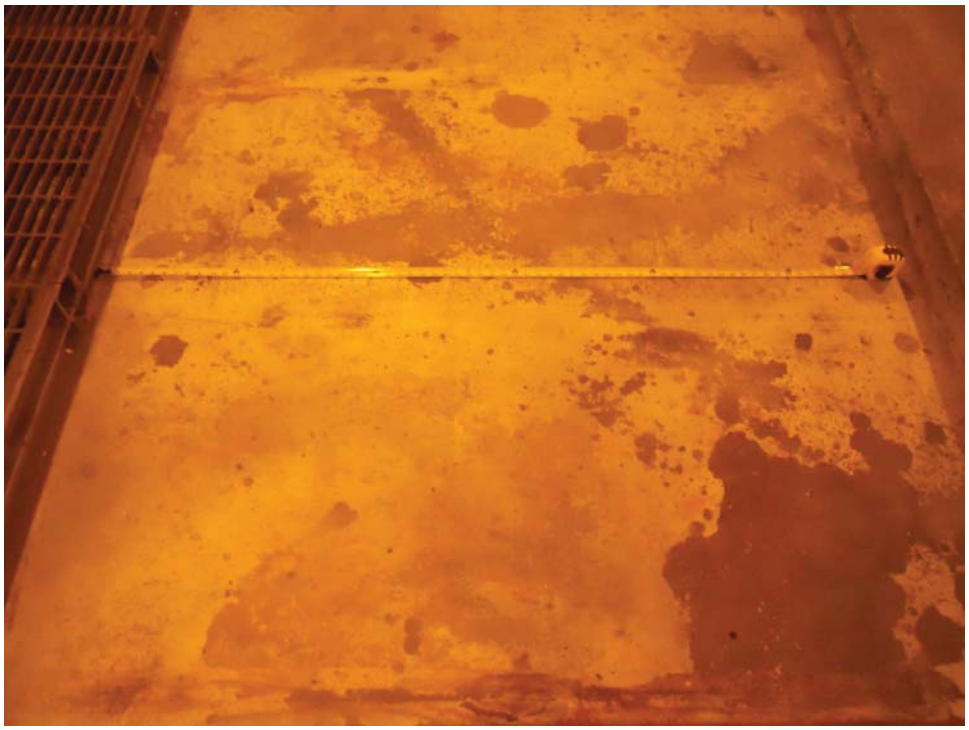
Storage Pod Floor Pictures
August 2014

A-2 NORTH - NO VISIBLE CRACKS



A-2 SOUTH - NO VISIBLE CRACKS

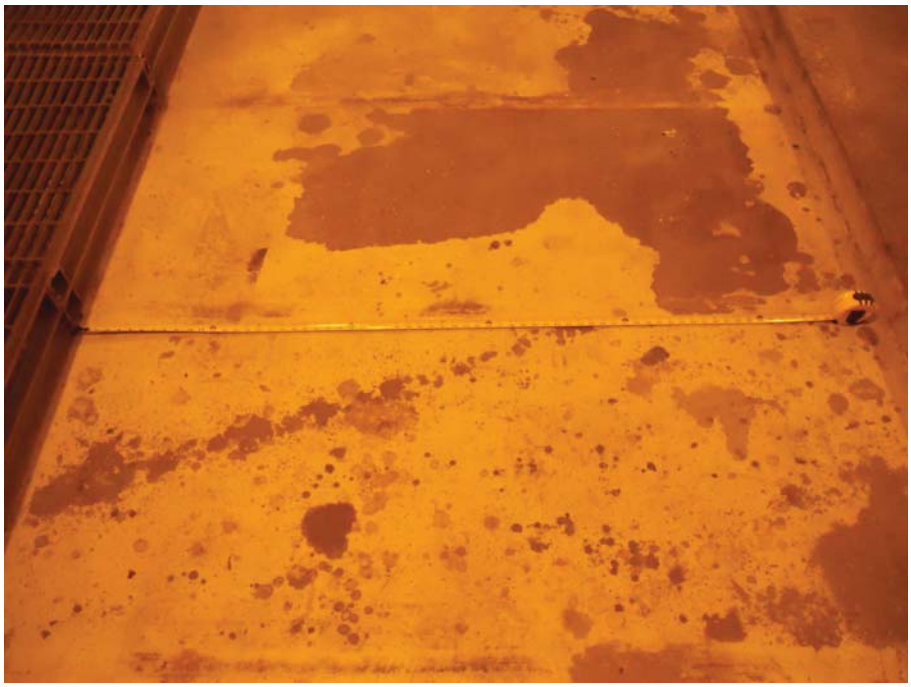
Storage Pod Floor Pictures
August 2014



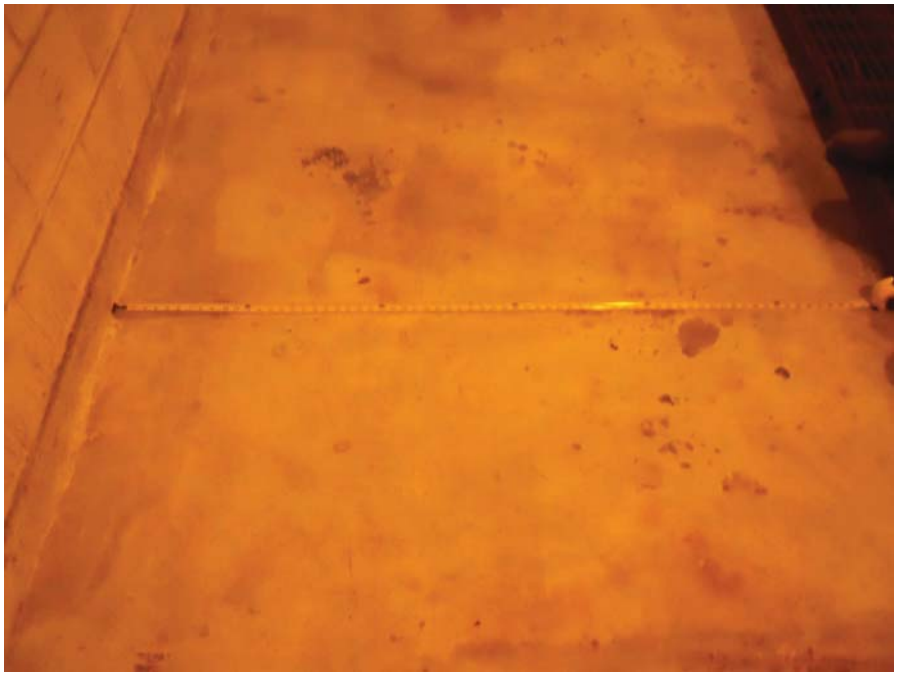
A-3 NORTH - NO VISIBLE CRACKS

A-3 SOUTH - NO VISIBLE CRACKS

Storage Pod Floor Pictures
August 2014



A-4 NORTH - NO VISIBLE CRACKS



A-4 SOUTH - NO VISIBLE CRACKS

Storage Pod Floor Pictures
August 2014

A-5 NORTH – NO VISIBLE CRACKS

A-5 SOUTH - NO VISIBLE CRACKS

Storage Pod Floor Pictures
August 2014

B-1 – NOVISIBLE CRACKS

B-2 - NO VISIBLE CRACKS

Storage Pod Floor Pictures
August 2014

B-3 EAST - NO VISIBLE CRACKS

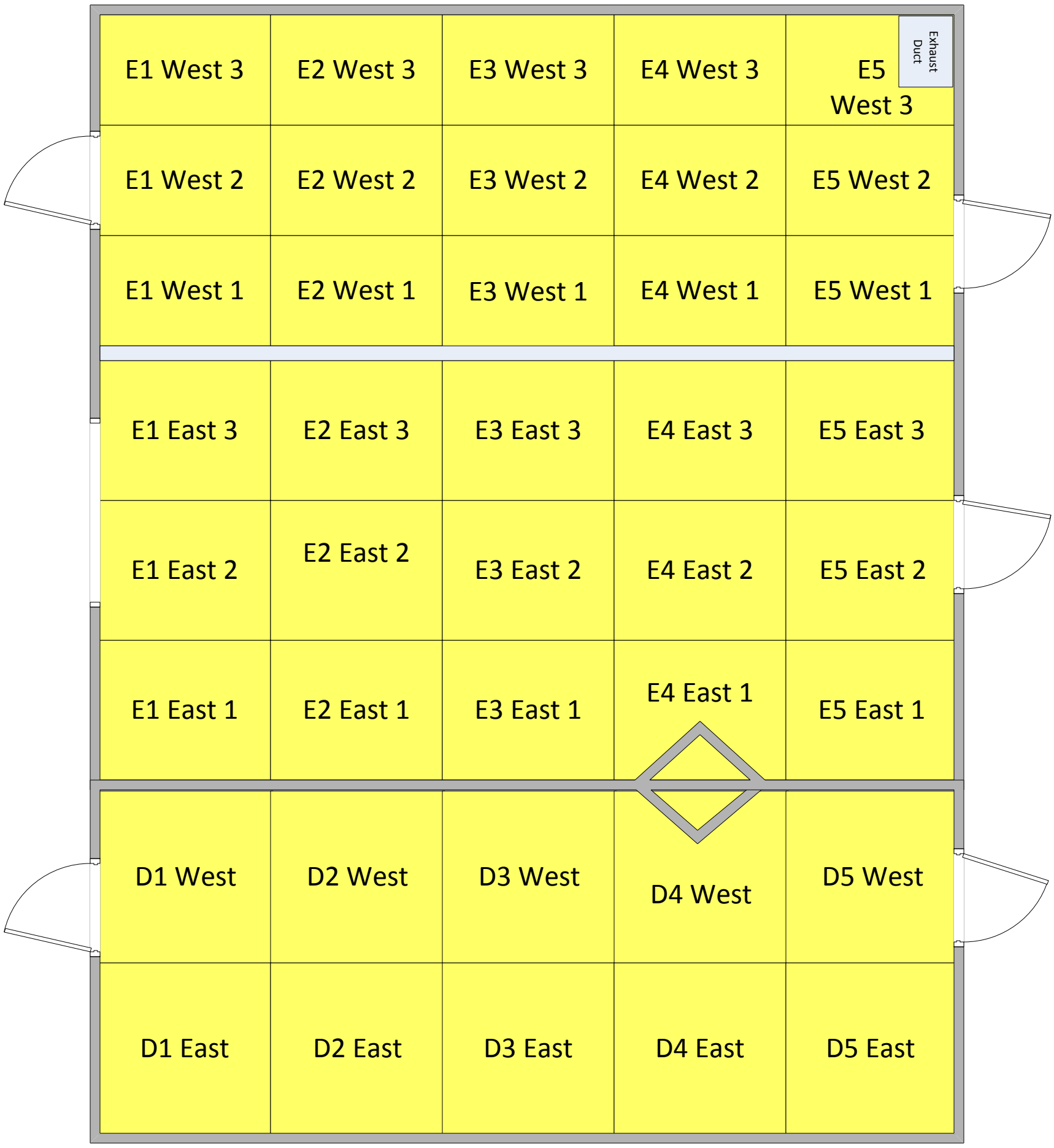
B-3 WEST - NO VISIBLE CRACKS

Storage Pod Floor Pictures
August 2014

C-1 EAST - NO VISIBLE CRACKS

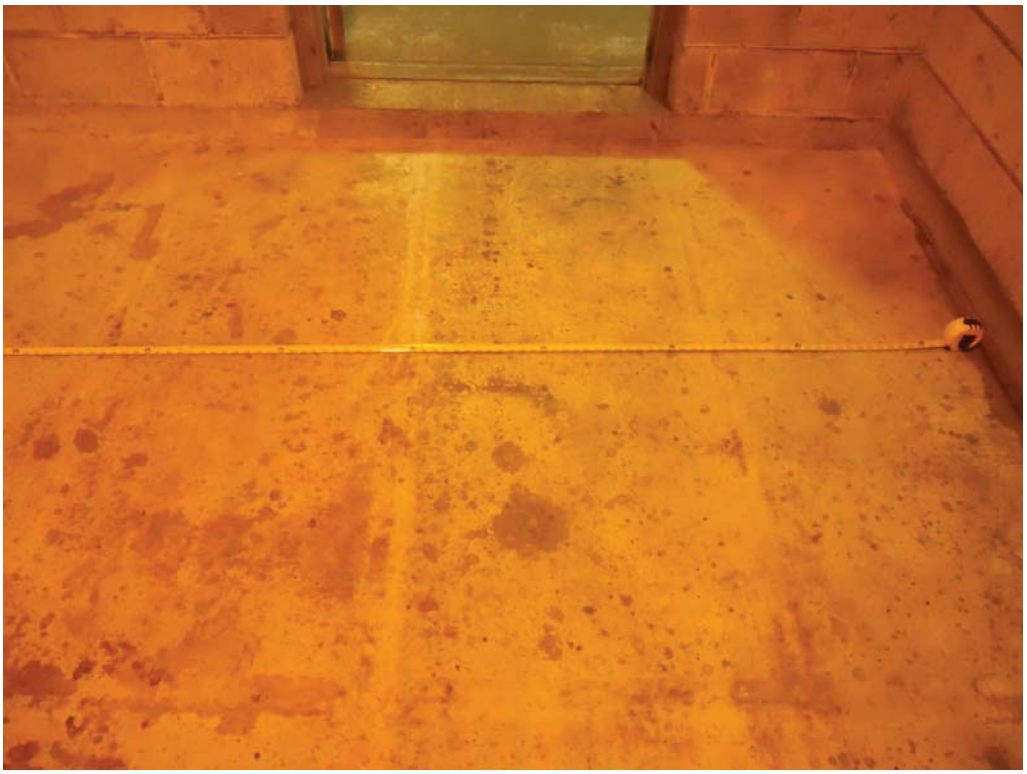
C-1 WEST - NO VISIBLE CRACKS

Storage Pod Floor Pictures
August 2014



Containment Floor Photos
Storage Pods 2A, 2B and 2C
August 2014

D-1 EAST - NO VISIBLE CRACKS



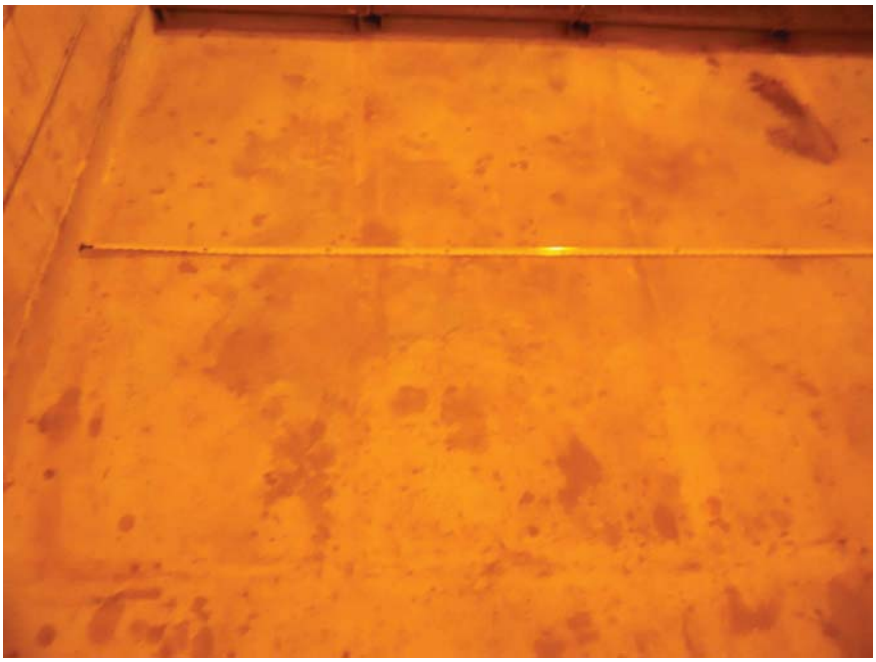
D-1 WEST - NO VISIBLE CRACKS

Storage Pod Floor Pictures
August 2014

D-2 EAST - NO VISIBLE CRACKS

D-2 WEST - NO VISIBLE CRACKS

Storage Pod Floor Pictures
August 2014



D-3 EAST - NO VISIBLE CRACKS

D-3 WEST - NO VISIBLE CRACKS

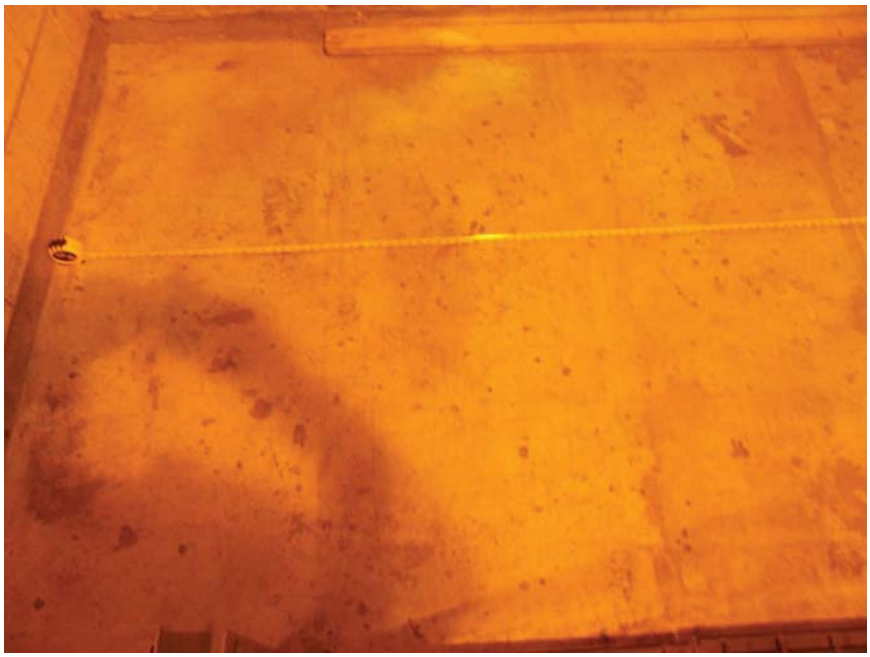
Storage Pod Floor Pictures
August 2014

D-4 EAST - NO VISIBLE CRACKS

D-4 WEST - NO VISIBLE CRACKS

Storage Pod Floor Pictures
August 2014

D-5 EAST - NO VISIBLE CRACKS



