

PERMIT FACT SHEET

General Information

Permit Number:	WI-0057657-06-0
Permit Name:	Landspreading of Industrial Sludge
Permittee:	Point source dischargers in the state of Wisconsin
Discharge Location:	Statewide
Receiving Water:	Discharges to groundwater via landspreading on department approved sites in the state of Wisconsin.

Section 283.35, Wis. Stats., authorizes the Department of Natural Resources (hereafter department) to issue a general permit (GP) for discharge from specified categories or classes of point sources if they are not a significant contributor of pollution. It is more efficient for the department to cover multiple facilities under a GP rather than issuing individual permits for each facility when no special circumstances warrant site specific permit requirements or limitations. The GP program is intended to minimize effort for the permittee and the department while ensuring that groundwater quality standards are met.

When a GP is issued, all facilities meeting its requirements may be covered by the GP. Upon receipt of a request of coverage and determination that the facility is eligible, the department sends a letter granting coverage and a copy of the permit to the facility. The letter includes the department's determination that the permittee's discharge is covered under the GP.

A permittee may need to be covered under more than one GP, depending on the different types of waste streams that a facility discharges. For example, if a cheese processor separates their normal strength wastewater for further treatment and whey. The landspreading of the whey may need to be covered under the Landspreading of Industrial Liquid Wastes GP. The sludge generated during the treatment of the normal strength wastewater may need to be covered under the Landspreading of Industrial Sludge GP.

Section 214.10, Wis. Adm. Code, states that the department may withdraw a discharge from the coverage of this general Wisconsin Pollution Discharge Elimination System (WPDES) permit and issue an individual WPDES permit pursuant to s. 283.35, Wis. Stats., on its own motion, or upon the petition of any general permittee, affected state, or 5 or more persons affected by the disposal practices of this general permittee. If the department determines that a discharge covered by this general WPDES permit is better regulated by an individual WPDES permit, it shall notify the affected person in writing of the need to apply for an individual permit and shall provide the person with an application form. Any person so notified shall submit that application form within 60 days of receipt of the notice and application form.

Changes from Previous Permit

Any changes to the previous permit language is to clarify requirements in chs. NR 140, 205, 213, and 214, Wis. Adm. Code. Changes to the format of the permit and fact sheet were made to be consistent with standard language in other WPDES permits. Changes to the monitoring requirements include adding water extractable phosphorus and total dry weight PCB to the Section 4 "Industrial Sludge Landspreading Requirements". Additionally, two outfalls were created in Section 4 "Industrial Sludge Landspreading Requirements". Outfall 001 for industrial sludges with low levels of metals and nondetectable amounts of PCBs and Outfall 002 for industrial sludges with high levels of metals and detectable amounts of PCBs. The permit was previously named "Land Application of Industrial Sludge"; the name was changed to "Landspreading of Industrial Sludge" to match wording in ch. NR 214, Wis. Adm. Code. Several requirements were referenced by code, but were not explicitly stated in the permit. These requirements are now explicitly explained in the permit to clarify the requirements to permittees. The due date of the

Characteristics Report (Form 3400-049) has been changed from annually by January 31st to 21 days after end of the reporting period whether or not waste is landspread. The change of the due date is to provide better compliance and follow-up for general permittees.

General Permit Description

The landspreading of industrial sludge is regulated by ch. NR 214, Wis. Adm. Code, entitled “Land Treatment of Industrial Liquid Waste, By-product Solids and Sludges.” The regulation of industrial sludge is necessary because experience has shown that improper management of these industrial sludges can lead to surface water or groundwater pollution. The department is responsible for approving the suitability of sites used for landspreading of industrial sludges and to protect the groundwater from contamination.

This permit is intended to be issued for the infrequent or temporary spreading of industrial sludges containing primarily organic material and crop nutrients, and small amounts of metals, and which have been known to have beneficial properties as a soil conditioner or fertilizer. This includes but is not limited to sludges generated by: fruit and vegetable processing, dairy products processing, meat, fish and poultry products processing, mink raising operations, aquaculture, and any other industrial, commercial or agricultural operation meeting the applicability criteria. This GP will require that the permittee submit a Landspreading Management Plan containing pertinent information about the industrial or commercial process that generates the industrial sludges, the industrial sludge storage and transportation system, and the landspreading sites. It will also require a tracking of the volume landspread and representative sampling and analyses for pollutants that are expected to be present in significant quantities.

The following situations are examples of how this permit can be used to regulate landspreading of industrial sludge:

1. Landspreading of Small Volumes of Industrial Sludges

For small treatment systems that discharge sludge occasionally (such as a septic tank that is pumped out once a year or a biological treatment system generating sludge without metals or other contaminants) this general permit would be appropriate. However, if these dischargers have a specific permit for a wastewater discharge, all discharges, including sludge disposal, shall be regulated by one specific permit. If the septic tank soil absorption system is regulated by a general permit, then the sludge can be regulated by a second general permit.

