



July 17, 2014

DAN S. DUCHNIAK, P.E.  
GENERAL MANAGER  
WAUKESHA WATER UTILITY  
115 DELAFIELD STREET  
WAUKESHA, WI 53188

Subject: Waukesha Discharge to the Root River

Dear Mr. Duchniak:

The Wisconsin Department of Natural Resources (WDNR) is continuing to review the City of Waukesha's (City) application for a Great Lakes water supply. To meet the technical review criteria under the Great Lakes Compact and Wisconsin State statutes, return flow to Lake Michigan must meet applicable state and federal water quality standards and discharge requirements.

The updated application from the City proposes to return treated wastewater to the Root River segment (miles 20.48 – 43.95) that is listed on Wisconsin's approved §303(d) List for excessive phosphorus and total suspended solids. This discharge to the Root River from Waukesha's current Wastewater Treatment Plant (WWTP) is considered a "new" discharge (NR 106.93, Wis. Adm. Code). There is no approved Total Maximum Daily Load (TMDL) for the Root River. Per your request following the May 15<sup>th</sup> meeting discussing return flow, we are confirming with EPA that in order to meet discharge requirements one of the following must be demonstrated:

(1) Improvement in Water Quality:

- a) Under NR 217.13(8)(b) a new discharge of phosphorus is allowed to an impaired water if the discharger can demonstrate that the new discharge of phosphorus will improve water quality. To show an improvement in water quality the facility can either discharge at an effluent concentration 'well below' the criteria or perform an analysis showing that water quality criteria is being improved or attained. The facility discharging well below the criteria is a conservative assumption, in lieu of any analysis, ensuring that the discharge does not cause or contribute to an existing impairment and the discharge actually improves water quality. An effluent limit well below the criteria is supported in EPA's approval letter of NR 217 (dated 7/25/2012).
- b) An alternative method to an effluent limit well below the criteria would be for the regulated entity to develop a numeric effluent limit based upon a TMDL-type of analysis. EPA wrote in the NR 217 approval letter that "EPA expects that the permittee will demonstrate that its discharge will result in a decrease in the phosphorus concentration or loading in the receiving water". The TMDL-type analysis should be developed to meet water quality criteria for the Root River; not just reduce the measured value. Waukesha should include a comprehensive evaluation of all phosphorus sources and provide load allocations for each source to meet water quality standards. This includes the non-point source impacts.

- (2) TMDL Analysis: NR 217.13(8)(a) allows for a new discharge of phosphorus if it is allocated as part of the reserve capacity or part of the wasteload allocation in a US EPA approved TMDL. As such, another option available to a new discharger is to perform a TMDL analysis. In addition, a TMDL analysis can be used to

meet the requirements under NR 213.13(8)(b) as outlined above. The TMDL will need to be approved by both WDNR and EPA. The TMDL needs to be consistent with the requirements contained in 40 CFR 130.7 and, if applicable, for impaired waters in the Great Lakes Basins the additional requirements stipulated under 40 CFR 132, Appendix F, Procedure 23 may apply. In the case of Waukesha, a TMDL needs to address the impaired reach of the Root River that Waukesha's proposed discharge is located in, as well as all upstream contributing areas.

- (3) Demonstrate compliance through a phosphorus trade: Per NR 217.13(8)(c), a new discharger can demonstrate that the new phosphorus load will be offset through a phosphorus trade with another discharge(s) of phosphorus. The trade must be consistent with WDNR water quality trading guidance and EPA trading policy. As originally drafted, this offset could be the difference between the mass of the proposed phosphorus discharge and a zero mass discharge. However, after further consideration, the offset could also be used to meet the difference between the mass of the proposed discharge and the effluent limits arrived at under NR 217.13(8)(a) or (b).

Once you review the above, we ask you notify the Department of your preferred return flow location and flow management option. Additional detailed information will be needed as part of an addendum to the application for the Department to complete the technical review and Environmental Impact Statement (EIS).

Sincerely,



Russell A. Rasmussen, Administrator  
Water Division

Cc: Jill Jonas  
Susan Sylvester

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