

Minnesota River Basin general phosphorus permit, MNG420000, updates and exclusion process

Background

Phase 1 of the Minnesota River Basin General Phosphorus Permit (MNG42 Permit) was issued on December 1, 2005, in response to a dissolved oxygen impairment documented in the Lower Minnesota River and in accordance with the Lower Minnesota River Dissolved Oxygen Total Maximum Daily Load (TMDL), which was approved by the U.S. Environmental Protection Agency (EPA) in September of 2004. The purpose of the MNG42 Permit was to reduce phosphorus discharged by point sources to the Minnesota River Basin and achieve the dissolved oxygen water quality standard in the Minnesota River from river mile 22 to its mouth.

The MNG42 Permit originally required 40 existing continuously discharging wastewater treatment facilities upstream of Jordan (river mile 39.4) with a potential to discharge greater than 1,800 pounds per year of phosphorus in the Minnesota River Basin (Basin) to apply for coverage and achieve a 5-Month Mass Limit (Appendix B and Appendix B, Part 2). The MNG42 Permit also requires that all new and expanding continuously discharging phosphorus dischargers apply for MNG42 Permit coverage. Additionally, the MNG42 Permit also lists other classifications of facilities (appendix C, D, E, and F) which were identified in the MNG42 Permit but did not receive phosphorus limits.

The MNG42 Permit set up a framework for trading phosphorus credits to meet the assigned phosphorus limit while making progress toward the phosphorus reduction goal of the Lower Minnesota River Dissolved Oxygen TMDL. The phosphorus credits are identified as Jordan Trading Units (JTUs) among dischargers in the Basin. JTUs are set by a formula which includes a Jordan BOD Factor for each Permittee listed in Appendix B of the MNG42 Permit, which varies based upon their location in the Basin. Trade ratios of 1.1 to 1 for existing credit buyers and 1.2 to 1 for new credit buyers are required for each transaction. The MNG42 Permit requires submittal of Pre-Season Implementation Plans (PIPs) and Annual Compliance reports, unless Permittees request an annual exclusion via an Exclusion Application Form. Permittees participating in JTu trading are also required to submit a legal contract-to-trade form.

Phase 1 of the MNG42 Permit addressed the first five years and established an aggregate 35% reduction from baseline wastewater treatment plant (WWTP) phosphorus loadings. Phase 2 of the MNG42 Permit was planned for years 5-10 and was intended to achieve the full 52% TMDL reduction goal. For a variety of reasons, Phase 2 of the MNG42 Permit was never issued. MNG42 Permittees are still operating under phase 1 of the MNG42 Permit, which expired on November 30, 2010.

The MNG42 Permit also required new and expanded controlled discharge WWTPs in the Minnesota River Basin to be designed and constructed to avoid discharging June 1 through September 30.

River Eutrophication Standards

In 2015 River Eutrophication Standards (RES) were adopted as Minnesota Water Quality Standards, and ambient water quality data demonstrated that the MPCA needed to establish phosphorus limits to prevent ongoing exceedances of RES. RES apply to all river reaches protected for aquatic life and recreation (Class 2), which results in more localized goals for establishing limits than what was established in the MNG42 Permit.

The MPCA has established phosphorus waste load allocations (WLAs) necessary to comply with RES. Although some of the individual RES WLAs are less restrictive than the Lower Minnesota River Dissolved Oxygen TMDL's WLAs, the aggregate sum of the RES WLAs is more restrictive than the aggregate sum of the Lower Minnesota River Dissolved Oxygen TMDL's WLAs. RES WLAs are therefore consistent with attaining the Lower Minnesota River's dissolved oxygen water quality standard. By including RES limits in individual permits to protect local rivers from excess algal growth, the MPCA will also achieve the aggregate WWTP phosphorus load reduction goal specified in the Lower Minnesota River Basin Dissolved Oxygen TMDL. TMDLs for RES impaired reaches of the Minnesota River are expected to be completed in the future.

Therefore, as the MNG42 Permittee's individual permits are re-issued with applicable RES based Total Phosphorus limits, the MPCA plans to incorporate the Exclusion Permit Language outlined below so those permittees will no longer need to comply with the MNG42 Permit. Several new dischargers (since the issuance of the MNG42 Permit) received 0 kg/day May 1-September 30 Lower Minnesota River Dissolved Oxygen TMDL WLAs. These dischargers have offsets under the MNG42 Permit. These offsets will be incorporated into their individual permits.