2. Short Term or One-Time Disposal

Occasionally an industrial wastewater treatment system is emptied for maintenance and large deposits of sludge are discovered. This situation most often occurs when an aeration basin or aerated lagoon is repaired. It is important to remove and dispose of the sludge as soon as possible so that the industrial wastewater treatment system can be put back in operation. Since this is a one-time operation that will be completed in accordance with a Department approved management plan, a specific permit would not be issued.

3. Interim Regulation

Until such time as the department can issue, reissue or modify site specific permits for entities that landspread industrial sludges, this GP can be used as interim WPDES permit. This excludes industrial sludges containing or requiring monitoring for oil and grease, nitrate nitrogen, COD, volatile organic chemicals, bio-accumulating toxic substances and sodium, mercury, arsenic, chromium, etc., since these cannot be added to the general permit requirements. The situation of interim regulation shall be limited to extraordinary situations, and is only likely to occur for a biological pretreatment system as most other treatment systems will already require a specific WPDES permit for discharge of the treated wastewater. An independent contractor that

manages the disposal of industrial sludge may be covered under this permit in this case. In all cases, the permittee must develop and follow a management plan approved by this department.

1 Applicability Criteria

1.1 Activities Covered

The permit is applicable to sludge spreading system or commonly referred to as landspreading of low volume sludges from an industrial, commercial or agricultural facility to a land treatment system. “Sludge” means the accumulated solids generated during the biological, physical or chemical treatment, coagulation or sedimentation of water or wastewater as defined in s. NR 214.03(34), Wis. Adm. Code. “Land treatment system” means a system that utilizes the physical, chemical and biological abilities of the soil to decompose pollutants in the wastes as defined in s. NR 214.03(24), Wis. Adm. Code. All industrial sludges shall have no detrimental effect on soils, vegetation or groundwater of a land treatment system and shall have beneficial properties as a soil conditioner or fertilizer as specified in s. NR 214.18(1), Wis. Adm. Code.

1.2 Activities Not Covered

This permit is not applicable to landspreading discharges that meet any of the following conditions:

a. By-Product Solids

The landspreading of by-product solids are not covered by this GP. “By-Product Solids” means waste materials from the animal product or food processing industry including, but not limited to: remains of butchered animals, paunch manure and vegetable waste materials such as leaves, cuttings, peelings and actively fermenting sweet corn silage generated which result in a point source discharge to a land treatment system as defined in s. NR 214.03(4), Wis. Adm. Code. By-product solids may be covered under the Landspreading of By-Product Solids General Permit WI-0057665 or an individual WPDES permit.

b. Industrial Liquid Wastes

The landspreading of industrial liquid wastes is not covered by this GP. “Liquid Wastes” means process wastewater and waste liquid products, including silage leachate, whey, whey permeate, whey filtrate, contact cooling water, cooling or boiler water containing water treatment additives, and wash water generated in industrial, commercial and agricultural operations which result in a point source discharge to a land treatment system as defined in s. NR 214.03(27), Wis. Adm. Code. Industrial liquid wastes may be covered under the Landspreading of Industrial Liquid Wastes General Permit WI-0055867 or an individual WPDES permit.

c. Domestic Sewage Sludges

The landspreading of domestic sewage sludges are not covered by this GP. “Sewage sludge” or “biosolids” means the solid, semi-solid or liquid residue generated during the treatment of domestic sewage in a treatment works. Sewage sludge includes scum or solids removed in primary, secondary or advanced wastewater treatment processes and material derived from sewage sludge as specified in s. NR 204.03(55), Wis. Adm. Code. “Domestic sewage” means waste and wastewater from humans or household operations that is discharged to or otherwise enters a treatment works as defined in s. NR 204.03(17), Wis. Adm. Code. Landspreading of domestic sewage sludges shall be covered under an individual WPDES permit.

d. Exceeds High Quality Metal Concentrations

The landspreading of industrial sludge that exceed the high-quality concentrations provided in Table 3 of s. NR 204.07(5), Wis. Adm. Code, is not covered by this GP. These industrial sludges require more frequent monitoring and tracking for metals that an individual permit provides.

However, the department may allow the applicant to be covered under this permit in the interim until an individual WPDES permit is issued or modified to include the landspreading discharge.

e. Other Methods of Disposal

Any portion of industrial sludge that is hauled to another permitted facility such as a publicly-owned treatment works (POTW), a landfill, an incinerator, a livestock feeding operation, or a contract hauler is not covered under this GP. Rather, this GP applies only to landspreading of industrial sludges directly to department approved landspreading sites.

f. Toxic or Hazardous Substances

The landspreading of industrial sludges that contain toxic or hazardous substances that are required to be reported under ch. NR 706, Wis. Adm. Code, is not authorized by this permit in accordance with s. NR 214.05, Wis. Adm. Code. Exemptions for landspreading discharge of these substances require an individual permit which provides the oversight, monitoring and discharge limitations necessary to protect groundwaters. The discharges containing only toxic or hazardous substances to land treatment systems are prohibited as specified in s. NR 664.0270, Wis. Adm. Code.