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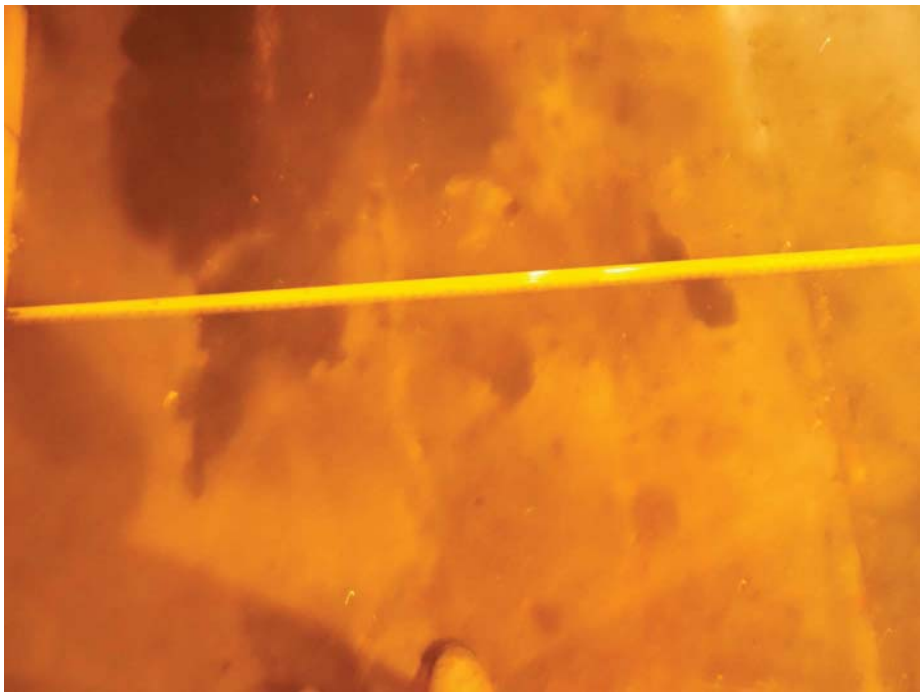
Storage Pod Floor Pictures
August 2014



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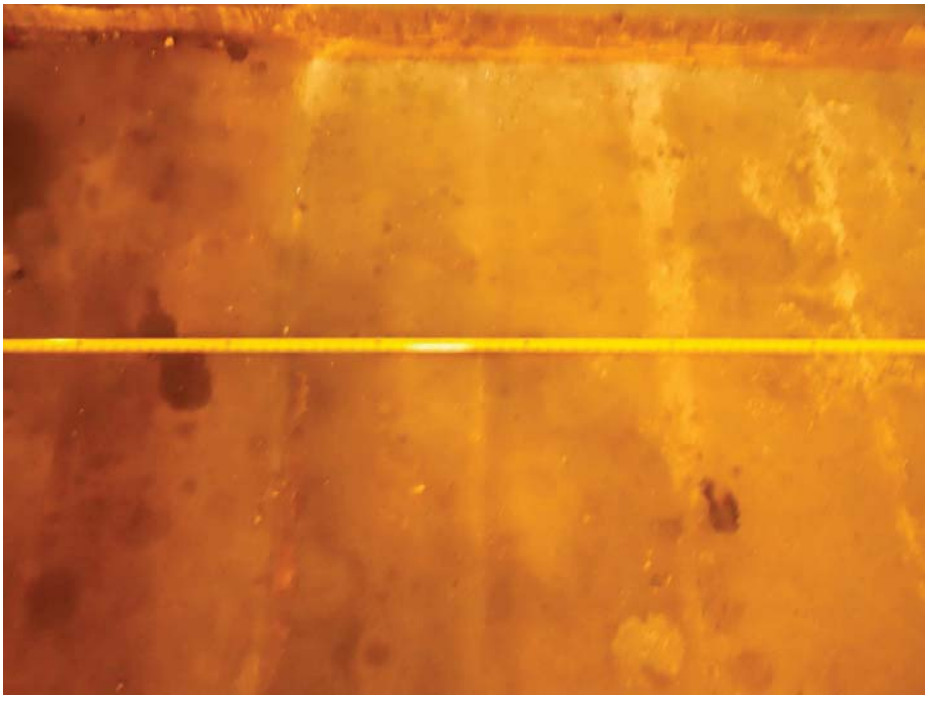

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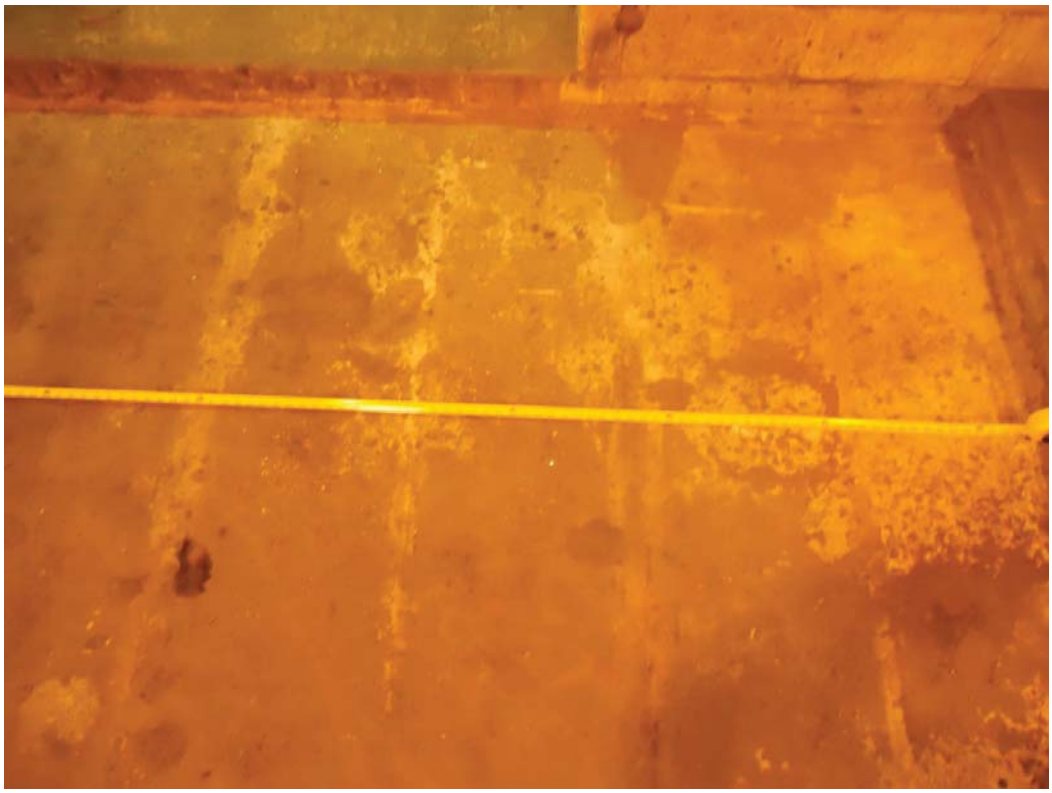
Storage Pod Floor Pictures
August 2014



E-1 EAST (3) - NO VISIBLE CRACKS

E-1 WEST (1) - NO VISIBLE CRACKS

Storage Pod Floor Pictures
August 2014

E-1 WEST (2) - NO VISIBLE CRACKS

E-1 WEST (3) - NO VISIBLE CRACKS

Storage Pod Floor Pictures
August 2014

E-2 EAST (1) - NO VISIBLE CRACKS

E-2 EAST (2) - NO VISIBLE CRACKS

Storage Pod Floor Pictures
August 2014

E-2 EAST (3) - NO VISIBLE CRACKS

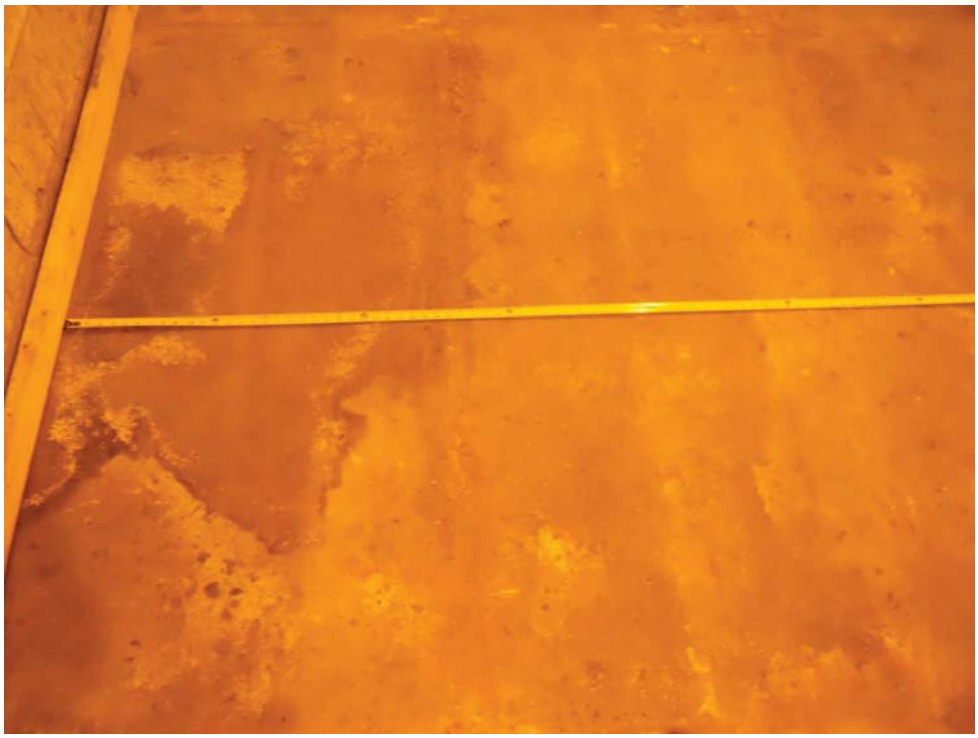
E-2 WEST (1) - NO VISIBLE CRACKS

Storage Pod Floor Pictures
August 2014

E-2 WEST (2) - NO VISIBLE CRACKS

E-2 WEST (3) - NO VISIBLE CRACKS

Storage Pod Floor Pictures
August 2014



E-3 EAST (1) - NO VISIBLE CRACKS

E-3 EAST (2) - NO VISIBLE CRACKS

Storage Pod Floor Pictures
August 2014

E-3 EAST (3) - NO VISIBLE CRACKS

E-3 WEST (1) - NO VISIBLE CRACKS

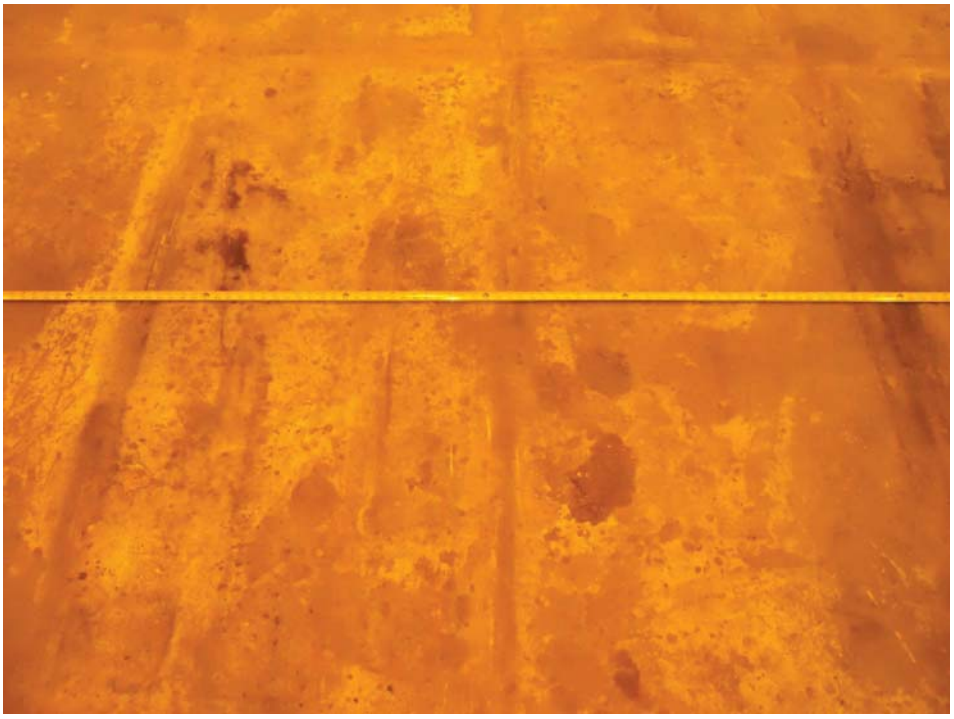
Storage Pod Floor Pictures
August 2014

E-3 WEST (2) - NO VISIBLE CRACKS

E-3 WEST (3) - NO VISIBLE CRACKS

Storage Pod Floor Pictures
August 2014

E-4 EAST (1) - NO VISIBLE CRACKS



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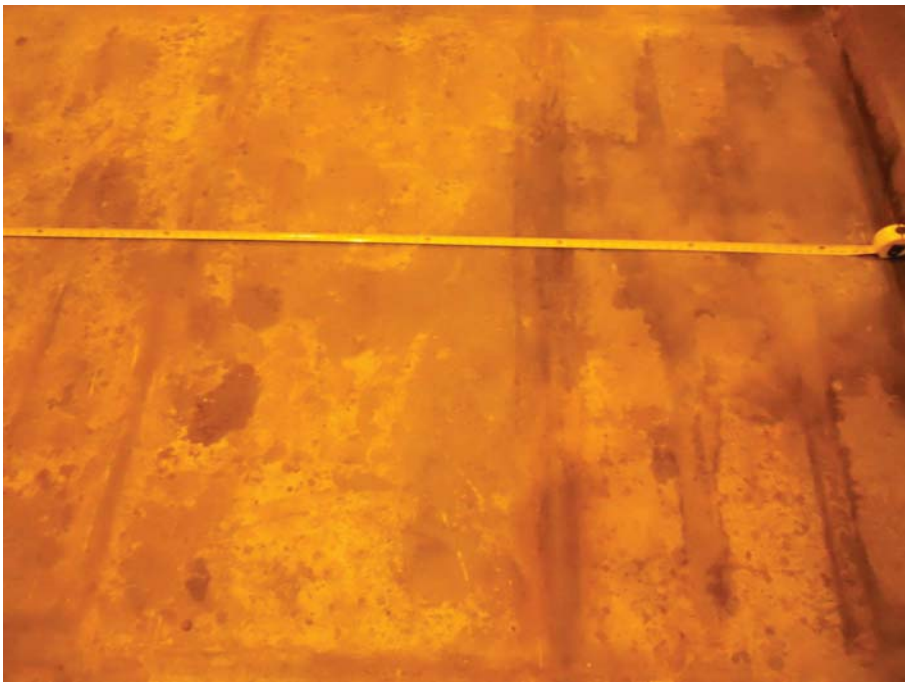
Storage Pod Floor Pictures
August 2014



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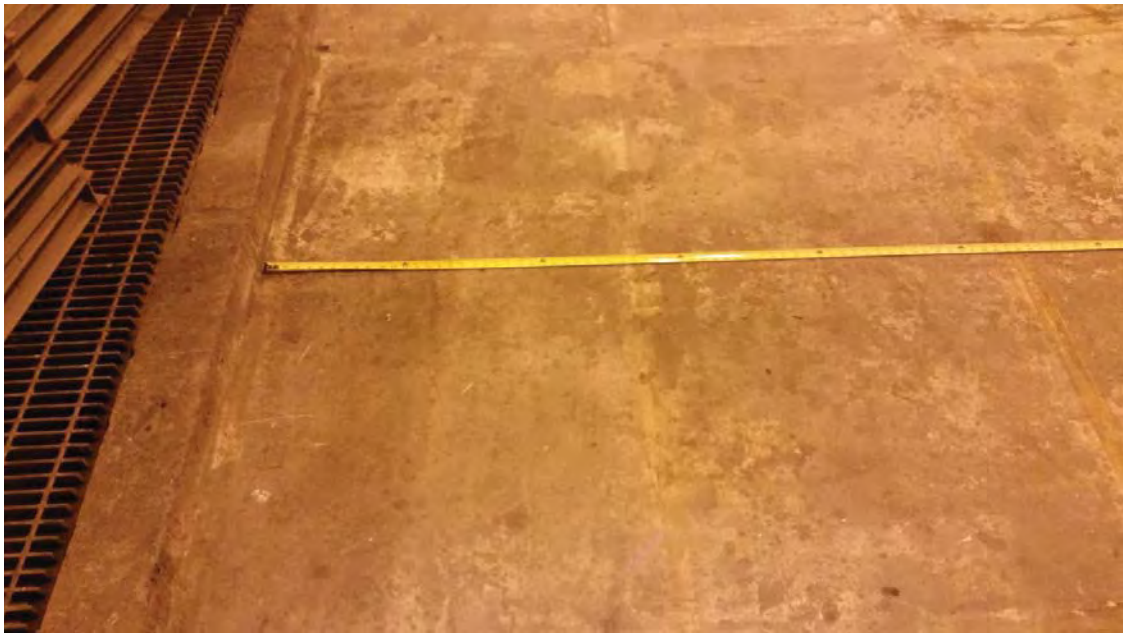