In practice, this exclusion will mean that Permittees will no longer need to make any of the submittals required by the MNG42 Permit, will no longer need to comply with limits in the MNG42 Permit, and will no longer need to conduct any monitoring required by the MNG42 Permit. The permit language included in the Exclusion Eligibility and Permit Language section below will be included in individual permits and Fact Sheets or Statements of Basis for eligible facilities (those listed in Appendix B and Appendix B, Part 2 of the MNG42 Permit). Facilities whose permits contain schedules to comply with RES based Total Phosphorus Limits in their individual permit, can continue to be a buyer as the means for complying with the MNG42 limit until such time as they achieve compliance with their RES based limits. Facilities who are still selling JTUs to other dischargers under the MNG42 Permit may elect to forgo the exclusion language and remain a full participant in the MNG42 Permit so long there are active MNG42 trade "buyers."

Once all MNG42 Permittees (listed in Appendix B and Appendix B, Part 2) have RES based Total Phosphorus effluent limits incorporated into reissued individual permits and there are no longer active JTu trades, the MPCA intends to terminate the MNG42 Permit.

Exclusion Eligibility and Permit Language

The following conditions must be met for Permittees to qualify for the exclusion:

The Permittee must attain compliance with RES-based total phosphorus limits in their individual permit.

The Permittee must not be a buyer or seller of JTUs under the MNG42 Permit.

The italicized exclusion language will be added to the permit text and Fact Sheet or Statement of Basis of individual permits of MNG42 Permittees.

Under this individual permit, the _____ (Facility) will comply with a Total Phosphorus effluent limit that is consistent with the goals of the Lower Minnesota River Low Dissolved Oxygen TMDL. The Facility also has coverage under the Minnesota River Basin General Phosphorus Permit (MNG42_____) issued on December 1, 2005. The Total Phosphorus effluent limit makes the Facility eligible for exclusion from the monitoring and reporting requirements and effluent limits of MNG42_____. The Facility is therefore excluded from the monitoring and reporting requirements and effluent limits of MNG42_____. The Facility is no longer required to submit a Pre-Season Implementation Plan (PIP) and Annual Compliance Report or an Annual Exclusion Form. The Facility is also no longer required to monitor Total Phosphorus as per the frequency in the MNG42_____ Permit, or comply with effluent limits specified in the MNG42_____ Permit. The Facility should instead comply with the limits and monitoring section of this individual permit. The MNG42 Permit will be terminated once all MNG42 Permittees have been excluded from the MNG42 Permit.

During permit reissuance, the MPCA will determine the Permittee's eligibility for this exclusion. The exclusion language will be put into the individual permit text and Fact Sheet or Statements of Basis. The Permittee will then have 30 days to review and comment on the exclusion. All interested parties will have the opportunity to review and comment on the exclusion during the permit public notice period.

(Table will be updated twice annually in approximately January and June.)

Current exclusion status as of 01/01/2025

Facility	Exclusion Status
ADM Corn Processing - Marshall	No
Amboy WWTP	No
Arlington WWTP	No
Belle Plaine WWTP	Yes, upon attainment of RES limit (Due 12-31-29)
Benson WWTP	No
Blue Earth WWTP	No
Clara City WWTP	Yes
Darling International Inc - Blue Earth	Yes
Fairmont WWTP	Yes, upon attainment of RES limit (Due 12-1-25)
Granite Falls WWTP	Yes, upon attainment of RES limit (Due 12-31-27)
Green Plains Fairmont LLC	No longer meets applicability
Highwater Ethanol LLC	No longer meets applicability
Lake Crystal WWTP	Yes
Le Center WWTP	Yes
Le Sueur WWTP	No
Madelia WWTP	Yes
Mankato WWTP (WRRF)	No
Marshall WWTP	Yes, upon attainment of RES limit (Due 3-1-34)
MG Waldbaum Co - Gaylord	No
Montevideo WWTP	No
New Richland WWTP	Yes
New Ulm WWTP	Yes
Norwood Young America WWTP	No
Olivia WWTP	Yes
POET Biorefining - Lake Crystal	No longer meets applicability
Redwood Falls WWTP	Yes, upon attainment of RES limit (Due 7/1/2030)
Renville WWTP	No
Sacred Heart WWTP	Yes
Saint Clair WWTP	Yes
Saint James WWTP	Yes
Saint Peter WWTP	Yes
Springfield WWTP	No
Starbuck WWTP	Yes
Trimont WWTP	No
Truman WWTP	No
Walnut Grove WWTP	No
Waseca WWTP	Yes
Welcome WWTP	No
Willmar WWTP	Yes
Winnebago WWTP	Yes