g. Landspreading Requirements and Groundwater Standards

The landspreading discharges from facilities eligible for this GP are not expected to exceed groundwater standards. Facilities with landspreading discharges that have a reasonable potential to violate groundwater standards in ch. NR 140, Wis. Adm. Code, may be issued an individual WPDES permit.

h. Landspreading of Solid Waste

The landspreading of industrial sludges that are regulated under the provisions of ch. NR 518, Wis. Adm. Code, are not eligible under this permit in accordance with s. NR 214.02, Wis. Adm. Code. Chapter NR 518, Wis. Adm. Code, entitled “Landspreading of Solid Waste”, exempts vegetable waste specifically and has a general exemption for non-detrimental wastes applied as a soil conditioner or fertilizer. The wastes regulated by the GP must be exempt from ch. NR 518, Wis. Adm. Code.

i. Wetlands

This permit does not cover landspreading discharges of industrial sludges to wetlands. “Wetlands” means 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 as defined in s. NR 214.03(38), Wis. Adm. Code. In accordance with s. NR 214.18(2)(e), Wis. Adm. Code, sludge may not be spread on wetlands or on areas subject to flooding or ponding.

j. Surface Waters

This permit does not cover landspreading discharges of industrial sludges to surface waters. In accordance with s. NR 214.18(2)(d), Wis. Adm. Code, sludge may not be surface spread within 200 feet from any surface water course, dry run or wetlands, except that if a vegetative buffer strip is maintained between the site and the surface water, the department may approve a reduced separation distance to 100 feet. If the sludge is incorporated in the soil, the separation distance from any surface water may be reduced to a minimum of 50 feet.

k. Endangered and Threatened Resources

Landspreading discharges that affect endangered and threatened resources are not eligible for this permit, unless the department determines that the discharges comply with the endangered and threatened resource protection requirements of s. 29.604, Wis. Stats., and ch. NR 27, Wis. Adm.

Code. Facilities with discharges that require more oversight to ensure that they do not violate these protection requirements may need to be covered by an individual permit.

l. Discharges within Tribal Lands

The department lacks the authority to issue WPDES permits within tribal lands due to the state delegation agreement with U.S. EPA. In such instances, the Tribe or U.S. EPA regulates the landspreading discharge and would issue a permit.

m. Commingled Industrial Sludges

The landspreading of industrial sludges that are mixed with other industrial wastes are not eligible under this permit. The department's intent for this GP is not to be used for contract haulers servicing multiple industrial customers generating dissimilar industrial sludge solids as this can lead to a greater risk of surface water or groundwater pollution. In the event that a contract hauler landspreads mixed, dissimilar sludge from multiple industries, an individual permit is required.

2 Landspreading Site Requirements

2.1 Landspreading Site Approval

The permittee is authorized to landspread industrial sludges only on sites approved in writing by the department in accordance with s. NR 214.18(2)(a), Wis. Adm. Code. The department may specify any site use restrictions or grant any case-by-case ch. NR 214, Wis. Adm. Code, exemptions in the written site approval letter. The permittee shall comply with all specified restrictions and exemptions. The permittee shall not landspread by-product solids on a site until approval is received from the department for the site.

The permittee shall submit a landspreading site request package including the following information: 1) Land Application Site Request (Form 3400-053) or equivalent; 2) Verification of legal description (tax parcel record, land record, etc.) and; 3) Field authorization form (from field owner). The site request package may also include location maps showing nearby residences and wells, soil maps, information on separation to groundwater and bedrock, and other information that demonstrates that sludge application on the site will comply with all applicable requirements of s. NR 214.18, Wis. Adm. Code and the conditions of the GP.

2.2 Landspreading Site Location Criteria

The landspreading site location criteria are included by reference from s. NR 214.18(2), Wis. Adm. Code, in the permit. The permittee must comply with all these requirements.

3 Reporting Requirements

The permittee shall comply with the reporting requirements in the permit.

3.1 Daily Log

The permittee shall keep a daily log of all discharge and monitoring activity on log sheets in accordance with s. NR 205.07(1)(f), Wis. Adm. Code. At a minimum, the permittee shall record the parameters found in the permit on a daily basis. This includes the total daily sludge hauled volume. The original log sheets shall be kept by the permittee as described under section 7.2.6 "Records Retention" in the Standard Requirements of this permit, and if requested, made available to the department. These records shall be made available to department upon inspection or request.

3.2 Characteristic Report (Form 3400-49)

The analytical results from testing of sludges that are landspread shall be reported by the date indicated on the Characteristic Report Form 3400-49. The report form shall be submitted

electronically and is due 21 days after end of the reporting period whether or not waste is landspread in accordance with s. NR 214.18(5)(d), Wis. Adm. Code. For instance, if a parameter is to be sampled quarterly, the monitoring results are due 21 days following the end of each quarter. Following submittal of the electronic Characteristic Report Form 3400-49, this form shall be certified electronically via the “eReport Certify” page by a responsible executive officer, manager, partner or proprietor or duly authorized representative in accordance with s. NR 205.07(1)(g), Wis. Adm. Code. The “eReport Certify” page certifies that the electronic report form is true, accurate, and complete.