E-4 WEST (1) - NO VISIBLE CRACKS

Storage Pod Floor Pictures
August 2014

E-4 WEST (2) - NO VISIBLE CRACKS

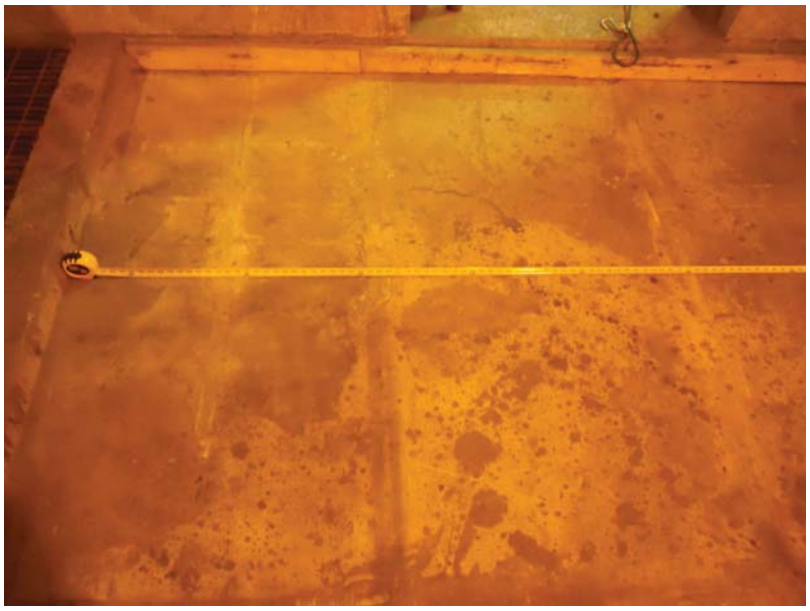
E-4 WEST (3) - NO VISIBLE CRACKS

Storage Pod Floor Pictures
August 2014

E-5 EAST (1) - NO VISIBLE CRACKS

E-5 EAST (2) - NO VISIBLE CRACKS

Storage Pod Floor Pictures
August 2014



E-5 EAST (3) - NO VISIBLE CRACKS

E-5 WEST (1) - NO VISIBLE CRACKS

Storage Pod Floor Pictures
August 2014

E-5 WEST (2) - NO VISIBLE CRACKS

E-5 WEST (3) - NO VISIBLE CRACKS

Storage Pod Floor Pictures
August 2014

Containment Floor Photos
Storage Pods 3A, 3B, 3C, 3D,
3E and 3F
August 2014

F-1 AND F-2 - NO VISIBLE CRACKS

F-2 AND F-3 - NO VISIBLE CRACKS

Storage Pod Floor Pictures
August 2014

G-1 AND G-2 - NO VISIBLE CRACKS

G-2 AND G-3 - NO VISIBLE CRACKS

Storage Pod Floor Pictures
August 2014

H-1 AND H-2 - NO VISIBLE CRACKS

H-2 AND H-3 - NO VISIBLE CRACKS

Storage Pod Floor Pictures
August 2014

I-1 AND I-2 - NO VISIBLE CRACKS

I-2 AND I-3 - NO VISIBLE CRACKS

Storage Pod Floor Pictures
August 2014

J-1 AND J-2 - NO VISIBLE CRACKS

J-2 AND J-3 - NO VISIBLE CRACKS

Storage Pod Floor Pictures
August 2014

K-1 AND K-2 - NO VISIBLE CRACKS

K-2 AND K-3 - NO VISIBLE CRACKS

Storage Pod Floor Pictures
August 2014

U

Removed in accordance with Final Determination

V

Removed in accordance with Final Determination

W

Storm Water NOI and Storm Water Pollution Prevention Plan

STORM WATER POLLUTION PREVENTION PLAN

VEOLIA ES TCHNICAL SOLUTIONS, L.L.C.
1275 Mineral Springs Drive
Port Washington, WI 53074

EFFECTIVE October 2004

REVISION February 8, 2016

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LIST OF DRAWINGS

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CERTIFICATION

The WDNR requires that the SWPPP be signed by a responsible corporate officer or manager. The following certification is required:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information contained in the plan. Based on my inquiry of the person, or persons, who manage the system, or those persons directly responsible for gathering the information; the information contained in this document is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for providing false information, including the possibility of fine and imprisonment. In addition, I certify under penalty of law that, based upon inquiry of persons directly under my supervision, to the best of my knowledge and belief, the provisions of this document adhere to the provisions of the storm water Permit for the development and implementation of a Storm Water Pollution Prevention Plan and that the plan will be complied with."

Signature: _____ **Date:** _____
Printed Name: David Braun **Title:** Operations Manager

NON-STORMWATER
DISCHARGE
CERTIFICATION

Storm water outfalls at this facility were inspected to determine the presence or absence of non-storm water discharges. The procedure used is described below:

Visual Inspection – involves inspection of the storm water discharge points on several different dry-weather occasions in order to visually look for any flow in the storm water conveyances. In the absence of precipitation, no water flow should be observed. If there is water flowing through the outfalls during dry weather, tests should be conducted to determine the source of the flow. An inspection should take place concurrently with an activity that is likely to cause such discharges. No discharge of water was found on the days that these inspections were conducted. The following includes this facility's certification regarding non-storm water discharges. Because of the nature of this facility's drainage system (storm water is retained on-site in the facility parking lot until the control valve is opened), visual inspections for non-storm water discharges can be conducted on a recurring basis.

The following certification is in accordance with 40 CFR 122 and s.NR 216.28 Wis. Adm. Code regarding non-storm water discharges.

"I certify storm drain systems at VEOLIA ES TECHNICAL SOLUTIONS, L.L.C. have been tested for non-storm discharges, and that the non-storm water testing described above was conducted and the results presented above are true and accurate."

Signature: _____ **Date:** _____
Printed Name: David Braun **Title:** Operations Manager

1.0 INTRODUCTION

This Storm Water Pollution Prevention Plan (SWPPP) is written in compliance with the requirements for Wisconsin Pollutant Discharge Elimination System (WPDES) Storm Water Tier 2 General Permit (Permit) for Industrial Activities. The permit covers the Veolia ES Technical Solutions, L.L.C. (Veolia) facility located at 1275 Mineral Springs Drive, Port Washington, WI, 53074 (Facility).

The WPDES program was implemented to facilitate compliance with the National Pollution Discharge Elimination Program (NPDES) created by the Environmental Protection Agency (EPA) under the Clean Water Act to restore and maintain the nation's water quality. Under the permit, the Wisconsin Department of Natural Resource (WDNR) requires the development and implementation of a pollution prevention plan designed to reduce pollution contained in storm water runoff at the source.

1.1 BACKGROUND

A number of nationwide studies have shown that storm water runoff is a major source of water pollution. To address this problem, the Clean Water Act amendments of 1987 required the EPA to publish regulations to control storm water discharges under the NPDES program. EPA published storm water regulations on November 16, 1990, requiring certain dischargers of storm water to apply for NPDES Permits. These regulations apply to storm water discharges associated with both industrial and construction activity. Certain industries and industrial activities have been identified as being the most likely to contribute to storm water pollution and are required to obtain NPDES Permits. The specific industrial activities affected are identified in Title 40 of the Code of Federal Regulations (40 CFR) 122.26(b)(14). The State of Wisconsin has been delegated NPDES Permitting authority and is the implementing agency and the Wisconsin regulations are contained in NR 216..

In 2004, Veolia obtained a Permit from the WDNR and developed then implemented this SWPPP. In March 2005, Veolia received written notification from the WDNR that the department was terminating the facility's storm water discharge permit. Furthermore, this letter indicated that the facility activities would instead by regulated by the waste management program within the WDNR. A copy of this correspondence is included in Appendix A. Veolia had prepared this SWPPP in accordance with the requirements of the original storm water discharge permit and has elected to continue the implementation of the SWPPP in accordance with the 2004 WPDES Permit conditions.

As part of the Facility's RCRA Storage Permit renewal process, on May 6, 2014 the WDNR requested Veolia to submit notification and application for a WPDES Storm Water Discharge Permit. On August 5, 2014, Veolia submitted a Notice of Intent for coverage under the (WPDES) General Permit to Discharge Under the Wisconsin

Pollution Discharge Elimination System WPDES Permit No. WI-S067857-3 (Permit) for Tier 2 Industrial Facilities presented in Appendix A.

1.2 GENERAL PERMIT CONDITIONS

The Wisconsin Department of Natural Resources (WDNR) has issued a General Permit to Discharge Under the Wisconsin Pollutant Discharge Elimination System, WPDES Permit No. WI-S067857-3 for Tier 2 Industrial Facilities that discharge storm water associated with industrial activities. This permit is divided into six primary topics:

- Application Requirements, which addresses the application process for coverage under the general permit, the process for applying for a no exposure certification and permit transfers;
- Permit Applicability Criteria, which addresses the type of facilities and the types of discharge subject to and eligible for coverage under the general permit;
- Storm Water Pollution Prevention Plan (SWPPP), which addresses the requirement to develop an SWPPP and the required content of the SWPPP. an emphasis on "source area" controls, which are designed to prevent storm water from becoming contaminated;
- Compliance and Reporting Requirements, which outlines the facility's duty to comply with the permit and requires the Tier 2 facility to conduct quarterly and annual visual inspections to assure that the plan is working;
- Standard Requirements, which address the standard requirements applicable to all WPDES permits.

In addition to the requirements of the Storm Water General Permit, the facility hazardous waste facility permit includes sampling and analysis requirements for Stormwater discharged to the wetlands area in the northern portion of the site.

The purposes of the SWPPP are to:

- Identify sources of storm water and non-storm water contamination to the storm water drainage system;
- Identify and prescribe appropriate "source area control" type best management practices designed to prevent storm water contamination from occurring;
- Identify and prescribe "storm water treatment" type best management practices to reduce pollutants in contaminated storm water prior to discharge;
- Prescribe actions needed to either to bring non-storm water discharges under WPDES permit or to remove these discharges from the storm drainage system;
- Prescribe an implementation schedule so as to ensure that the storm water management actions prescribed in the Storm Water Pollution Prevention Plan are carried out and evaluated on a regular basis.

1.3 POLLUTION PREVENTION TEAM

The individuals listed below are responsible for developing this SWPPP and for assisting in its implementation, maintenance, and revision.

Team Leader

Name: **David Braun**
Phone: (262) 243-8904
Title: Operations Manager
Responsibilities: Provides management support for implementation of SWPPP and Plan signatory. Oversees day-to-day site operations. Responsible for implementing management practices, reviewing operations and design for storm water impact, and assists in recordkeeping and reporting.

Team Members

Name: **Phillip Ditter**
Phone: (262) 243-8908
Title: EHS Manager
Responsibilities: Responsible for oversight of BMPs and plan implementation. In addition:

- Development of Pollution Prevention Programs
- Evaluation of Effectiveness of Plan
- Annual Site Compliance Evaluation
- SWPPP Update and ensures proper employee training
- Ensuring inspections and reporting procedures are properly conducted.

Name: **Tim Bechard**
Phone: (262) 243-8903
Title: EH&S Specialist
Responsibilities: Responsible for performing quarterly visual inspections and annual facility assessments.

Name: **Jim Ostwald**
Phone: (262) 243-8900
Title: Facility Technician
Responsibilities: Responsible for day-to-day inspections.

1.4 SWPPP LOCATION AND AVAILABILITY

The SWPPP will be maintained on-site at the facility in the office of the site Environmental, Health and Safety (EHS) Manager. The SWPPP is available for review during on-site inspections by WDNR and will be provided to them if requested. In

accordance with current regulatory requirements, VEOLIA will also provide a copy of this SWPPP to the public if requested in writing to do so.

1.5 SWPPP REVISIONS

The SWPPP will be amended whenever there is a change in design, construction, operation, or maintenance that impacts the potential for pollutants to be discharged or if the SWPPP proves to be ineffective in controlling the discharge of pollutants. The SWPPP will be maintained in compliance with any Permit conditions that apply to the plant and will accurately represent plant features and operations. All plan revisions will be tracked in accordance with the facility policy C-021PW, Port Washington Document System Structure and Creation Policy.

1.6 RECORDS RETENTION

Records of monitoring information and copies of all monitoring reports required by the permit will be retained for at least three years from the date of sample, measurement, evaluation or inspection, or report. This SWPPP, including the required certifications, will be retained for at least three years after the last modification or amendment is made to the plan.

2.0 SITE ASSESSMENT

2.1 FACILITY DESCRIPTION

The Facility is located at 1275 Mineral Springs Drive in the Northwestern ¼ of the Southeastern ¼ of Section 32, Township 11 North, Range 22 East, in the City of Port Washington, Ozaukee County, Wisconsin. The site location is shown on Drawing B1. Drawing B1 provides a three-mile radius surrounding the TSDF.

The Facility is located in an industrial park on the southern edge of Port Washington. The areas to the immediate north, south and east of the property are zoned industrial and currently contain light manufacturing industry. The area immediately west of the property is zoned industrial, but is currently vacant. Mineral Springs Drive border the property toward the east. Mineral Springs Drive intersects Sunset Road approximately ¼ mile north of the site. Maritime Drive borders the property toward the south.

No parks, hospitals, or nursing homes are located within ½ mile of the facility. A correctional facility is located approximately ½ mile west of the facility. There are no known areas of archeological or historical significance on the property. Existing conditions for the area are shown on Drawing D1.

The Facility provides integrated asset recovery and waste management services to both public and private customers. The site routinely manages hazardous waste and materials

including non-PCB oils from utility power distribution equipment, mercury lamps and mercury-containing products for recycling, batteries, and computer equipment. In addition, the facility operates a 10-day transfer station for hazardous wastes and PCB-containing utility power distribution equipment. The recycling and processing activities are conducted inside the site building. The pumping of non-PCB equipment does occur in the south loading dock and inside the secondary containment pad located in the southern parking lot area.

A diesel-fired back-up emergency power generator is located on the east side of the warehouse building. The generator is equipped with an above ground storage tank having a capacity of 793 gallons. The generator and tank are both situated on a steel secondary containment pad having a spill capacity of 1614 gallons. A Spill Prevention, Control, and Countermeasure (SPCC) Plan has been developed for the unit.

Please refer to the facility's FPOR for a complete description of the facilities operations, recordkeeping procedures, storage areas, and permit requirements for the RCRA storage license. No disposal of waste materials occurs on the VEOLIA site location.

2.2 SITE MAP

The site map Drawing SWPPP-1 identifies the following facility characteristics related to this SWPPP as required by the permit, including:

- Estimated drainage patterns and retention basins/trenches
- Structural control measures
- Significant potential pollutant source locations
- Material handling locations (if applicable), including:
  - Fueling stations
  - Vehicle/equipment maintenance areas
  - Loading/unloading areas
  - Waste treatment, storage, or disposal areas
  - Processing areas
  - Storage areas
  - Emergency back-up power generator with diesel fuel aboveground storage tank

The map reflects the site conditions observed during a site reconnaissance performed in August 2014.

2.3 SITE DRAINAGE AND RECEIVING WATERS

Surface water runoff from southern asphalt paved areas, approximately 2.7 acres, flows into the catch basins located in the center of the parking lot and directly east of the office

building. Surface water runoff that is collected in the main storm sewer is routed north and discharges into a retention basin located on the northern portion of VEOLIA's property. The discharge flow in the sewer is controlled by valve located east of the building (see Drawing SWPPP-1). The valve remains normally closed and is only manually opened to allow for drainage into the basin. If above capacity, the retention basin surface drains in the northeast corner of the property along Mineral Springs Drive. Drainage features for the site are shown on Drawing SWPPP-1.

Two laterals connect into the storm sewer. One lateral is from the trench drain located in the covered south loading dock area of the facility. This trench drain has been sealed and locked. The other lateral is from the roof drains of the office buildings and the southern portion of the facility (approximately 12,600 sf).

Two roof drains are associated with the middle-north portion of the facility (approximately 3,600 sf), lamp feed station area. One drain discharges to the paved surface on the northeast corner of the building. The second drain discharges to a grassy area northwest of the building.

The storm water runoff from the northern asphalt covered portion of the site (approximately 16,000 sf) sheet drains to a natural area to the north. The remaining portions of the site consist of landscaped grassy areas surrounding the building and outside the fenced area to the east and south along the road ways. An un-landscaped, natural area and the retention pond comprise approximately 6.9 acres of the northern portion of the site. Storm water in these areas is directly infiltrated into the soils.

The active portions of the site are graded to minimize off-site drainage from entering the site. The active portions of the site are sloped to contain all storm water within the site boundaries. Erosion does not occur at the site.