Note: Monitoring is only required during periods of active landspreading.

3.3 Annual Land Application Report (Form 3400-55)

The annual totals for the landspreading loadings of sludges to field spreading sites shall be submitted electronically on the Land Application Report Form 3400-55 by January 31, each year whether or not waste is landspread in accordance with s. NR 214.18(5)(d), Wis. Adm. Code. Amounts of waste shall be reported as dry weight. Following submittal of the electronic Land Application Report Form 3400-55, this form shall be certified electronically via the ‘eReport Certify’ page by a responsible executive officer, manager, partner or proprietor or duly authorized representative in accordance with s. NR 205.07(1)(g), Wis. Adm. Code. The ‘eReport Certify’ page certifies that the electronic report form is true, accurate, and complete.

3.4 Other Methods of Disposal or Distribution Report (Form 3400-52)

The permittee may submit electronically the Other Methods of Disposal or Distribution Report Form 3400-52 by January 31, each year when waste is hauled to another facility, landfilled, or incinerated. Following submittal of the electronic Other Methods of Disposal or Distribution Report Form 3400-52, this form shall be certified electronically via the ‘eReport Certify’ page by a responsible executive officer, manager, partner or proprietor or duly authorized representative in accordance with s. NR 205.07(1)(g), Wis. Adm. Code. The ‘eReport Certify’ page certifies that the electronic report form is true, accurate, and complete.

Note: This form is not a requirement and is completely voluntary. However, the department recommends that permittees fill this form out when sludges are hauled to another facility, landfilled, or incinerated.

4 Industrial Sludge Landspreading Requirements

Landspreading discharges include applying a controlled quantity of sludges uniformly onto, or incorporated into, soil surfaces in Wisconsin to utilize the physical, chemical and biological abilities of the soil to decompose and treat the pollutants in the wastes.

4.1 Sampling Point(s)

The discharge shall be limited to landspreading of industrial sludges for the listed sampling point(s) on department approved landspreading sites or by hauling to another permitted facility.

Sampling Point Designation	
Sampling Point Number	Sampling Point Location, Waste Type/Sample Contents and Treatment Description (as applicable)
001	The landspreading of industrial sludges containing low concentrations of metals and nondetectable amounts of PCBs from an industrial, commercial or agricultural facility to department approved landspreading sites.

Sampling Point Designation	
Sampling Point Number	Sampling Point Location, Waste Type/Sample Contents and Treatment Description (as applicable)
002	The landspreading of industrial sludges containing high concentrations of metals and/or detectable amounts of PCBs from an industrial, commercial or agricultural facility to department approved landspreading sites.

4.2 Monitoring Requirements and Limitations

The permittee shall meet the limitations and monitoring requirements in this section based on s. NR 214.18(5), Wis. Adm. Code. Monitoring is only required during periods of active landspreading.

4.2.1 Sampling Point (Outfall) 001 – Industrial Sludges with Low Metals

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Sludge Hauled		Tons/day	Daily	Total Daily	Record in a Daily Log. See Section 3.1
Solids, Total		Percent	Annual	Grab Comp	See Sections 4.3 and 4.4
Nitrogen, Total Kjeldahl		Percent	Annual	Grab Comp	See Sections 4.3, 4.4, and 4.9.2
Chloride		Percent	Annual	Grab Comp	See Sections 4.3, 4.4 and 4.9.1
Phosphorus, Total		Percent	Annual	Grab Comp	See Sections 4.3 and 4.4
Phosphorus, Water Extractable		% of Total P	Annual	Grab Comp	See Sections 4.3 and 4.4
Nitrogen, Ammonia (NH ₃ -N) Total		Percent	Annual	Grab Comp	See Sections 4.3 and 4.4
Nitrogen, Organic Total		Percent	Annual	Grab Comp	See Sections 4.3 and 4.4
Potassium, Total Recoverable		Percent	Annual	Grab Comp	See Sections 4.3 and 4.4
pH Field		su	Annual	Grab	See Sections 4.4 and 4.9.5.
Lead, Dry Wt.		mg/kg	Once	Grab Comp	See Sections 4.4 and 4.5
Zinc, Dry Wt.		mg/kg	Once	Grab Comp	See Sections 4.4 and 4.5
Copper, Dry Wt.		mg/kg	Once	Grab Comp	See Sections 4.4 and 4.5
Nickel, Dry Wt.		mg/kg	Once	Grab Comp	See Sections 4.4 and 4.5
Cadmium, Dry Wt.		mg/kg	Once	Grab Comp	See Sections 4.4 and 4.5
PCB, Total Dry Wt.		mg/kg	Once	Grab Comp	See Sections 4.4 and 4.5

4.2.2 Sampling Point (Outfall) 002 – Industrial Sludges with High Metals

Monitoring Requirements and Effluent Limitations					
Parameter	Limit Type	Limit and Units	Sample Frequency	Sample Type	Notes
Sludge Hauled		Tons/day	Daily	Total Daily	Record in a Daily Log. See Section 3.1
Solids, Total		Percent	Annual	Grab Comp	See Sections 4.3 and 4.4
Nitrogen, Total Kjeldahl		Percent	Annual	Grab Comp	See Sections 4.3, 4.4, and 4.9.2
Chloride		Percent	Annual	Grab Comp	See Sections 4.3, 4.4 and 4.9.1
Phosphorus, Total		Percent	Annual	Grab Comp	See Sections 4.3 and 4.4
Phosphorus, Water Extractable		% of Total P	Annual	Grab Comp	See Sections 4.3 and 4.4
Nitrogen, Ammonia (NH ₃ -N) Total		Percent	Annual	Grab Comp	See Sections 4.3 and 4.4
Nitrogen, Organic Total		Percent	Annual	Grab Comp	See Sections 4.3 and 4.4
Potassium, Total Recoverable		Percent	Annual	Grab Comp	See Sections 4.3 and 4.4
pH Field		s.u.	Annual	Grab	See Sections 4.4 and 4.9.5.
Lead, Dry Wt.		mg/kg	Annual	Grab Comp	See Sections 4.3, 4.4, 4.6, 4.7, 4.8 and 4.9.3
Zinc, Dry Wt.		mg/kg	Annual	Grab Comp	See Sections 4.3, 4.4, 4.6, 4.7, 4.8 and 4.9.3
Copper, Dry Wt.		mg/kg	Annual	Grab Comp	See Sections 4.3, 4.4, 4.6, 4.7, 4.8 and 4.9.3
Nickel, Dry Wt.		mg/kg	Annual	Grab Comp	See Sections 4.3, 4.4, 4.6, 4.7, 4.8 and 4.9.3
Cadmium, Dry Wt.		mg/kg	Annual	Grab Comp	See Sections 4.3, 4.4, 4.6, 4.7, 4.8, 4.9.3 and 4.9.4
PCB, Total Dry Wt.		mg/kg	Annual	Grab Comp	See Sections 4.3, 4.4, 4.6, and 4.9.6

4.3 Sampling

Grab composite samples for all required parameters, except pH, shall be collected prior to landspreading which are representative of industrial sludge being discharged. “Grab Composite” means a combination of individual grab samples of equal volume taken at approximately equal intervals not exceeding one hour over a three-hour period in accordance with s. NR 218.04(11), Wis. Adm. Code.

Note: Monitoring is only required during periods of active landspreading.

4.4 Initial Test Screening

Applicants shall conduct an initial test screening of the industrial sludge for all parameters listed in Section 4.2.1. The test results shall be submitted with the request for coverage document.

This initial testing will help the department determine if requirements in Section 4.5 – 4.8 apply to the industrial sludge.

4.5 Industrial Sludge with Low Metals

Ch. NR 204, Wis. Adm. Code, is used as guidance for including high-quality concentrations for metals in the permit. While ch. NR 204, Wis. Adm. Code, is applicable to sludge from municipal wastewater treatment systems, the basis for its high-quality concentrations is more current than that for ch. NR 214, Wis. Adm. Code. When industrial sludge is less than or equal to 1/3 of the high-quality concentrations for metals concentration and nondetectable amounts of PCBs, the industrial sludge is equivalent to high quality in ch. NR 204, Wis. Adm. Code. Additionally, the metals and PCB concentrations would not restrict the rate of sludge spreading from year to year. Therefore, permittees are not required to monitor annually for metal and PCB concentrations and follow monitoring in Section 4.2.1 for Outfall 001. Also, Permittees are exempt from the cumulative loading limits for metals found in Sections 4.9.3 and 4.9.4 and PCB requirements in Section 4.9.6.

For new permittees, the initial test screening in Section 4.4 satisfies the reporting for the current permit term. Permittees that were covered under the previous general permit (WI-0057657-05-0) shall retest for metals and PCBs and report the results once every permit term to the department. The results shall be reported on the Characteristic Report (Form 3400-49). If a permittee changes any industrial processes or treatment process such as raw materials or chemicals during the permit term, the permittee shall retest for metals and PCBs and report the results to the department. The results shall be reported on the Characteristic Report (Form 3400-49) in the comments section for that year.

4.6 Industrial Sludge with High Metals

The 1/3 of the high-quality concentration was used to provide a margin of safety. The margin of safety accounts for any uncertainty in the data and analysis and a degree of protection. Therefore, permittees with industrial sludge containing metals that exceed 1/3 of the high-quality concentrations based on Table 3 in s. NR 204.07(5), Wis. Adm. Code, or contains detectable amounts of PCBs shall follow monitoring in Section 4.2.2 for Outfall 002. The results shall be reported on the Characteristic Report (Form 3400-49). Permittees shall follow the cumulative loading limits for metals found in Sections 4.9.3 and 4.9.4 and PCB requirements in Section 4.9.6. If a permittee changes any industrial processes or treatment process such as raw materials or chemicals during the permit term, the permittee shall retest for metals and PCBs and report the results to the department. The results shall be reported on the Characteristic Report (Form 3400-49) in the comments section for that year.