According to National Flood Insurance Program flood boundary and floodway maps, the site is not located within the 100-yr floodplain. Drawings showing the location of the 100-year floodplain relative to the site and a copy of the relevant Federal Insurance Administration (FIA) flood plan map are presented in the facility's Feasibility and Plan of Operation Report (FPOR).

A wetland is located approximately ¼ mile southwest of the site. The wetland drains into Mineral Springs Creek, which flows toward the north approximately 800 ft west of the TSDF. A spring near Sunset Road provides recharge to Mineral Springs Creek. Mineral Springs Creek then flows toward the northeast and eventually discharges to Lake Michigan approximately 1½ miles northeast of the site.

According to the WDNR Wisconsin Wetland Inventory Map for this area, reviewed online and printed on August 6, 2014, the wetland is classified as E2K. This

classification describes an emergent/wet meadow with a sub-classification as narrow-leafed persistent vegetation. Typical examples for this subclass include cattails, moss sedges and grasses. In addition, this classification identifies the area as a wetland that may not have surface water for prolonged periods of time.

Other nearby surface water includes a sedimentation basin located on the south side of Maritime Drive approximately 400 ft southwest of the facility. This basin does not receive runoff from the Veolia property.

Groundwater in the vicinity of the facility occurs in the glacial deposits and generally flows east towards Lake Michigan. Regional groundwater flow in the glacial and bedrock aquifers is east towards Lake Michigan. The glacial aquifer in the region consists of sand and gravel deposits, but in the vicinity of the facility, these deposits are not extensive. Below the glacial aquifer are two major bedrock aquifers that are separated by an aquitard. These bedrock aquifers are the dolostone aquifer and the sandstone aquifer, which are hydraulically separated by the Maquoketa Shale. Most private and public water supplies use the dolomite or sandstone aquifers.

Depth to water is likely to be approximately 10 ft below ground surface based on the presence of wetlands in adjacent sections. This groundwater may be perched, and the actual depth to the regional water table may be deeper. Horizontal hydraulic gradients in the glacial aquifer are generally to the east but may vary locally due to topography. Vertical hydraulic gradients are generally down in the glacial aquifer, and groundwater from the glacial aquifer generally recharges the underlying dolostone aquifer. Horizontal hydraulic conductivity of the glacial deposits can range from 10^{-2} cm/sec in outwash deposits (sand and gravel) to 10^{-6} cm/sec in till deposits (clay and silt). Vertical hydraulic conductivity is generally an order of magnitude less than horizontal conductivity of the same material.

2.4 POTENTIAL POLLUTANT SOURCES

Exposed materials are considered to be those materials that are handled, treated, stored, or disposed in a manner that could allow exposure to storm water. Potential exposure of materials at the Veolia facility consists primarily of those activities not conducted within the actual facility building. The following general activities and areas may generate pollutants:

- Loading and unloading operations associated with household hazardous waste collections and small quantity deliveries of materials at the east overhead door.
- Outdoor storage activities associated with the aluminum end caps and other scrap metal in roll-off boxes.

- Temporary staging of wooden pallet, and baled cardboard. Wooden pallets and baled cardboard are moved into an enclosed trailer prior to ceasing operations each day.
- Outdoor storage of a small dumpster for mixed recyclables / office paper.
- Outdoor staging of oil-filled electrical equipment
- Periodic vehicle maintenance of yard truck and roll-off truck
- Air pollution control equipment emission points covered under the facility's air permit.
- Emergency back-up power generator with diesel fuel aboveground storage tank and associated fueling operations.

2.5 SPILLS AND LEAKS

A significant spill, as defined by the EPA, is a release within a 24-hour period of a hazardous substance in excess of its reportable quantity under Section 311 of the Clean Water Act (CWA) and Section 102 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The facility maintains a log and documentation of all significant spills and all spills both inside and outside the facility.

2.6 STRUCTURAL STORM WATER MANAGEMENT CONTROLS

Structural storm water management controls, or Best Management Practices (BMPs), include physical structures or devices which keep potential pollutants from contacting storm water, direct storm water along a desired path, and reduce the flow rate of storm water. The following sections describe the existing potential pollutant sources and corresponding structural BMPs at the site.

2.6.1 General Structural Controls

Overall facility operations involve the management and storage of equipment that may contain hazardous materials. As such, operational activities occur mainly within site building, and most processing and containerization of waste materials occurs within the building. Wastes are stored in areas that provide secondary containment to minimize potential discharges of pollutants. Good housekeeping practices are emphasized.

2.6.2 Loading/Unloading Operations

All loading and unloading operations will be performed by trained personnel to minimize potential spills and discharges. The majority of loading/unloading activities occur under roof in the south loading dock area and our associated with van trailers. The roof and van trailers prevent the direct interaction with precipitation. Some outside loading/unloading operations occur when large equipment is received on flatbed, drop-deck, and low-boy trailers. In these instances, operations will be conducted inside the concrete secondary contaminate pad in the south parking lot, when practicable. The distance to move the waste material by forklift or crane will be minimized. The adjacent storm water basins will be covered visqueen plastic to prevent the accidental interception of a potential spill.

Absorbent materials (e.g., corn cob) will be readily available during the outside transfer operations.

Waste materials will be received at the eastern overhead door from HHW customers and small quantity deliveries. The vehicle will be parked as close as possible to reduce the potential expose of waste materials to precipitation.

2.6.3 Outdoor Storage Activities

All waste materials are stored inside the facility or weather proof transport vehicles, except as noted below. Scrap metal by-products from the retort and lamp recycling operations are stored in roll-off boxes outdoors. The aluminum end cap roll-off box is equipped with a removable cover that is maintained in a closed position except when adding or removing waste. The general scrap metal roll-off includes manufactured articles for recycling as well as scrap metals derived from the retorting process whereby, the hazardous components have been removed to non-hazardous levels. The glass roll-off from the lamp processing operations may be temporarily staged outdoors awaiting off-site transport. While the glass roll-offs are staged outdoors, they are equipped with weather proof covers. Waste materials in transit are held in van trailers. However, larger pieces of electrical equipment containing oils may be held on flat-bed, drop-deck, or low-boy trailers. These trailers will be held in the south covered loading dock area or on the concrete secondary contaminate pad in the south parking lot.

Bundles of waste cardboard and used pallets are temporarily accumulated outside. Each day these materials are loaded into van trailers. Covered dumpsters for mixed recycleables and paper/cardboard from office operations are located east of the warehouse.

2.6.4 Outdoor Processing Activities

Outdoor processing of non-pcb oil-filled electrical equipment is sometimes required due to size restrictions – the equipment can not physically fit under the south loading dock. In these situations, pumping of oils will not occur during precipitation events. Activities will be conducted inside the concrete secondary contaminate pad in the south parking lot. The adjacent storm water basin will be covered visqueen plastic to prevent the accidental interception of a potential spill. Absorbent materials (e.g., corn cob) will be readily available during the outside processing operations.

2.6.5 Storm Water Drainage Network

Storm water drains and basins are located throughout the asphalt parking lot areas of the facility. The storm water flows to the on-site storm water retention basin which is controlled by a valve located east of the building (Drawing SWPPP-1). The valve remains normally closed and is only opened manually to allow for storm water drainage. Parked trailers are inspected daily and documented for spills prior to opening the storm water drainage valve.

2.6.6 Sediment and Erosion Control

The facility is has fairly level topography. Grades and slopes within the facility vary from gentle to flat. The pervious areas of the facility are landscaped or are naturally vegetated. The remainder of the site contains buildings or is paved. Therefore, the site is not susceptible to pollutant run-off from erosion processes.

2.6.7 Management of Run-off

Run-off management practices are those measures used to divert, infiltrate, reuse, or otherwise manage run-off in a manner that reduces pollutants in storm water discharges from the site. As previously discussed, the run-off from the parking lot area is diverted through a storm water drainage network. The storm water flows is controlled by a valve located east of the building (Drawing SWPPP-1). The valve remains normally closed and is only opened manually to allow for storm water drainage. Parked trailers are inspected daily and documented for spills prior to opening the storm water drainage valve.

2.6.8 Emergency Back-up Power Generator

A diesel-fired back-up emergency power generator is located on the east side of the warehouse building. The generator is equipped with an above ground storage tank having a capacity of 793 gallons. The generator and tank are both situated on a steel secondary containment pad having a spill capacity of 1614 gallons.

2.7 NON-STRUCTURAL STORM WATER MANAGEMENT CONTROLS

Non-structural storm water management controls include protocols that will decrease the potential for storm water pollution. At the Veolia facility, they include, but are not limited to, the following:

- Good Housekeeping
  - Operation and Maintenance
  - Material Storage Practices including proper packaging
  - Material Inventory Procedures
  - Employee Participation
- Preventive Maintenance
- Spill Prevention and Response
- Routine Facility Inspections
- Employee Training
- Contingency Plan
- Spill Prevention, Control, and Countermeasure (SPCC) Plan

2.7.1 Good Housekeeping

Good housekeeping practices are designed to maintain a clean and orderly work environment. A clean and orderly work area reduces the possibility of accidental spills caused by mishandling of chemicals and equipment and should reduce safety hazards to

plant personnel. Well-maintained trailers, tankers, roof coverings, and roll-off boxes will reduce the possibility of storm water mixing with pollutants.

2.7.2 Preventive Maintenance

The existing maintenance program at the site indirectly provides environmental protection. The BMPs specifically developed for the prevention of storm water pollution should prevent breakdowns and failures by timely adjustment, maintenance repair, or replacement of equipment or structures.

2.7.3 Spill Prevention and Response

Spill prevention and response management practices dictate to a great extent the effectiveness of the SWPPP. Veolia ensures the organization and implementation of a spill prevention and response management program by ensuring employees are properly trained to respond to spill incidents, proper types and amounts of spill response equipment are available at the facility, proper material handling and storage procedures are established for hazardous materials, and the facility maintains a current emergency response plan. Specific Preparedness Prevention and Contingency Plan for the facility are outlined in the FPOR.

A Spill Prevention, Control, and Countermeasure (SPCC) Plan has been developed for the emergency back-up power generator unit, which utilizes diesel fuel.

2.7.4 Inspections

Inspections of the facility are necessary to ensure that storm water contact with a potential pollutant source is reduced to the maximum extent practicable. These inspections are designed to be routine in nature so they may become part of the daily activities that personnel perform at the facility. The inspections will also be performed during storm events to confirm that BMPs are in place and working adequately. The following inspection practices will be conducted throughout the facility and will specifically address those areas and activities concerning potential pollution of storm water.

- Employees performing the inspections will be properly trained, familiar with the storm water pollution prevention program, and competent in proper record keeping and reporting procedures.
- Inspections will be documented. Inspection records will note when inspections were done, who conducted the inspection, what areas were inspected, what problems were found, and steps taken to correct any problems, including who has been notified. These records will be kept in accordance with the records retention policy stated in this SWPPP.

2.7.5 Training

Employee training is essential to effective implementation of the SWPPP. The purpose of a training program is to teach personnel at all levels of responsibility the components and goals of the plan, including:

- Spill prevention and response
- Good housekeeping practices
- Material management practices

All employees will receive storm water pollution prevention training on an annual basis as a component of annual refresher training. This type of training is also included in the new-employee orientation program. Training or notification of new procedures will occur after changes in processes or material use which might affect storm water discharges is implemented. Changes in job assignments may also necessitate additional training. If problems affecting storm water discharges become apparent, employees will receive notification or instruction regarding any changes in procedures. Storm water pollution prevention training will be reviewed after annual review of the SWPPP to make sure that any changes to the Plan are covered in the training. Any significant changes during the year will also be incorporated into the training program. The following training materials are currently used to facilitate training of and communication with plant personnel:

- Drills
- Routine employee meetings
- Bulletin boards
- Suggestion program
- EHS Council meetings
- ISO 14001 EMS Program
- OHSAS 18001 OHMS Program

2.8 STORM WATER TREATMENT BEST MANAGEMENT PRACTICES

Based on the evaluation of the storm water discharge and the existing structural and non-structural controls/BMPs, storm water treatment practices for the facility do not appear to be necessary. In the event of a spill outside, lateral movement of material will be contained by constructing temporary berms using absorbent. The storm water drains will be protected by using drain covers of covering with a plastic sheet and plywood and building a dike of absorbent material around each drain. Gross liquid spills will be containerized using a peristaltic pump. Small liquid spills will be immediately absorbed and containerized. If a spill were to enter the storm water drainage network, the valve will be checked to ensure closure. The network will be cleaned using a vacuum system and cleaned using a decontamination solution. The spill material and decontamination solution will be collected and managed as a hazardous waste, pending waste stream

classification. The decontamination solution will be tested to determine whether the final rinse is a hazardous waste (Refer to Waste Analysis Plan, Section 6.0 of the FPOR). The Contingency Plan discusses incident response procedures for handling and preventing contamination of surface water.

2.9 NON-STORM WATER DISCHARGES

Non-storm water discharges to the waters of Wisconsin must be covered by a WPDES Permit issued for the discharge. The following are potential non-storm water discharges that could occur at the facility:

- Discharges from fire fighting activities
- Sprinkler system testing and flushing
- Potable water sources, including waterline flushing
- Uncontaminated compressor condensate
- Landscape watering
- Routine external building wash down that does not use detergents or other compounds
- Air conditioning condensate and retort unit chiller condensate

No other non-storm water discharges, process water, have been observed at the facility.

2.10 RESIDUAL POLLUTANTS

The facility is not subject to any discharge permit requirements for process waters from the WDNR. The facility is not subject to any categorical effluent limitation or pre-treatment standard. The facility does not anticipate significant concentrations of oil and grease, pH, total suspended solids, 5-day biological oxygen demand, and chemical oxygen demand is present in the storm waste discharge.

The conditions contained in the general permit and regulations had previously required that potential pollutant sources for which a facility has EPCRA 313 reporting requirement must be identified as a potential pollutant source within the SWPPP. The facility is subject to EPCRA 313 reporting requirements for mercury and lead. On November 1, 2004, the Port Washington facility experienced a qualifying rainfall event and collected a storm water sample in accordance with our WDNR Storm Water permit, WI-S067857-3. Duplicate samples of the storm water were collected and submitted to CT Laboratories in Baraboo, Wisconsin for total mercury analysis. The total mercury concentration was non-detectable in one sample and at the detection limit (0.11 µg/L) in the second sample. Based on these results, the operations of the Port Washington facility do not appear to influence the storm water quality discharging into the retention pond.

3.0 MONITORING AND EVALUATION

3.1 EVALUATION OF NON-STORM WATER DISCHARGES

All storm water discharges will be evaluated for non-storm water contributions to the storm drainage system for the duration of the permit. The evaluations will take place during dry periods and consist of end of pipe screening. These visual inspections will be made twice per year. Instances of dry weather flow, stains, sludge, color, odor, or other indications of non-storm water discharge will be recorded. Results of the non-storm water evaluations will be included in the SWPPP and submitted as part of the Annual Facility Site Compliance Inspection (AFSCI).

3.2 STORM WATER DISCHARGE MONITORING

Quarterly visual monitoring is required for the VEOLIA facility in accordance with the permit. Quarterly visual inspections of the storm water discharges must be made for outfalls from the facility for the term of the permit. A grab sample of the storm water discharge into the retention pond will be inspected once each quarter for color, odor, clarity (turbidity), floating solids, suspended solids, settled solids, foam, oil sheen, and other obvious indicators of storm water pollutants. Grab samples will be obtained within the first 30 minutes of the start of discharge into the pond. The results of these inspections will be documented by completing a Storm Water Inspection Form, in Appendix C, and the reports will be maintained at the facility with the SWPPP. If storm events resulting in storm water discharge are missed or do not occur during a given quarter, a statement describing why the visual inspection could not be conducted must be entered into the file and kept with the SWPPP. The Storm Water Inspection Form must be filled out entirely, signed, and dated by the personnel performing the inspection.

3.3 ANNUAL FACILITY SITE COMPLIANCE INSPECTION

As required in permit, personnel will conduct site compliance evaluations at appropriate intervals, at least once a year. As part of the compliance evaluation, the evaluator will:

- Review this plan and quarterly inspections. Note previous deficiencies and corrective actions.
- Inspect storm water drainage areas for visual evidence of spills and leaks of pollutants.
- Evaluate the effectiveness of measures to reduce pollutant loadings and whether additional measures are needed.
- Observe structural measures, sediment controls, and other storm water BMPs to ensure proper operation.
- Inspect any equipment needed to implement the plan, such as spill response equipment.
- Review facility operations for the past year to determine if any other areas should be added to the original plan or if any existing areas were modified and require plan modification.

- Revise the plan as needed within 14 calendar days of the inspection. Include new potential pollutant source descriptions and a description of measures and controls.
- Implement any necessary changes in a timely manner, at least within 12 weeks of the inspection.
- Prepare an evaluation report summarizing inspection results and follow- up actions, the date of inspection and names of personnel who conducted the inspection.
- Document all incidents of noncompliance in the evaluation report. Where there are no incidents of noncompliance, the evaluation report will contain a certification that the facility is in compliance with the plan.
- Sign and date the evaluation report. Keep the evaluation report with the plan.
- Document all conditions necessitating modification to the SWPPP and keep on file as part of the plan until one year after coverage under the Permit expires.

The steps for completing the annual compliance evaluation are as follows:

1. Review all Visual Inspection Checklists (Appendix C). Spot-check several areas using the checklists, particularly areas where problems were noted during the year. Were corrective actions implemented to correct problems and prevent recurrences? Were any repeat problems noted? For any items not corrected or repeat problems, list in the following table the problem, affected location(s), the root cause of the problem, follow-up actions to be taken, responsible person, and due date for completion.
2. Based on review of the above, does it appear that any of the BMPs are ineffective? Identify specific BMPs that are ineffective, the location, reason for ineffectiveness, follow-up actions to be taken, responsible person, and due date for completion. Are additional BMPs necessary? List specific BMPs to be implemented, affected location(s), action needed to implement, responsible person, and due date.
3. Were any areas of the site modified in a manner that would require SWPPP modification, including chemical usage, storage, etc.? If so, list the BMPs to be implemented, the location, action needed to implement, responsible person, and due date.
4. Update the SWPPP, as necessary within 14 calendar days of inspection. New BMPs should be implemented within 12 weeks of inspection.

3.3.1 Annual Evaluation Report

The results of the annual evaluation are documented using forms provided by the WDNR. A copy of the completed annual evaluation is provided to the Operations Manager and incorporated into the SWPPP In addition to inspection results, the report contains a description of the scope of the inspections, personnel making the inspections, the date(s) of the inspections, and a summary of major observations. The report is retained in accordance with the SWPPP record retention policy.

3.3.2 SWPPP Revision

The SWPPP is evaluated annually for changes and revisions, and any changes to the SWPPP are documented in accordance with policy C-021PW, Port Washington Document System Structure and Creation Policy. Within 4 weeks of the site inspection, the SWPPP is updated to reflect the changed conditions observed during the inspection. Changes made to the storm water controls are implemented within 12 weeks of the site inspection.

3.4 Annual Chemical Testing

On September 4, 2015, a Final Determination to Conditionally Approve a Feasibility Report and Plan of Operation was issued by the WDNR for the hazardous waste storage and treatment operations performed on-site. This approval included a condition whereby the facility is required to collect as sample of storm water for chemical analysis on an annual basis. A sampling plan has been developed and submitted to the WDNR for approval and is included in Appendix D, Storm Water Sampling Plan.

DRAWINGS

PROJECT SITE

MARITIME DRIVE

10-day Transfer and Trailer Parking Area

MINERAL SPRINGS DRIVE

Outfall 001
Storm Water Drainage Network
Storm Water Sampling Point

WATER ELEVATION 694.7'± AS OF APRIL 6, 1999

FIRST FLOOR EL. 705.56'

SHUT-OFF VALVE

FROM FOUNDATION DRAIN

FROM ROOF DRAIN

MANHOLE WITH SHUT-OFF VALVE

SITE BENCHMARK SEE NOTES

SCREENING VEGETATION

CONCRETE CURB & GUTTER

ASPHALT PAVEMENT

GRASS

STO MH.
RIM=698.38'
12" N. 693.77'
27" S. 692.79'
21" E. 693.25'

CB
RIM=698.09'
12"SE= 694.03'

CB
RIM=698.16'
27"N=692.75'
27"S=692.82'

CB
RIM=700.03'
12"N= 696.24'

STO MH.
RIM=700.19'
12" N. 695.83'
12" S. 696.20'
21" W. 695.19'
21" E. 695.24'

CB
RIM=700.11'
12"S= 696.18'

CB
RIM=701.60'
12"SE= 697.63'

STO MH.
RIM=701.87'
18" N. 696.82'
12" S. 697.69'
21" W. 696.74'
12" NE. 697.56'
15"SW. 697.69'

CB
RIM=701.61'
12"NE= 697.90'

STO MH.
RIM=701.86'
18"N = 697.19'
12"NW= 697.18'
18"S= 697.17'
12"SE= 697.33'

CB
RIM=701.57'
12"SE= 697.53'

CB
RIM=701.86'
12"SW= 698.14'

CB
RIM=703.53'
12"E= 699.60'

CB
RIM=703.51'
12"W= 699.56'

STO MH.
RIM=703.69'
18"S = 698.92'
12"E= 699.36'
12"W= 699.46'
12"SE= 697.33'

RIM=701.14'
18"N= 697.68'

RIM=704.00'
18"N=696.79'
18"S=696.73'
4"SW=696.77'

RIM=701.18'
18"SW=695.38'
24"NE=695.25'
6"W=695.92'

SAN MH.

IPF

IE. 694.90'

IE. 694.72'

IE. 694.07'

IE. 693.61'

N 02°40'29" W 1134.00'

S 02°40'29" E 1132.44'

N 57°36'21" E 440.00'

S 32°24'10" W 440.00'

230.5'

116.1'

76.1'

2,561,500 E

507,000 N

507,500 N

LEGEND

- STORM SEWER VALVE
- MANHOLE
- CATCH BASIN
- SURFACE WATER FLOW

	Scrap Metal Roll-off Boxes
(R)	Roof Drains
(A)	Air emission stack
MR	Mixed Recyclables

- APPROXIMATE PROPERTY BOUNDARY
- 702 1' CONTOUR
- 700 5' CONTOUR
- SANITARY SEWER
- STORM SEWER
- CHAIN LINK FENCE
- EDGE OF WATER
- CONCRETE SURFACE

NOTES

1. BASE MAP DEVELOPED FROM A DRAWING "TOPOGRAPHIC MAP", PREPARED BY STS CONSULTANTS LTD., VERNON HILLS, ILLINOIS, PROJECT NO. 86008, DATED APRIL 14, 1999.
2. BEARINGS AND GRID REFERENCED TO THE WISCONSIN STATE PLANE COORDINATE SYSTEM – SOUTH ZONE.
3. ALL ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1929. SITE BENCHMARK: NE FLANGE BOLT ON HYDRANT NORTH SIDE OF MARITIME DRIVE. ELEVATION = 703.22.
4. TOPOGRAPHIC MAPPING PREPARED FROM FIELD SURVEYS COMPLETED ON APRIL 7, 1999.

north

0 50 100
SCALE IN FEET

Developed By MAB
Drawn By MAB
Approved By
Date August 5, 2014
Reference 1272061.01180101–D2
Consultants

Releases	Issuance/Revisions	Date	By	Apprvd.

SITE FEATURES

FEASIBILITY AND PLAN OF OPERATION REPORT
HAZARDOUS WASTE STORAGE FACILITY
VEOLIA ES TECHNICAL SOLUTIONS, L.L.C.
1275 MINERAL SPRINGS DRIVE
PORT WASHINGTON, WISCONSIN

Printed

Sheet Number
1 of 1

Drawing Number
2082639
01180101 D1

Figure SWPPP-1

APPENDIX A

NOTICE OF INTENT AND GENERAL PERMIT CONDITIONS

VEOLIA
ENVIRONMENTAL SERVICES

TECHNICAL SOLUTIONS
NORTH AMERICA

August 5, 2014

WDNR Waukesha Service Center
141 N.W. Barstow Street, Room 180
Waukesha, WI 53188

RE: Notice of Intent – Industrial Storm Water Discharge General Permit

Dear Sir/Madam:

Please find enclosed a completed Notice of Intent for an Industrial Storm Water Discharge General Permit for our facility located at the below listed address:

Veolia ES Technical Solutions, L.L.C.
1275 Mineral Springs Drive
Port Washington, WI 53074
FID #: 246076050

Also enclosed is a completed Storm Water Pollution Prevention Plan Summary for this facility.

If you have any questions regarding either of these documents please call me at 262-243-8908 or e-mail at phillip.ditter@veolia.com.

Sincerely,

VEOLIA ES TECHNICAL SOLUTIONS, L.L.C.

Phillip Ditter, CHMM
Environmental Health and Safety Manager

Enc.

Cc: Dave Braun

Veolia ES Technical Solutions, L.L.C.
1275 Mineral Springs, Drive, Port Washington, WI 53074
tel: 262 243 8900 - fax: 262 284 3775
www.VeoliaES.com

State of Wisconsin
Department of Natural Resources
PO Box 7921, Madison WI 53707-7921
dnr.wi.gov

Notice of Intent (NOI)
Industrial Storm Water Discharge General Permit

Form 3400-163 (R 2/14)

Leave Blank – DNR Use Only			
File Date	FIN Number	FID Number	WPDES Permit Number

Notice: This form is authorized by s. 283.37, Wis. Stats. Submittal of a completed form to the Department is mandatory for any owner or operator of a storm water discharge who must apply for a permit in accordance with 40 CFR Part 122 or Chapter 283, Wis. Stats. Failure to submit a completed form to the Department on time may result in forfeitures of up to $10,000 per day, pursuant to s. 283.91, Wis. Stats. Personally identifiable information on this form may be used for other water quality program purposes.

All information must be provided on this form. Incomplete application forms will be returned. Please read all instructions before completing.

Section I. Applicant Contact Information

Applicant Name	Contact Person Name		
Veolia ES Technical Solutions, L.L.C.	Phillip Ditter		
Mailing Address	**City**	**State**	**ZIP Code**
1275 Mineral Springs Drive	Port Washington	WI	53074
E-mail Address	**Phone Number**	**Alternate Phone Number**	
phillip.ditter@veolia.com	(262) 243-8900		

Parent Company Name (if applicable)
Veolia North America

Section II. Facility/Site Location

Facility/Site Name (As Appears on Permit Authorization)	County	◉ City ○ Town ○ Village
Veolia ES Technical Solutions, L.L.C.	Ozaukee	of Port Washington

Site Location Address/Description
1275 Mineral Springs Drive

PLSS Information	Township	Range	Section	Quarter	Quarter-Quarter
	11 N	☒ East ☐ West 22	32	SE	NW

If site is not wholly contained in the quarter-quarter, more description	Latitude	Longitude
	43.37232	-87.88734

Section III. Operations Information

Is this a new or existing facility? ○ New ◉ Existing

Standard Industrial Classification (SIC) Code
Primary: 562211 Secondary:

Development of a Storm Water Pollution Prevention Plan (SWPPP) and submittal to the Department of a SWPPP Summary is required prior to initiating industrial operations.

Yes	No	
◉	○	Has the SWPP been developed?
◉	○	Has the SWPP Summary been submitted to the Department? If no, enter the date that the SWPP Summary will be submitted to the Department.

Date to be submitted:

For Transportation Facilities:

Yes	No	
○	○	Does your facility have vehicle maintenance shops, equipment cleaning operations, including vehicle washing, or airport de-icing operations? (Vehicle maintenance includes rehabilitation, mechanical repairs, painting, fueling, and lubrication)

If yes, describe the activities that are conducted outdoors:

Section IV. Description of Activity

Provide a brief description of the industrial activities and land use at this site.
The facility is a permitted hazardous waste container storage facility and lamp and mercury recycling facility.

Section V. Storm Water Discharge

Yes	No	
◉	○	Has storm water runoff from this facility been analyzed for the presence of any pollutants? If yes, attach copies of any collected data.
○	◉	Are you aware of any impacts on receiving waters from storm water discharge from this facility?
◉	○	Have any leaks, spills, or similar instances of storm water contamination occurred at this facility within the last 3 years? If yes:

Did the spill occur in an earthen area? ○ Yes ◉ No
Did the spill occur on a paved surface? ◉ Yes ○ No
Was action taken to clean up the spill? ◉ Yes ○ No

◉	○	Are there any material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, or industrial machinery located in areas exposed to rainfall, storm water, or snow melt water? If yes, list the material and/or operations that are exposed:

Scrap metal boxes are located outside. Electrical equipment may be staged and pumped outside within the paved trailer parking area. Enclosed transport vehicles and trailers are parked on the paved trailer parking area. A covered dumpster is located outside for mixed recyclable and office paper. Scrap metal consists of manufactured articles or metals derived from recycling processes.

Note: if you responded "No" to this question, this facility may be eligible for certification as having a condition of no exposure. See instructions.

Section VI. Other Discharges

Yes	No	
○	◉	Are there any discharges other than storm water included in the storm water outfall? (i.e. wash water, non-contact cooling water)
○	◉	Does this facility have coverage under a WPDES permit for non-storm water discharges? If yes, describe the other discharges, including type and permit number:

Section VII. Permission, Certification, & Signature

A **signature is required for a valid Notice of Intent. Failure to sign this form will result in its return, and will delay the project.**
State Statutes provide for severe penalties for submitting false information on this Notice of Intent form.
State regulations require this form to be signed as follows:

1. For a corporation: a responsible corporate officer including president, secretary, treasurer, vice president, manager, or a duly authorized representative having overall responsibility for the operation covered by this permit
2. For a unit of government: a ranking elected official, or other duly authorized representative
3. For a partnership: a general partner; and for a sole proprietorship: the proprietor
4. For a limited liability company: a manager

Permission: I hereby give the Department permission to enter and inspect the site at reasonable times, to evaluate this notice and application, and to monitor compliance with any resulting coverage and permit.

Certification: I hereby certify that I am responsible for the property which is the subject of this Notice of Intent. I certify that the information contained in this form, schedules and attachments is true and accurate. I understand that failure to comply with any or all of the provisions of the permit renders may result in a fine and/or imprisonment or forfeiture under the provisions of chapter 283, Wis. Stats.

Signature of Landowner/Authorized Representative	Date Signed
David G. Braun	8-5-14
Printed Name of Landowner/Authorized Representative	Title
David G. Braun	Operations Manager

Mail this completed form to the appropriate Wisconsin Department of Natural Resources office in the region where the facility is located. See the instructions on the last page of this form for regional office addresses.

Instructions

Answer all questions completely. Incomplete NOI forms will be returned for completion.
Proposed Industrial Facilities: You must submit a completed form to the Department at least 14 working days prior to initiating land disturbing construction activities at the site if it will undergo one or more acres of land disturbing construction activities as part of its construction.
Other Industrial Facilities: For all other facilities, you must submit a completed form at least 14 working days prior to initiating industrial operations.

Section I. Applicant Contact Information

Provide the name of the person, firm, organization, or other entity applying for permit coverage. The contact person should be the person completely familiar with the facility and charged with compliance and oversight of the permit conditions. Provide the contact information for this person. If there is a parent company, provide the name.

Section II. Facility/Site Location

Enter the facility/site's official or legal name and its complete address or location description. Enter the county, type of municipality, and municipality name.
Enter the township, range, section, quarter, and quarter-quarter of the project. If the project is not wholly contained in the quarter-quarter, provide more description. Enter the latitude and longitude in decimal degrees for the center of the facility/site.

Section III. Operations Information

Answer the questions as presented. A Storm Water Pollution Prevention Plan (SWPPP) is a requirement of the general permit and must be developed and the SWPPP Summary submitted to the Department at least 14 working days prior to initiating one or more acres of land disturbing construction activity for construction of a new facility or 14 working days prior to initiating industrial operations. The Standard Industrial Classification will determine which permit tier, 1 or 2, is applicable. SIC codes can be found at:
https://www.osha.gov/pls/imis/sic_manual.html.
For a summary of the requirements by type of tier, see http://dnr.wi.gov/topic/stormwater/industrial/sic_codes.html.

Section IV. Description of Activity

Describe the industrial activities and land use that will be conducted at the facility.

Section V. Storm Water Discharge

To better understand any discharges that have previously occurred at the site, answer the questions regarding storm water discharges. Note: If you responded "No" to the last question, this facility may be eligible for certification as having a condition of no exposure (apply with DNR Form 3400-188). By submitting a no exposure certification form to the Department, you are certifying that your facility has no exposure of materials or operations outdoors that could contaminate storm water. Facilities that qualify for and submit a no exposure certification are not required to have permit coverage and are not charged an annual permit fee. Obtain the form from: http://dnr.wi.gov/topic/stormwater/industrial/forms.html or from your regional contact.

Section VI. Other Discharges

Answer the questions regarding any other types of discharges to the storm sewer system.

Section VII. Permission, Certification, & Signature

State Statutes provide for severe penalties for submitting false information on this Notice of Intent form. State regulations require this form to be signed by the official representative of the permitted facilities in accordance with s. NR 216.22(7), Wis. Adm. Code.
Provide the date signed, the printed name of the person signing, and the title of the person.

Permit Fee

There is not a permit fee required at the time of submission of the NOI. An annual permit fee is billed at the end of May each year and applies to activities for the entire year.
Fees:
Tier 1: $260
Tier 2: $130

Mailing Address

Unless otherwise directed, mail the completed NOI form to the Wisconsin DNR (WDNR) office associated with the county of the facility site location as follows:

NORTHEAST REGION (NER)

Brown	Green Lake	Marquette	Outagamie	WDNR Northeast Regional Headquarters
Calumet	Kewaunee	Menominee	Shawano	2984 Shawano Avenue
Door	Manitowoc	Oconto	Waupaca	Green Bay, WI 54313-6727
Fond du Lac	Marinette	Oneida Reservation	Waushara	920-662-5100
			Winnebago	

NORTHERN REGION (NOR)

Ashland	Douglas	Langlade	Rusk	WDNR Wausau Service Center
Barron	Florence	Lincoln	Sawyer	5301 Rib Mountain Rd
Bayfield	Forest	Oneida	Taylor	Wausau WI 54401
Burnett	Iron	Polk	Vilas	715-359-4522
		Price	Washburn	

WEST CENTRAL REGION (WCR)

Adams	Crawford	La Crosse	Portage	WDNR Wausau Service Center
Buffalo	Dunn	Marathon	St. Croix	5301 Rib Mountain Road
Chippewa	Eau Claire	Monroe	Trempealeau	Wausau, WI 54401
Clark	Jackson	Pepin	Vernon	715-359-4522
	Juneau	Pierce	Wood	

SOUTH CENTRAL REGION (SCR)

Columbia	Grant	Jefferson	Rock	WDNR South Central Regional
Dane	Green	LaFayette	Sauk	Headquarters
Dodge	Iowa	Richland		3911 Fish Hatchery Road
				Fitchburg, WI 53711
				608-275-3266

SOUTHEAST REGION (SER)

Kenosha	Ozaukee	Sheboygan	Washington	WDNR Waukesha Service Center
Milwaukee	Racine	Walworth	Waukesha	141 N.W. Barstow Street, Room 180
				Waukesha, WI 53188
				262-574-2100

State of Wisconsin
Department of Natural Resources
dnr.wi.gov

Storm Water Pollution Prevention Plan Summary
Industrial Storm Water Discharges General Permit

Form 3400-167 (R 5/14)

Notice: This form is authorized by s. NR 216.29(1)(e), Wis. Adm. Code. Submittal of a completed form to the Department is mandatory for industrial facilities covered by a storm water general or individual permit, excluding coverage in certain permits described in s. NR 216.24 (1), Wis. Adm. Code. Failure to submit a completed form to the Department may result in fines up to $25,000 per day pursuant to s. 283.91, Wis. Stats. Personally identifiable information on this form may be used for other water quality program purposes.