4.7 Metals that Exceed High Quality Concentrations

Permittees with industrial sludge containing metals that exceed the high-quality concentrations in Table 3 of s. NR 204.07(5), Wis. Adm. Code, are not applicable to this permit and must apply for an individual WPDES permit. These industrial sludges require more frequent monitoring and supervision. However, this permit can be used in the interim until the an individual WPDES permit is issued or modified to include the landspreading discharge. Permittees shall follow the monitoring requirements provided in Section 4.2.2. Permittees shall follow the cumulative loading limits for metals found in Sections 4.9.3 and 4.9.4.

4.8 Metals that Exceed Ceiling Concentrations (Prohibited)

The permittee is prohibited from landspreading if the industrial sludge exceeds the metal ceiling concentrations in Table 1 of s. NR 204.07(5), Wis. Adm. Code. Disposal options when sludge ceiling

concentrations are exceeded include: retesting, mixing with another sludge or other material and demonstration of compliance with Table 2, landfilling or incinerating. The ceiling concentrations are based on levels that would have the potential to cause contamination of lands, groundwater, or harm to public health, be harmful for commercial or agricultural use, or be deleterious to animal or plant life.

4.9 Landspreading Limitations

The following landspreading limitations are based on s. NR 214.18(4), Wis. Adm. Code. The permittee shall comply with these industrial sludge landspreading limitations of the permit and the approved management plan.

4.9.1 Chloride Requirements for Industrial Sludge

Industrial sludge may contain varying concentrations of chloride. High concentrations of chloride can reduce yields in crops and possibly cause toxicity. It is important to follow the approved landspreading management plan when landspreading high chloride wastes. The total pounds of chloride applied may not exceed 340 pounds per acre per two-year period. The most recent annual total solids sample shall be used in the calculation of chloride loading for pounds.

4.9.2 Nitrogen Requirements for Industrial Sludge

The total pounds of nitrogen applied per acre per year shall be limited to the nitrogen needs of the cover crop (based on a reliable reference such as: *A2809 Nutrient Application Guidelines for Field, Vegetable and Fruit Crops in Wisconsin*, from UW-Ext., <http://www.soils.wisc.edu/extension/pubs/A2809.pdf>) minus any other nitrogen, including fertilizer or manure, added to the landspreading site in accordance with s. NR 214.18(4)(d), Wis. Adm. Code. The most recent annual total solids sample shall be used in the calculation of TKN loading for pounds.

Nitrogen applied can be calculated on the basis of plant available nitrogen, as long as the release of nitrogen from the organic material is credited to future years. The permit requires the monitoring for Total Kjeldahl Nitrogen (TKN). TKN accounts for those forms of nitrogen that are readily available for plant uptake. The total pounds of nitrogen applied per acre per year shall not exceed 165 pounds of total nitrogen per acre per year (based on the nitrogen uptake of the most common cover crop - field corn) minus any other nitrogen, including fertilizer or manure, added to the application site. The department may specify or accept an alternate nitrogen loading amount for other cover crop nitrogen needs in the management plan approval.

4.9.3 Metals Requirements for Industrial Sludge

The cumulative amount of cadmium, copper, lead, nickel and zinc spread on any site may not exceed the cumulative amounts specified in the permit. The maximum cumulative loading of cadmium, copper, lead, nickel and zinc are based on Table 4 in ch. NR 214.18(4)(g), Wis. Adm. Code.

4.9.4 Cadmium Requirements for Industrial Sludge

No more than 0.45 pounds per acre of cadmium may be spread annually on land used for production of food chain crops in accordance with s. NR 214.18(4)(f), Wis. Adm. Code. As defined in s. NR 214.03(15), Wis. Adm. Code, "Food-chain crop" means a crop grown for human consumption or pasture, forage and feed grains for animals whose products are consumed by humans. Tobacco is considered a crop grown for human consumption.

4.9.5 Soil pH

The pH of the sludge and soil mixture shall be 6.5 or higher at the time the sludge is spread, except that the soil pH may be less than 6.5 if the average sludge cadmium (over the previous

four quarters) concentration is 2 mg/kg (dry weight) or less in accordance with s. NR 214.18(4)(e), Wis. Adm. Code.

4.9.6 PCB Requirements for Industrial Sludge

The landspreading of sludge containing PCBs will be approved by the department on a case-by-case basis. Applicants with sludge containing PCBs shall submit sludge PCB testing results with the request for coverage document. The department will then determine if PCB monitoring and limitations are warranted. If approved by the department in writing, sludge containing concentrations of PCBs equal to or greater than 10 mg/kg (dry weight) shall be incorporated into the soil when applied to land used for producing animal feed, including pasture crops for animals raised for the purpose of producing milk. The department may allow surface application of the sludge if it is assured that the PCB content is less than 0.2 mg/kg (actual weight) in animal feed or less than 1.5 mg/kg (fat basis) in milk from animals consuming the feed in accordance with s. NR 214.18(4)(h), Wis. Adm. Code.