Please type or clearly print your answers to all questions.

Section I: Facility/Site Information

Facility/Site Name (As Appears on Permit Authorization)	County
Veolia ES Technical Solutions, LLC	Ozaukee

Location Address/Description (if different from mailing address below)	State	ZIP Code
1275 Mineral Springs Dr.	WI	53074

Municipality		Facility Identification (FID) and/or FIN Number (if known)
Port Washington	☒ City ☐ Village ☐ Township	FID: 246076050 FIN:

Section II: Facility/Site Contact Person (responsible for development and implementation of the Storm Water Pollution Prevention Plan (SWPPP)

Local Contact Person	Mailing Address (if different from above)
David Braun	1275 Mineral Springs Dr.
Title	**Municipality (if different than above)**
Operations Manager	Port Washington
Telephone (include area code)	**State** / **ZIP Code (if different than above)**
262-243-8900	WI / 53074
E-mail address or Website (if applicable)	**Fax (include area code)**
www.veoliaes.com	262-268-1962

Section III: Certification & Signature (Person attesting to the accuracy and completeness of the Storm Water Pollution Prevention Plan and Summary.)

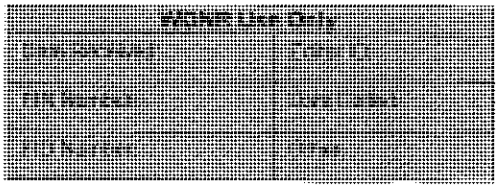
This form must be signed by an official representative of the permitted facility, in accordance with s. NR 216.22(7), Wis. Adm. Code. If this form is not signed, or is found to be incomplete, it will be returned.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information contained in the plan. Based on my inquiry of the person, or persons, who manage the system, or those persons directly responsible for gathering the information; the information contained in this document is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for providing false information, including the possibility of fine and imprisonment. In addition, I certify under penalty of law that, based upon inquiry of persons directly under my supervision, to the best of my knowledge and belief, the provisions of this document adhere to the provisions of the storm water permit for the development and implementation of a Storm Water Pollution Prevention Plan and that the plan will be complied with.

Signature of Authorized Representative	Telephone Number (include area code)
David G. Braun	262-243-8900
Type or Print Name	**Company Name**
David G. Braun	Veolia ES Technical Solutions, LLC
Position Title	**Mailing Address – PO Box, Street or Route**
Operations Manager	1275 Mineral Springs Dr.
Date Signed	**Municipality** / **State** / **ZIP Code**
8-5-14	Port Washington / WI / 53074

Existing Facilities: This form shall be submitted to the Department prior to initiating industrial operations where coverage is required under a storm water permit.

New Facility Construction: This form shall be submitted to the Department prior to initiating construction where the facility construction will disturb one or more acres of land.



Section IV: Questions

Answering no to any of questions 3-18 could indicate that a significant part of your SWPP may be missing.

		Yes	No
1.	Have you attended any voluntary training in storm water pollution prevention management?	☒	☐
2.	Have you acquired voluntary certification in storm water pollution prevention management?	☐	☒
3.	Does your Storm Water Pollution Prevention Plan (SWPPP) include a facility site description and drainage base map? (A copy or sketch of the facility map with best management practices in place should be included in section VII of this summary.)	☒	☐
4.	Does your SWPPP include a summary of existing sampling data or observations that could be useful in identifying pollutant sources and management actions?	☒	☐
5.	Does your SWPPP include a list of potential sources of storm water contamination?	☒	☐
6.	Does your SWPPP identify all known contaminated and uncontaminated sources of non-storm water discharges to the storm sewer system and indicate which are covered by WPDES permits? (These should be included in section VI of this summary.)	☒	☐
7.	Does your SWPPP contain the results of the non-storm water discharge monitoring required by Part IV section B of your general permit? (If monitoring was not conducted explain in section VIII of this summary.)	☒	☐
8.	Does your SWPPP include provisions to comply with the monitoring requirements specified in Part IV section C of your permit?	☒	☐
9.	Does your SWPPP include a description of source area Best Management Practices (BMP) and their implementation schedule? (These should be included in section VI and on the site map in section VII of this summary.)	☒	☐
10.	Does your SWPPP identify storm water treatment BMPs if there are pollutants from your industrial activity that are likely to contaminate storm water discharges to waters of the state following implementation of source area BMPs? (Include these in sections VI and VII of this summary.)	☒	☐
11.	Does your SWPPP contain information on source area BMPs for controlling erosion? 8/5/14	☒	☒
12.	Does your SWPPP identify good housekeeping practices that help in preventing storm water contamination?	☒	☐
13.	Does your SWPPP include a preventative maintenance schedule for storm water management devices and plant equipment?	☒	☐
14.	Does your SWPPP include checklists of inspections to be made during the annual facility site inspection?	☒	☐
15.	Does your SWPPP include an implementation schedule that is consistent with the compliance schedule in your storm water permit?	☒	☐
16.	Is your SWPPP periodically updated to include any changes that have occurred at the facility which result in significant increases in exposure of pollutants to storm water?	☒	☐
	FOR TIER ONE FACILITIES ONLY:	☐	☐
17.	Does your SWPPP identify which storm water outfalls will be chemically monitored? (Identify in sections VI and VII of this summary.)	☐	☐
18.	Does your SWPPP include a list of pollutants to test for when conducting chemical storm water sampling? (These should be included in section VI of this summary.)	☐	☐

Section V: Description of Industrial Activity and Land Use

Relate to sections VI and VII. Give a short summary of the major activities conducted at various locations throughout the facility. Include products manufactured and describe any treatment practices currently in place. Attach additional sheets if necessary.

Section VI: Storm Water Outfall Information (copy and attach additional sheets if necessary)

Outfall Number	Sources of Pollutants	BMPs Implemented	Chemical Monitoring By Outfall *	Monitoring Schedule *	Non-Storm Water Discharges					
					Is Discharge Present?		Were Illicit Discharge Tests Conducted?		Is Discharge Covered By Another WPDES Permit?	
					Yes	No	Yes	No	Yes	No
001	See attached	See attached			☐	☒	☒	☐	☐	☐
002	See attached	See attached			☐	☒	☒	☐	☐	☐
					☐	☐	☐	☐	☐	☐
					☐	☐	☐	☐	☐	☐

*** Required for Tier One Facilities.** Attach additional sheets if necessary.

Section VII: Facility Site Diagram (Include the items listed in Part III (B)(2)(b) of your general permit. Attach additional 8 1/2' x 11" sheets if necessary.)

Section VIII: Comments (make reference to section or question number)

Section IX: Mailing Addresses

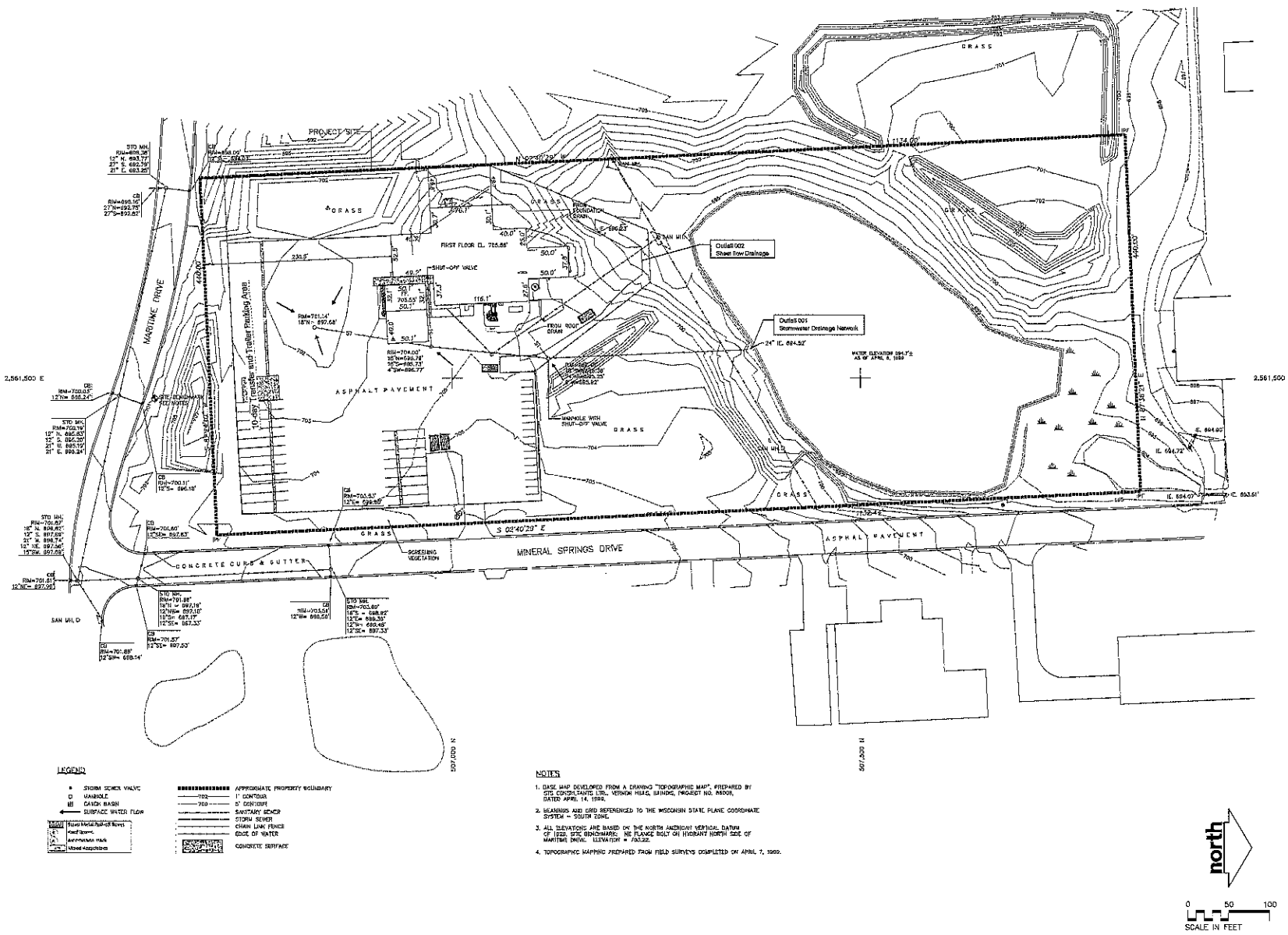
Unless otherwise directed, mail this completed form to the Wisconsin DNR (WDNR) office associated with the county of the facility site location as follows:

NORTHERN REGION (NOR)				
Ashland	Douglas	Langlade	Rusk	WDNR Baldwin Service Center 890 Spruce Street Baldwin, WI 54002 715-684-2914 ext. 109
Barron	Florence	Lincoln	Sawyer	
Bayfield	Forest	Oneida	Taylor	
Burnett	Iron	Polk	Vilas	
		Price	Washburn	
NORTHEAST REGION (NER)				
Brown	Green Lake	Marquette	Outagamie	WDNR Northeast Regional Headquarters 2984 Shawano Avenue Green Bay, WI 54313-6727 920-662-5100
Calumet	Kewaunee	Menominee	Shawano	
Door	Manitowoc	Oconto	Waupaca	
Fond du Lac	Marinette	Oneida Reservation	Waushara	
			Winnebago	
WEST CENTRAL REGION (WCR)				
Adams	Crawford	La Crosse	Portage	WDNR Baldwin Service Center 890 Spruce Street Baldwin, WI 54002 715-684-2914 ext. 109
Buffalo	Dunn	Marathon	St. Croix	
Chippewa	Eau Claire	Monroe	Trempealeau	
Clark	Jackson	Pepin	Vernon	
	Juneau	Pierce	Wood	
SOUTH CENTRAL REGION (SCR)				
Columbia	Grant	Jefferson	Rock	WDNR South Central Regional Headquarters 3911 Fish Hatchery Road Fitchburg, WI 53711 608-275-3266
Crawford	Green	LaFayette	Sauk	
Dane	Iowa	Richland		
Dodge				
SOUTHEAST REGION (SER)				
Kenosha	Ozaukee	Sheboygan	Washington	WDNR Waukesha Service Center 141 NW Barstow Street, Room 180 Waukesha, WI 53188
Milwaukee	Racine	Walworth	Waukesha	

POTENTIAL POLLUTANT SOURCES and BMPs

Exposed materials are considered to be those materials that are handled, treated, stored, or disposed in a manner that could allow exposure to storm water. Potential exposure of materials at the VEOLIA ES facility consists primarily of those activities not conducted within the actual facility building. The following general activities and areas may generate pollutants:

- Loading and unloading operations associated with household hazardous waste collections at the east overhead door.
  - Activities conducted as close to building entrance as possible,
  - Spill control equipment available in event of a spill
- Outdoor storage activities associated with the aluminum end caps and scrap metal in roll-off boxes
  - Only manufactured articles and scrap metal derived from recycling process stored outdoors.
- Temporary staging of pallets and bales of cardboard
  - Moved to enclosed van trailers by the end of each day.
- Outdoor dumpster for mixed recycling and office paper
  - Covered dumpster kept closed except when adding or removing material
- Outdoor staging of oil-filled electrical equipment
  - Intact non-leaking equipment staged on flat bed or drop deck trucks
  - No pumping of equipment when precipitation is occurring
- Periodic vehicle maintenance of yard truck and roll-off truck
  - Not performed when precipitation is occurring
- Air pollution control equipment emission points covered under the facility's air permit.
  - Emissions monitored to demonstrate compliance with air permit limits
- Emergency back-up power generator with diesel fuel aboveground storage tank and associated fueling operations.
  - Inspection of diesel storage tank and secondary containment.



Designed By MJB
Drawn By MJB
Date August 5, 2014
Approved By
Reference 12720611.01180101-02
Comments

SITE FEATURES
FEASIBILITY AND PLAN OF OPERATION REPORT
HAZARDOUS WASTE STORAGE FACILITY
WEDJAS TECHNICAL SOLUTIONS, L.L.C.
1725 MINERAL SPRINGS DRIVE
PORT WASHINGTON, WISCONSIN

Printed
Sheet Number 1 of 1
Drawing Number 20826391 01180101 D1

Figure SWPPP-1

APPENDIX B

EXPOSED MATERIALS

EXPOSED MATERIALS

The following materials/activities are potentially exposed to precipitation. The frequency (infrequent – one day per week, frequent – greater than one day per week) and the duration (intermittent – less than one hour, short time – less than one day, extended time – less than ten days, continuous – greater than two days) are also presented.

Material/Activity	Location	Frequency	Duration
Aluminum End Caps	Covered Roll-off Box*, North Asphalt Area	Infrequent	Intermittent
Scrap Gas Regulators	Roll-off Box, North Asphalt Area	Frequent	Continuous
Scrap Metal (no oily residue)	Lugger Box, North Asphalt Area	Frequent	Continuous
Drained Non-PCB Electrical Equipment	Trailers, South Asphalt Area	Frequent	Continuous
Glass	Covered Roll-off Box*, South Concrete Containment Pad	Infrequent	Intermittent
Pallets	North Asphalt Area	Frequent	Short Time
Cardboard	North Asphalt Area	Frequent	Short Time
Unloading HHW	East Overhead Door	Infrequent	Intermittent
Unloading RecyclePaks	East Overhead Door	Frequent	Intermittent
10-day Transfer Station of Lined/Covered Roll-off Boxes, Large Electrical Equipment	South Concrete Containment Pad	Infrequent	Extended Time
Fueling Vehicles	South Asphalt Parking Lot	Infrequent	Intermittent
Fueling Emergency Back-up Power Generator	East side of Warehouse Building	Infrequent	Intermittent
Emergency Back-up Power Generator – Diesel Fuel Presence	East side of Warehouse Building	Frequent	Continuous
Draining Non-PCB Oil from Large Electrical Equipment	South Concrete Containment Pad	Infrequent	Intermittent
Crane Lifting of Large Electrical Equipment	South Asphalt Parking Lot	Infrequent	Intermittent
Transfer of Drums of Phosphorus Powder to Main Building from Indoor Processing Area	North Asphalt Area	Frequent	Intermittent

*Boxes are only opened to add or remove material or sample.

APPENDIX C

STORM WATER MANAGEMENT MONITORING CHECKLISTS

State of Wisconsin
Department of Natural Resources
dnr.wi.gov

Annual Facility Site Compliance Inspection Report (AFSCI)

For Storm Water Discharges Associated With Industrial Activity Under Wisconsin Pollutant Discharge Elimination System (WPDES) Permit

Form 3400-176 (R 5/14)

Notice: This form is authorized by s. NR 216.29(2), Wis. Adm. Code. Submittal of a completed form to the Department is mandatory for industrial facilities covered under a Tier 1 storm water general permit. Facilities covered under a Tier 1 permit are not required to submit AFSCI reports after submittal of the second AFSCI report, unless so directed by the Department. However, these inspections and quarterly visual inspections shall still be conducted and results shall be kept on site for Department inspection. Facilities covered under a Tier 2 storm water general, industry-specific general or individual permit shall keep the results of their AFSCI and quarterly visual inspections on site for Department inspection. Failure to comply with these regulations may result in fines up to $25,000 per day pursuant to s. 283.91, Wis. Stats.

Personally identifiable information on this form may be used for other water quality program purposes.

Please type or clearly print your answers to all questions.

Section I: Facility/Site Information

Facility/Site Name (As Appears on Permit Authorization)		County	
Location Address/Description (if different from mailing address below)		State: WI	ZIP Code
○ City ○ Township ○ Village of	Facility Identification Number (FID) and/or FIN Number if known: FID	FIN	

Section II: Facility/Site Contact Person

Local Contact Person	Mailing Address (if different than site location address)	
Title	Municipality (if different than above)	
Telephone (include area code)	State: WI	ZIP Code (if different from above)
E-mail address or Website (if applicable)		Fax (include area code)

Section III: Certification & Signature

(Person attesting to the accuracy and completeness of Annual Facility Site Compliance Inspection Report.)

This form must be signed by an official representative of the permitted facility in accordance with s. NR 216.22(7), Wis. Adm. Code. See instructions on page 4. If this form is not signed, or is found to be incomplete, it will be returned.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature of Authorized Representative	Telephone Number (include area code)		
Type or Print Name	Company Name		
Position Title	Mailing Address		
Date Signed	Municipality	State: WI	ZIP Code

How to Use this Form:

The first level of storm water monitoring consists of a comprehensive annual facility site compliance inspection (AFSCI) to determine if your facility is operating in compliance with your Storm Water Pollution Prevention Plan (SWPPP). You should use the results of this inspection to determine the extent to which your SWPPP needs to be updated to prevent pollution from new source areas, as well as to correct any inadequacies that the plan may have in handling existing source areas. This first level of monitoring is addressed in Section IV of this Annual Report on page 2.

The second level of storm water monitoring consists of quarterly visual observations of storm water leaving the site during runoff events caused by snow-melt or rainfall. This is a practical, low cost tool for identifying obvious contamination of storm water discharges, and can also help identify which practices are ineffective. The goal of quarterly inspections is to obtain results from a set of four inspections that are distributed as evenly as possible throughout the year and which depict runoff quality during each of the four seasons. This second level of monitoring is addressed in Section V of this Annual Report on page 3.

Section IV: Annual Facility Site Compliance Inspection

The Annual Facility Site Compliance Inspection shall be adequate to verify that: your Storm Water Pollution Prevention Plan (SWPPP) remains current; potential pollution sources at your facility are identified; the facility site map and drainage map remain accurate; and that the Best Management Practices prescribed in your SWPPP are being implemented, properly operated, and adequately maintained.

Name of Person Conducting Inspection	Inspection Date
Employer	Telephone Number

Your inspection should start with a review of your written SWPPP kept at your facility. The SWPPP should be amended if, through these inspections, you find that the provisions in your SWPPP are ineffective in controlling contaminated storm water from being discharged from your facility.

1.	Has your SWPPP been updated to include current Non-Storm Water Discharge Evaluation results?	◯ Yes	◯ No ◯ N/A
2.	Has your SWPPP been amended for any new construction that would affect the site map or drainage conditions at the facility?	◯ Yes	◯ No ◯ N/A
3.	Has your SWPPP been amended for any changes in facility operations that could be identified as new source areas for contamination of storm water?	◯ Yes	◯ No ◯ N/A
4.	Are there any materials at the facility that are handled, stored, or disposed in a manner to allow exposure to storm water that are not currently addressed in your SWPPP?	◯ Yes	◯ No ◯ N/A
5.	Are there any maintenance or material handling activities conducted outdoors that have not been addressed in your SWPPP?	◯ Yes	◯ No ◯ N/A
6.	Are outside areas kept in a neat and orderly condition?	◯ Yes	◯ No ◯ N/A
7.	Are regular housekeeping inspections made?	◯ Yes	◯ No ◯ N/A
8.	Do you see spots, pools, puddles, or other traces of oils, grease, or other chemicals on the ground?	◯ Yes	◯ No ◯ N/A
9.	Are particulates on the ground from industrial operations or processes being controlled?	◯ Yes	◯ No ◯ N/A
10.	Do you see leaking equipment, pipes or containers?	◯ Yes	◯ No ◯ N/A
11.	Do drips, spills, or leaks occur when materials are being transferred from one source to another?	◯ Yes	◯ No ◯ N/A
12.	Are drips or leaks from equipment or machinery being controlled?	◯ Yes	◯ No ◯ N/A
13.	Are cleanup procedures used for spilled solids?	◯ Yes	◯ No ◯ N/A
14.	Are absorbent materials (floor dry, kitty litter, etc.) regularly used in certain areas to absorb spills?	◯ Yes	◯ No ◯ N/A
15.	Can you find discoloration, residue, or corrosion on the roof or around vents or pipes that ventilate or drain work areas?	◯ Yes	◯ No ◯ N/A
16.	Are Best Management Practices implemented to reduce or eliminate contamination of storm water from source areas at the facility?	◯ Yes	◯ No ◯ N/A
17.	Are Best Management Practices adequately maintained?	◯ Yes	◯ No ◯ N/A
18.	Are there significant changes to your SWPPP needed to correct plan inadequacies to effectively control a discharge of contaminated storm water from your facility?	◯ Yes	◯ No ◯ N/A

Comments:

Section V: Quarterly Visual Inspection Reports

Quarterly Visual Inspections at each storm water discharge outfall on your site can be a valuable assessment tool and are required by the Tier 1, Tier 2, and Nonmetallic Mining Industrial Storm Water General Permits. These inspections should be performed when sufficient runoff occurs during daylight hours. Try to make observations within the first 30 minutes after runoff begins discharging from the outfall or soon thereafter as practical, but no later than 60 minutes. If you find visible pollution, note the probable source and list any possible Best Management Practices that could be used to reduce or eliminate the problem. Make any necessary changes to your Storm Water Pollution Prevention Plan as needed. If you were unable to evaluate an outfall during a specific quarter, this should be indicated along with a reason as to why this could not be done.

	Date of Inspection			
Outfall Number	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter

Briefly summarize what you found when conducting your Quarterly Visual Inspections. (Include any observations of color, odor, turbidity, floating solids, foam, oil sheen, or any other indications of storm water pollution and the probable sources of any observed storm water contamination.)

Instructions

Section I: Facility/Site Information

Provide the name of the facility as it appears on the permit application or permit cover letter and location address. If known, provide the Facility Identification (FID) and/or FIN Number assigned by the WDNR.

Section II: Facility/Site Contact Person

Provide the local contact person information for the facility. The mailing address should be given for the facility contact person if it is different from the facility site location address information.

Section III: Certification & Signature

State Statutes provide for severe penalties for submitting false information on this AFSCI form. State regulations require this form be signed as follows:

1. For a corporation, by a principal executive officer of at least the level of Vice President, or a duly authorized representative having overall responsibility for the operation covered by this permit.
2. For a unit of government, a principal executive officer, a ranking elected official, or other duly authorized representative.
3. For a partnership, by a general partner; for a sole proprietorship, by the proprietor.
4. For a limited liability company, by member or manager.

Section IV: Annual Facility Site Compliance Inspection

Provide the name of the person conducting the inspection, inspection date, name of employer, and telephone number. Check the appropriate box for each of the listed questions and provide explanations in the comment box as needed.

Section V: Quarterly Visual Inspection Reports

Provide the outfall number in the table and the dates of each quarterly visual inspection. Summarize the findings of your visual inspections below the table. Attach additional sheets if needed.

Mailing Address

Unless otherwise directed, mail this completed form to the Wisconsin Department of Natural Resources (WDNR) office associated with the county of the facility site location as follows:

NORTHERN REGION (NOR)			
Ashland Barron Bayfield Burnett Douglas Florence	Forest Iron Langlade Lincoln Oneida Polk	Price Rusk Sawyer Taylor Vilas Washburn	WDNR Baldwin Service Center 890 Spruce Street Baldwin, WI 54002 715-684-2914 ext. 109

NORTHEAST REGION (NER)			
Brown Calumet Door Fond du Lac Green Lake Kewaunee	Manitowoc Marinette Marquette Menominee Oconto Outagamie	Shawano Waupaca Waushara Winnebago	WDNR Northeast Regional Headquarters 2984 Shawano Avenue Green Bay, WI 54313-6727 (920) 662-5100

WEST CENTRAL REGION (WCR)			
Adams Buffalo Chippewa Clark Crawford Dunn Eau Claire	Jackson Juneau La Crosse Marathon Monroe Pepin	Pierce Portage St. Croix Trempealeau Vernon Wood	WDNR Baldwin Service Center 890 Spruce Street Baldwin, WI 54002 715-684-2914 ext. 109

SOUTH CENTRAL REGION (SCR)			
Columbia Dane Dodge Grant	Green Iowa Jefferson LaFayette	Richland Rock Sauk	WDNR South Central Regional Headquarters 3911 Fish Hatchery Road Fitchburg, WI 53711 (608) 275-3266

SOUTHEAST REGION (SER)			
Kenosha Milwaukee Ozaukee	Racine Sheboygan Walworth	Washington Waukesha	WDNR Waukesha Service Center 141 N.W. Barstow Street, Room 180 Waukesha, WI 53188 (262) 574-2100

State of Wisconsin
Department of Natural Resources

Quarterly Visual Inspection - Field Sheet

Form 3400-176A (R 3/01)

This form is for your own use and should be kept as part of your Storm Water Pollution Prevention Plan. It **does not** have to be submitted to the Department unless requested. If false information from quarterly visual inspections is reported to the Department, you could be subject to penalties up to $10,000 pursuant to s. 283.91(4), Wis. Stats.

Use one form per outfall.

Quarterly Visual Inspections at each storm water discharge outfall on your site can be a valuable assessment tool and are required by the Tier 1 and Tier 2 Industrial Storm Water General Permits. This inspection should be performed when sufficient runoff occurs during daylight hours. Try to make observations within the first 30 minutes after runoff begins discharging from the outfall, or as soon as practical, but no later than 60 minutes. If you find visible pollution, note the probable source and list any possible Best Management Practices that could be used to reduce or eliminate the problem.

Make any necessary changes to your **Storm Water Pollution Prevention Plan** as needed.

Facility Name			
Street Address	City	State	ZIP Code
Name of Person Conducting Inspection		Inspection Date	
Employer		Telephone Number	
Outfall Number (make reference to site map)	Description of Outfall (e.g., ditch, concrete pipe, grassed swale, etc.)		
Time of Rainfall Event	Time of Visual Inspection	**Optional:** Amount of Rainfall at the Time of Observation (nearest tenth of an inch)	

Describe your observations. An easy way to conduct this inspection is to use a glass jar to collect a sample of the storm water being discharged from the facility and visually inspect the water. Include any observations of color, odor, turbidity, floating solids, foam, oil sheen or any other visual indicators of storm water pollution and the probable sources of any observed storm water contamination.

Color:	☐ Clear	☐ Red	☐ Yellow	☐ Brown	☐ Other:
Odor:	☐ None	☐ Musty	☐ Sewage	☐ Rotten Egg	☐ Other:
Clarity:	☐ Clear	☐ Cloudy	☐ Opaque	☐ Suspended Solids	☐ Other:
Floatables:	☐ None	☐ Foam	☐ Garbage	☐ Oily Film	☐ Other:
Deposits / Stains:	☐ None	☐ Oily	☐ Sludge	☐ Sediments	☐ Other:

Comments:

This outfall could not be evaluated during this quarter due to the following reason:

APPENDIX D

STORM WATER SAMPLING PLAN

Storm Water Sampling Plan

Veolia ES Technical Solutions, L.L.C.
1275 Mineral Springs Drive
Port Washington WI 53074

EPA ID#: WID988566543
FID#: 246076050

EFFECTIVE: February 8, 2016

1. INTRODUCTION

The Veolia ES Technical Solutions, LLC (Veolia), Port Washington, WI operates a Wisconsin Department of Natural Resources (WDNR) licensed hazardous waste storage, treatment and recycling facility. On September 4, 2015 the WDNR issued a Final Determination Feasibility and Plan of Operation Report for the facility. Condition 67 of the Final Determination required Veolia to develop a storm water sampling plan to conduct annual sampling of the storm water discharge to the on-site wetlands. Annual samples must be collected during a qualifying rainfall event and analyzed for mercury in accordance with the below parameters.

a. Collection of storm water samples from the outfall to the wetland. .
b. Collection of storm water samples during precipitation events over a period of time using a continuous flow sample device.
c. Collection of storm water samples in month(s) that are at or above the average annual precipitation.
d. Collection and handling shall be consistent with EPA's Field Sampling Manual SW-846 entitled "*Testing Methods for Evaluating Solid Waste*" and ch. NR 716 WAC.
e. Samples shall be analyzed for total mercury using test method SW846/7470A.
f. Samples shall be analyzed by a laboratory certified or registered under NR 149 WAC.
g. The sampling results shall be part of the facility's operating record.
Information on storm water sampling procedures can be found in sections 3.1.2, 3.3.1.1 and 3.3.1.2 of a March 2002 report entitled "*ETV Verification Protocol Stormwater Source Area Treatment Technologies*". This report was prepared for US EPA Environmental Technology Verification Program.

This sampling plan describes how this storm water sample is to be collected. This sampling requirement is separate and distinct from requirements that apply to the facility under the WPDES Tier 2 general permit.

2. BACKGROUND

Storm water from the facility is routed to an on-site wetland area via a 24-inch diameter sewer line. The discharge from this storm sewer line to the wetland area is designated by the facility as Outfall 1. There is a shut-off valve in the storm sewer line approximately 250 feet upstream of the discharge to the retention basin. This valve is normally closed and is only opened to drain storm water from the up gradient storm sewer connections that tie into the 18-inch diameter storm sewer line upstream of the shut-off valve. The need to open the valve is typically determined by storm water backing up into the parking lot from the storm grate approximately 300 feet up gradient of the shut-off valve.

Roof drains from the northern portion of the facility discharge to the asphalt lot and flow in a northerly direction. The sheet flow run-off from this area collects at the base of the

asphalt paved area. An earthen berm separates this area from the wetlands area and there is no direct overland flow from this area to the wetlands.

The facility will collect a storm water sample from Outfall 1 for Hg analysis between April and October from the storm sewer discharge into the retention basin. See the attached site map, Figure SWPPP-1 for the sampling location. The sample will be collected during a qualified storm event (at least 0.1 inch rainfall following at least a 72-hr dry period from the prior event with at least 0.1 inch rainfall).

3. PRE-SAMPLING

Veolia staff will work with Cardinal Environmental (CE) staff to monitor the weather and plan the sampling event. CE's pre-sampling responsibilities include:

- Procure pre-cleaned sample bottles and tubing for the ISCO sampler
- Calibrate and pre-program the ISCO sampler and fully charge the batteries
- Procure nitric acid for sample preservation
- Procure packaging for sample transport to the WDNR certified lab for analysis
- Prepare the field data sheets and chain-of-custody sheets (sample data sheets attached)
- Procure all appropriate personal protective equipment
- Safe transport of all sampling equipment to the Veolia site
- The samples will be transported to and analyzed by a laboratory appropriately certified by the Wisconsin Department of Natural Resources.

Veolia's pre-sampling responsibilities include:

- Instructing CE staff on all relevant safety rules and precautions, including any and all information relevant to hazards associated with sample collection (i.e. slippery terrain, pot holes, rodents, snakes, etc.).
- Providing safe access to the sampling location
- Ensuring the storm water sewer line shut-off valve properly operates

Weather monitoring and rainfall data for the Port Washington area are available at the following websites:

www.weather.gov
www.wunderground.com
www.ndbc.noass.gov
www.accuweather.com

4. SAMPLING

At the agreed upon day and time, a CE staff member will arrive on site to set up all sampling equipment. A Veolia staff member will be assigned as the CE contact for the sampling event. The Veolia staff member must know how to access and operate the shut-off valve.

Storm water sample collection is initiated by placing the ISCO sampler near the discharge pipe into the retention basin. The sampling probe will be placed just above the normal water line in the pipe, approximately 24"-36" inside the end of the pipe. Once the sampler is readied, the Veolia staff member will open the valve. It takes about 30 minutes for the storm sewer to empty.

Once the CE staff member observes water flow into the retention basin, he will wait 7 minutes to ensure the standing water in the discharge pipe is flushed from the sample location prior to initiating the ISCO sampler. The sampler will then be activated to collect 50 ml of sample every minute for the next 23 minutes (1150 total ml). The ISCO sampler will complete a standard rinse/purge of the sample line prior to each collection. If the storm event continues, sampling will continue for the next 30 minutes (2650 total ml) to obtain a time-weighted composite of the first flush 60-minute period. Veolia staff will close the shut-off valve at the completion of sampling.