4.9.6.1 Monitoring and Calculating PCB Concentrations in Sludge

The methods of analysis for substances contained in discharges shall be those specified in ch. NR 219, Wis. Adm. Code and the WPDES permit in accordance with s. NR 214.09, Wis. Adm. Code.

5 Management Plan

The landspreading requirements are based on s. NR 214.18(6)(c), Wis. Adm. Code. The permittee shall comply with these management plan requirements in the permit.

5.1 Operate Consistent with an Approved Management Plan

All landspreading sites used for treatment of industrial sludges shall be operated in accordance with a department approved management plan. The management plan shall be consistent with the requirements of this permit and s. NR 214.17, Wis. Adm. Code. A copy of the management plan shall be retained by the permittee and shall be made available upon department inspection. If operational changes are needed affecting the character, quality or quantity of the industrial sludges landspread, the management plan shall be amended by submitting a written request to the department for approval.

5.2 Submittal of the Management Plan

If a landspreading management plan has not been approved by the department prior to the reissuance of this permit, then the permittee shall submit a management plan to the department for approval not more than 60 days from the date of reissuance of this permit or from the date that coverage under this permit was granted, whichever is later. When coverage is granted under this permit, if the department determines that a previously approved management plan must be amended to comply with the conditions of this permit and s. NR 214.18(6)(c), Wis. Adm. Code, the permittee shall submit an amended landspreading management plan to the department not more than 60 days from the date that coverage under this permit was granted. Management plans shall be submitted to department staff identified in the document granting coverage under this permit.

5.3 Management Plan Content

The management plan shall specify information on sludge volumes and characteristics, beneficial or non-detrimental fertilizer or soil conditioner properties, production and pretreatment processes, description of all site limitations, vegetative cover control and removal, availability of storage, type of transportation and spreading vehicle, sludge application rates, load and rest schedules, contingency plans for periods of adverse weather, odor and nuisance abatement or any other pertinent information in accordance with s. NR 214.18(6)(c), Wis. Adm. Code. Attached to this document is a management

plan outline. The outline is intended solely as a suggested starting point and does not contain any mandatory requirements except where requirements found in statute or administrative rule are referenced.

6 Operational Requirements

The operations requirements are included by reference from ss. NR 214.18(3), (4), and (6), Wis. Adm. Code, in the permit. The permittee must comply with all these requirements.

7 STANDARD REQUIREMENTS

The “Standard Requirements” are a group of permit conditions from ss. NR 205.07(1), 205.07(3), and 205.08, Wis. Adm. Code, that apply to all industrial wastewater pollutant dischargers, including requirements related to the department's rights to enter and inspect facilities, the permittee's responsibility to inform the department of changes at a facility, sampling procedures and other general conditions typically associated with a WPDES GP. These requirements are included by reference into the permit. The permittee shall comply with all of these requirements, except for s. NR 205.07(1)(n), Wis. Adm. Code which does not apply to facilities covered under GPs.

8 Summary of Reports Due

A summary of reports due has been added for informational purposes for permittees and to be consistent with individual WPDES permits.

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Industrial Sludge Management Plan Outline

Chapter NR 214, Wis. Adm. Code, requires permittees that landspread industrial solids to develop a management plan. The code requires each industrial sludge waste generator to submit a management plan for optimizing system performance and demonstrating compliance with the requirements of this chapter. Following approval by the department, the system must be operated in conformance with the management plan. If the facility wishes to operate differently than specified in the approved plan, a written request must be submitted to the department for approval to amend the management plan.

The plan shall specify the following information: sludge volumes and characteristics, beneficial or non-detrimental fertilizer or soil conditioner properties, production and pretreatment processes, description of all site limitations, vegetative cover control and removal, availability of storage, type of transportation and landspreading vehicles, sludge application rates, load and rest schedules, record keeping and reporting, availability of records at the landspreading site, contingency plans for periods of adverse weather, odor and nuisance abatement, and any other pertinent information.

This document is a suggested management plan outline to assist the permittee with development a landspreading management plan for their operation. This document is intended solely as a suggested starting point and does not contain any mandatory requirements except where requirements found in statute or administrative rule are referenced. Any regulatory decisions made by the Department of Natural Resources in any matter related to a management plan approval will be made by applying the governing statutes and administrative rules to the relevant facts. Each item on the outline shall be adequately discussed in the management plan. If an item is omitted, the owner/operator shall have an explanation as to why the requested information is not relevant.

A. Industrial Sludge Source and Handling

1. Describe the industrial processes that generate the industrial sludges. List the raw materials used and the products produced.
2. Specify the type of wastewater treatment processes from which the sludge originated (for example aerated lagoons, activated sludge, anaerobic digester, sequencing batch reactor, etc.). List any chemicals used in the wastewater treatment processes.
3. If the sludge is conditioned prior to disposal describe the process used. This could include such things as gravity thickening, mechanical dewatering, chemical treatment, filter bed dewatering, or pH adjustment. List any chemicals used to aid conditioning.

B. Industrial Sludge Characteristics

1. A representative sample of industrial sludge should be analyzed for percent solids, organic nitrogen, ammonia nitrogen, Total Kjeldahl Nitrogen (TKN), total phosphorus, water extractable phosphorus, chlorides, pH field, and potassium to provide a base for characterizing the waste material. Results shall be reported on a dry weight basis except for percent solids and pH.
2. A representative sample of industrial sludge should be analyzed for zinc, nickel, lead, copper, cadmium, and PCBs. If the industrial processes or treatment process use any raw materials or chemicals containing significant quantities of metals or PCBs, the industrial sludge shall be retested for metals.
3. Sludges that originate from some types of industry or commercial processes may be required to do further testing and a leach test. The department will notify the permittee if further testing is necessary to determine applicability under the permit.

C. Industrial Sludge Storage and Transportation

1. If an industrial sludge storage structure is used, describe its size, shape, volume, and materials of construction.

The permittee must provide a description of the industrial sludge handling system from the generating site to the landspreading field. This shall include the equipment used to move the material to the loading spot and whether water is added as a transport media. Temporary storage or loading sites, if used, must be described. If a temporary stacking pad is used, the size, shape, material, type of soil under and around the pad and the depth to groundwater and bedrock are to be included. If leachate is generated, the management of this liquid waste must be explained. If a tank is used for storage, provide the size, shape, materials of construction, and location of the tank in relation to the factory. If the tank is buried, provide information on depth, type of soil, and depth to groundwater or bedrock. If the tank has a vent, manhole, or high-level alarm, these shall be described. Also describe the method of loading or pumping the leachate into the hauling vehicle. For earthen lagoons, the liner or sealing soils shall be specified and the depth to groundwater and bedrock determined.

2. Describe the method of loading the industrial sludges onto the hauling vehicle and describe the type and capacity of the hauling vehicle.
3. Specify how the application vehicle will unload and apply the material evenly over the fields (i.e. with a high pressure spraying gun, direct injection, spreader bar, splash pad or some other device). Also specify if the material will be stored in piles in the field for landspreading by another machine.
4. State how the total volume hauled will be measured and what kind of records will be kept. Provide an example log with landspreading management plan.
5. Discuss what contingency plans have been developed in case of inclement weather.
6. Explain how the industrial sludges will be incorporated into the soil. This can be done through normal agricultural tillage except when odors develop in which case incorporation must be completed within 72 hours.
7. Explain where the sludge samples will be collected to obtain a representative sample.

D. Industrial Sludge Landspreading Site Information

1. Show the location of each landspreading site indicated on a site map such as a USDA soil survey map, the description of each soil type and slope and estimated depth to groundwater and bedrock must be included.
2. Provide either a site map, a USGS topographic map or aerial photograph with the proposed site outlined. Aerial photographs are generally available from the county Agricultural Stabilization and Conservation Service (ASCS) office.
3. Each site map shall clearly show (by cross hatching lines or some other means) exactly which areas have suitable conditions and are proposed for landspreading.
4. Describe the crops to be grown or the dominant vegetation on the landspreading site and the anticipated harvest and removal schedule.
5. Describe adjacent land use, drainage, and land features associated with the site. Show the distance to wells, and streams.
6. Explain the ownership of the site, and the site number used for identification by the hauler.
7. Attach a copy of any land use agreement.

8. Estimate the total acreage to which the industrial sludge will be applied.

E. Industrial Sludges Landspreading Site Loading Information

1. Specify the total volume of industrial sludge that can be applied to reach the nitrogen needs of the cover crop. The nitrogen loading rate for field corn is provided in the GP at 165 pounds per acre per year of total nitrogen from all sources. Appropriate alternate annual industrial sludge nitrogen loading rates can be approved via the department landspreading management plan approval based on alternate crop needs and delayed nitrogen availability. If the department approved management plan does not contain a crop specific nitrogen loading table, then the default loading limit of 165 lbs/acre applies.
2. Calculate per acre the loading rate of phosphorus and chloride. The chloride loading limit is 340 lbs/acre/two year period).
3. If necessary calculate per acre the loading rate of zinc, nickel, lead, copper, and cadmium.
4. Report the quantity of industrial sludge to be disposed either on a daily, monthly, or annual basis.
5. Describe equipment and methods to be used to landspread the industrial sludge in conformance with the permit requirements. Include procedures for routine nuisance control of the sludge and for unexpected nuisance occurrences at the landspreading site.
6. Specify how the application will be tracked to ensure uniform distribution across the site. This shall include a discussion on the use of methods such as staking of the site or use of a Global Positioning System (GPS) to locate areas of previous application.
7. Include daily log sheet to be used and steps for tracking application rates. Also, if necessary include an example annual log to be used to track metal concentrations and loadings.
8. Describe how the wastes will be landspread. For sludge from meat processing wastewater, this should include an explanation on any special considerations, such as injection or immediate incorporation, to reduce the risk of spreading TSE.
9. Describe any special restrictions on cropping practices to reflect the type of wastes.