The sample will be collected in a 10-liter pre-cleaned glass sample bottle containing 10 ml of nitric acid as a preservative. A 500-ml of sample will be transferred to a pre-cleaned sample bottle for shipment to the lab for Hg analysis. The sample holding time is 28 days (per Appendix C of WDNR's Guidance for Industrial Storm Water Sampling document). CE staff will also collect an equipment blank for Hg analysis.

5. POST-SAMPLING

Upon completion of sampling, CE staff will label the sample and pack it for shipment back to the WDNR certified lab. Chain-of-custody documentation will be completed with a copy left with the Veolia contact.

Hg sample analysis will follow EPA Method 7470A (Manual Cold Vapor Technique). The detection limit will be a minimum of 0.0002 mg/L.

Results will be reported to Veolia within 30 days of sample collection.

CE staff will prepare a report documenting the duration and rainfall total for the storm event, visual observations made during the sampling event and the result of the analytical testing for mercury.

Veolia will maintain a copy of the above described report as part of the facility operating record.

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Laboratory Analysis 2012 – 2014

Veolia ES Technical Solutions
Aluminum End Cap Analysis 2012 - 2014

Sample	Sample Name	Analyte	Result - TCLP	Units	Result - Total	Units	Sampled	Notes
610-1105-7	2012-0002 Endcaps Month of January	Mercury	<0.0100	mg/l	<0.098	mg/kg	1/16/2012 8:45	
610-1780-2	2012-0003 Endcaps Month of Feb	Mercury	0.0429	mg/l	1.5	mg/kg	2/13/2012 14:00	
610-2700-5	2012-0006 Endcaps Month of March	Mercury	0.0479	mg/l	11	mg/kg	3/23/2012 8:15	
NWD2865-03	2012-0006 End Caps Month of Apr.	Mercury	0.0118	mg/L	400	mg/kg	4/20/2012 10:00	1
NWE1044-02	2012-0008 Endcups Month of April	Mercury	ND	mg/L	2.3	mg/kg	4/26/2012 13:00	
NWE3172-07	2012-0010 Endcaps Month of May	Mercury	0.0233	mg/L	0.36	mg/kg	5/25/2012 9:00	
NWF1803-04	2012-0013 Endcaps Month of June	Mercury	ND	mg/L	8.5	mg/kg	6/18/2012 9:30	
490-2921-7	2012-0016 / Endcapps Month of July	Mercury	0.0147	mg/L	10.5	mg/Kg	7/26/2012 7:00	
490-5784-3	2012-0021 Endcaps Month of Aug	Mercury	ND	mg/L	1.66	mg/Kg	8/31/2012 10:00	
490-7958-6	2012-0023 End Caps Month of Sept	Mercury	0.00283	mg/L	6.42	mg/Kg	9/24/2012 12:10	
490-8882-5	2012-0026 Endcaps Month of Oct	Mercury	0.00756	mg/L	2.09	mg/Kg	10/9/2012 13:30	
490-11255-4	2012-0029 Endcaps Month of November	Mercury	ND	mg/L	0.75	mg/Kg	11/8/2012 13:00	
490-14517-4	2012-0039 Endcaps Month + Year End	Mercury	ND	mg/L	2.38	mg/Kg	12/12/2012 10:00	
490-16759-2	2013-0003 Endcaps Month of January	Mercury	0.048	mg/L	2.66	mg/Kg	1/9/2013 10:00	
490-19238-1	2013-0006 Endcaps Month of Feb.	Mercury	0.0115	mg/L	21.7	mg/Kg	2/7/2013 9:30	
490-21399-3	2013-0009 End Caps Month of March	Mercury	0.0042	mg/L	1.01	mg/Kg	3/5/2013 13:30	
490-23467-5	2013-0011 Endcaps Month of April	Mercury	0.0114	mg/L	1.02	mg/Kg	4/3/2013 12:15	
490-26795-7	2013-0015 Endcaps Month of May	Mercury	1.55	mg/L	6.77	mg/Kg	5/15/2013 10:00	2
490-26795-7	2013-0015 Endcaps Month of May	Mercury	0.405	mg/L	2.67	mg/Kg	5/15/2013 10:00	
490-28550-1	2013-0016 Endcaps Month of May Resample	Mercury	0.00237	mg/L	0.281	mg/Kg	6/7/2013 14:30	
490-28834-1	2013-0017 Endcap Month of June	Mercury	0.0134	mg/L	0.568	mg/Kg	6/13/2013 10:00	3
490-31018-1	2013-0020 Endcap Month of July	Mercury	ND	mg/L	4.03	mg/Kg	7/15/2013 13:10	
490-33191-2	2013-0023 Endcaps Month of Aug	Mercury	ND	mg/L	1.28	mg/Kg	8/14/2013 13:30	
490-34932-2	2013-0021 Endcaps Month of Sept.	Mercury	0.196	mg/L	2.96	mg/Kg	9/9/2013 10:30	
490-37198-4	2013-0027 End Caps Month of Oct.	Mercury	0.061	mg/L	0.266	mg/Kg	10/7/2013 7:00	
490-42367-4	2013-0038 End caps Month of Dec and Year End	Mercury	0.109	mg/L	1.13	mg/Kg	12/9/2013 8:30	
490-44011-6	2014-0002 Endcaps month of Jan.	Mercury	0.00461	mg/L	4.49	mg/Kg	1/7/2014 12:15	
490-46284-2	2014-0004 Endcaps Month of Feb.	Mercury	0.0696	mg/L	12.1	mg/Kg	2/7/2014 13:00	
490-48751-5	2014-0006 Endcaps Month of March	Mercury	0.00629	mg/L	246	mg/Kg	3/17/2014 11:00	4
490-49427-2	2014-0008 Endcaps Month of Mar. Resample	Mercury	0.0028	mg/L	26.1	mg/Kg	3/26/2014 12:30	
490-50609-5	2014-0010 Endcaps Month of April	Mercury	0.0481	mg/L	51.3	mg/Kg	4/9/2014 13:00	
490-52599-3	2014-0014 Endcaps Month of May	Mercury	0.0173	mg/L	36.6	mg/Kg	5/6/2014 13:00	
490-54329-3	2014-0016 Endcaps Month of June	Mercury	0.00383	mg/L	176	mg/Kg	6/2/2014 12:30	
490-57030-2	2014-0023 Endcaps Month of July	Mercury	ND	mg/L	36.5	mg/Kg	7/9/2014 9:00	
490-58964-5	2014-0026 Endcaps Month of Aug.	Mercury	0.00413	mg/L	575	mg/Kg	8/7/2014 14:00	5
490-60476-1	2014-0027 Endcaps Month ot Aug	Mercury	0.0208	mg/L	90.6	mg/Kg	8/19/2014 13:50	
490-60821-1	2014-0029 Endcaps Month ot Sept.	Mercury	0.00435	mg/L	6.25	mg/Kg	9/4/2014 8:30	

490-63123-5	2014-0031 End caps Month of October	Mercury	ND	mg/L	9.31	mg/Kg	10/6/2014 13:30	
490-66268-3	2014-0033 Endcaps Month of Nov.	Mercury	ND	mg/L	56.3	mg/Kg	11/7/2014 10:00	
490-68156-2	2014-0033 Endcaps Month of Dec & Year end	Mercury	0.0322	mg/L	3.09	mg/Kg	11/7/2014 10:00	
490-68156-3	2014-0034 Glass Month of Dec & Year end	Mercury	0.0259	mg/L	2.77	mg/Kg	12/8/2014 10:30	
490-70362-2	2015-0003 Endcaps Month of Jan.	Mercury	0.0476	mg/L	41.4	mg/Kg	1/13/2015 8:15	

Footnotes

1 Total analysis not consistent with prior analysis and not consistent with typical ratio of TCLP to Total. Resampled to verify conectration.
2 Total analysis significantly less than 20 times the TCLP result. Re-extracerted original sample and resampled material. Re-extraction continued to report a Total result that was less than 20 times the TCLP.
3 Sample originally listed as July on COC.
4 Total analysis not consistent with prior analysis and not consistent with typical ratio of TCLP to Total. Resampled to verify conectration.
5 Total analysis not consistent with prior analysis and not consistent with typical ratio of TCLP to Total. Resampled to verify conectration.

Veolia ES Technical Solutions
Glass Analysis 2012 - 2014

Sample	Sample Name	Analyte	Result - TCLP	Units	Result - Total	Units	Sampled	Notes
610-1105-6	2012-0001 Glass Month of January	Mercury	0.066	mg/l	1.5	mg/kg	1/16/2012 8:45	
610-1780-3	2012-0004 Glass Month of Feb	Mercury	0.0331	mg/l	7.9	mg/kg	2/14/2012 7:30	
610-2831-1	2012-005 Glass Month of March	Mercury	0.0303	mg/l	1.1	mg/kg	4/2/2012 7:00	1
NWD2865-04	2012-0007 Glass Month of Apr.	Mercury	0.0547	mg/L	1.5	mg/kg	4/20/2012 10:00	
NWE3172-06	2012-0009 Glass Month of May	Mercury	ND	mg/L	1.6	mg/kg	5/25/2012 9:00	
NWF1803-03	2012-0012 Glass Month of June	Mercury	0.0586	mg/L	480	mg/kg	6/18/2012 9:00	2
NWF2588-06	2012-0014 Glass Month of June Rerun	Mercury	0.0295	mg/L	0.46	mg/kg	6/26/2012 13:00	
490-2921-6	2012-0015 / Glass Month of July	Mercury	0.0236	mg/L	0.572	mg/Kg	7/26/2012 6:30	
490-4102-5	2012-0017 Glass Month of of Aug	Mercury	0.0343	mg/L	2.48	mg/Kg	8/14/2012 13:30	
490-7958-4	2012-0022 Glass Month of Sept	Mercury	0.00394	mg/L	5.83	mg/Kg	9/24/2012 12:05	
490-8882-4	2012-0025 Glass Month of Oct	Mercury	0.0132	mg/L	1.2	mg/Kg	10/9/2012 11:30	
490-11255-1	2012-0028 Glass Month of November	Mercury	0.023	mg/L	0.351	mg/Kg	11/5/2012 7:00	
490-14517-3	2012-0038 Glass Month + Year End	Mercury	0.0319	mg/L	0.309	mg/Kg	12/12/2012 10:00	
490-16759-1	2013-0002 Glass Month of January	Mercury	0.00803	mg/L	4.91	mg/Kg	1/9/2013 9:15	
490-19238-2	2013-0007 Glass Month of Feb.	Mercury	0.178	mg/L	3.21	mg/Kg	2/7/2013 9:30	
490-21399-2	2013-0008 Glass Month of March	Mercury	0.043	mg/L	2.36	mg/Kg	3/5/2013 13:30	
490-23467-4	2013-0010 Glass Month of April	Mercury	0.00918	mg/L	0.144	mg/Kg	4/2/2013 7:00	
490-26795-6	2013-0014 Glass Month of May	Mercury	0.0325	mg/L	0.267	mg/Kg	5/15/2013 10:00	
490-28834-2	2013-0018 Glass Month of June	Mercury	0.0603	mg/L	70.9	mg/Kg	6/13/2013 10:15	3
490-30263-3	2013-0019 Glass Month of June Resample	Mercury	NT	NT	1.88	mg/Kg	7/2/2013 7:30	
490-31018-2	2013-0021 Glass Month of July	Mercury	0.0122	mg/L	3.5	mg/Kg	7/15/2013 13:15	
490-33191-1	2013-0022 Glass Month of Aug	Mercury	0.00608	mg/L	0.288	mg/Kg	8/14/2013 13:30	
490-34932-1	2013-0020 Glass Month of Sept.	Mercury	0.173	mg/L	0.897	mg/Kg	9/6/2013 14:00	
490-37198-3	2013-0026 Glass Month Of Oct.	Mercury	0.045	mg/L	0.298	mg/Kg	10/7/2013 7:00	
490-39232-5	2013-0030 Glass Month of Nov.	Mercury	0.0166	mg/L	10.8	mg/Kg	10/31/2013 12:30	
490-42367-3	2013-0037 Glass Month of Dec and Year End	Mercury	0.00811	mg/L	ND	mg/Kg	12/9/2013 8:30	
490-44011-5	2014-0001 Glass month of Jan.	Mercury	0.105	mg/L	2.25	mg/Kg	1/7/2014 12:15	
490-46284-3	2014-0003 Glass Month of Feb.	Mercury	0.0044	mg/L	115	mg/Kg	2/7/2014 13:15	4
490-47139-1	2014-0004 Glass Resample Month of Feb	Mercury	0.124	mg/L	0.89	mg/Kg	2/24/2014 14:00	
490-48751-4	2014-0005 Glass Month of March	Mercury	0.0455	mg/L	9.83	mg/Kg	3/17/2014 11:00	
490-50609-4	2014-0009 Glass Month of April	Mercury	0.00699	mg/L	2.93	mg/Kg	4/4/2014 6:55	

490-52599-2	2014-0013 Glass Month of May	Mercury	0.0375	mg/L	0.573	mg/Kg	5/6/2014 13:00	
490-54329-2	2014-0015 Glass Month of June	Mercury	0.0664	mg/L	1.16	mg/Kg	6/2/2014 12:10	
490-57030-1	2014-0022 Glass Month of July	Mercury	0.00752	mg/L	0.232	mg/Kg	7/8/2014 14:00	
490-58964-4	2014-0025 Glass Month of Aug.	Mercury	0.0171	mg/L	1.58	mg/Kg	8/7/2014 10:00	
490-60821-2	2014-0028 Glass Month of Sept.	Mercury	0.0259	mg/L	1.3	mg/Kg	9/4/2014 8:45	
490-63123-4	2014-0030 Glass Month Of October	Mercury	0.00414	mg/L	1.82	mg/Kg	10/6/2014 13:30	
490-66268-2	2014-0032 Glass Month of Nov.	Mercury	0.0346	mg/L	0.106	mg/Kg	11/7/2014 10:00	
490-68156-3	2014-0034 Glass Month of Dec & Year end	Mercury	0.0259	mg/L	2.77	mg/Kg	12/8/2014 10:30	
490-70362-1	2015-0002 Glass Month of Jan.	Mercury	0.0263	mg/L	3.87	mg/Kg	1/13/2015 8:00	

Footnotes

1 Original Sample noted on earlier COC either missed when packaging or damaged in transport
2 Total analysis not consistent with prior analysis and greater than total concentration without processing. Resampled to verify
3 Month incorrectly noted as July on COC. Total analysis not consistent with prior analysis. Resampled to verify conectration.
4 Total analysis not consistent with prior analysis. Resampled to verify conectration.

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Hazardous Waste Facility
Certificate of Liability Insurance

HAZARDOUS WASTE FACILITY CERTIFICATE OF LIABILITY INSURANCE

1. LEXINGTON INSURANCE COMPANY, (the "Insurer"), of 100 Summer St., Boston, MA, 02110, hereby certifies that it has issued liability insurance covering bodily injury and property damage to Veolia North America LLC, (the "insured"), of 200 E Randolph Drive, Chicago, IL, 60601, in connection with the insured's obligation to demonstrate financial responsibility under s. NR 664.0147 or 665.0147, Wis. Adm. Code. The coverage applies at:

NAME OF FACILITY	ADDRESS OF LOCATION	EPA IDENTIFICATION NUMBER
Veolia ES Technical Solutions, LLC	1275 Mineral Springs Dr. Port Washington, WI 53074	WID988566543
Veolia ES Technical Solutions, LLC	W124 N9451 Boundary Road Menomonee Falls, WI 53051	WID003967148

for sudden and non sudden accidental occurrences. The limits of liability are $4,000,000 each occurrence and $8,000,000 annual aggregate, exclusive of legal defense costs. The coverage is provided under policy number PLS 2032087, issued on January 1, 2016. The effective date of the policy is January 1, 2016.

2. The Insurer further certifies the following with respect to the insurance described in Paragraph 1:

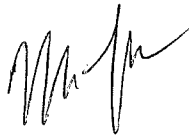
   (a) Bankruptcy or insolvency of the insured may not relieve the Insurer of its obligations under the policy.

   (b) The Insurer is liable for the payment of amounts within any deductible applicable to the policy, with a right of reimbursement by the insured for any payment made by the Insurer. This provision does not apply with respect to that amount of any deductible for which coverage is demonstrated as specified in s. NR 664.0147 (6) or 665.0147 (6), Wis. Adm. Code.

   (c) Whenever requested by the Wisconsin Department of Natural Resources, the Insurer agrees to furnish to the Department a signed duplicate original of the policy and all endorsements.

   (d) Cancellation of the insurance, whether by the insurer, the insured, a parent corporation providing insurance coverage for its subsidiary or by a firm having an insurable interest in and obtaining liability insurance on behalf of the owner or operator of the hazardous waste management facility, will be effective only upon written notice and only after the expiration of 60 days after a copy of such written notice is received by the Department, and if the facilities covered by this insurance are in more than one state, each state agency regulating hazardous waste or the EPA Regional Administrator if the facility is located in an unauthorized state.

   (e) Any other termination of the insurance will be effective only upon written notice and only after the expiration of 30 days after a copy of written notice is received by the Department, and if the facilities covered by this insurance are in more than one state, each state agency regulating hazardous waste or the EPA Regional Administrator if the facility is located in an unauthorized state. I hereby certifiy that the wording of this instrument is identical to the wording specified in s. NR 664.0151 (10), Wis. Adm. Code, as the rules were constituted on the date first above written, and that the Insurer is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.



Martine Houston
Sr. Underwriting Specialist
Authorized Representative of Lexington Insurance Company