

Environmental Quality Board Study of Mandatory Threshold Levels for Environmental Review



WASTEWATER SYSTEMS CATEGORY

Introduction

At its January 2004 meeting, the Environmental Quality Board (EQB) asked its staff to examine the mandatory category threshold levels in the environmental review rules (Mn Rules parts 4410.4300 and 4410.4400). Board members wanted to know if the thresholds are still appropriately placed to balance environmental protection and public benefit with administrative burden.

Potential Changes in the Wastewater Systems Category

After reviewing the data and having discussions with key stakeholders, the following changes are being considered for the Wastewater Systems category:

- 1) For sewer extensions: Keep the mandatory environmental review threshold of 1,000,000 gallons per day (gpd). In addition, add another level for sewer extensions that discharge to larger wastewater treatment facilities (WWTF). If a WWTF that a new sewer extension is discharging to has the capacity of at least 20-50 million gpd, the threshold level would be somewhere between 2-5 million gpd (representing an increase of 10% or less).
- 2) For new WWTF: Change the mandatory environmental review threshold of 50,000 gpd to 200,000 gpd.
- 3) For WWTF expansions: Change the mandatory environmental review threshold of 50,000 gpd to 200,000 gpd and keep the 50% capacity number.
- 4) For industrial WWTF, no change.

Background Information

Current Thresholds

For the Wastewater Systems Mandatory Category, the current thresholds are as follows:

Mandatory Environmental Assessment Worksheet (4410.4300, subpart 18)

- A. For expansion, modification, or replacement of a municipal sewage collection system resulting in an increase in design average daily flow of any part of that system by 1,000,000 gallons per day or more. Responsible government unit: **Minnesota Pollution Control Agency (MPCA)**
- B. For expansion or reconstruction of an existing municipal or domestic wastewater treatment facility which results in an increase by 50 percent or more and by at least 50,000 gallons per day of its average wet weather design flow capacity, construction of a new municipal or domestic wastewater treatment facility with an average wet weather design flow capacity of 50,000 gallons per day or more. Responsible government unit: **MPCA**
- C. For expansion or reconstruction of an existing industrial process wastewater treatment facility which increases its design flow capacity by 50 percent or more and by at least 200,000 gallons per day or more, or construction of a new industrial process wastewater treatment facility with a design flow capacity of 200,000 gallons per day or more, 5,000,000 gallons per month or more, or 20,000,000 gallons per year or more, the PCA shall be the RGU. This category does not apply to industrial process wastewater treatment facilities that discharge to a publicly-owned treatment works or to a tailings basin reviewed pursuant to subpart 11, item B. Responsible government unit: **MPCA**

Mandatory Environmental Impact Statement

There is no threshold triggering a mandatory Environmental Impact Statement in the wastewater systems category.

Data Collected

Environmental Review

Data collection focused on the calendar years 2000 to 2003. During this time period, there were 54 Environmental Assessment Worksheets (EAW) completed under the Wastewater Systems category. The 54 EAWs were of the following types:

- 11 sewer extensions;
- 15 new WWTFs;
- 27 WWTF expansions; and
- 1 industrial expansion

Four WWTF expansion projects and two sewer extension projects went to the MPCA's Citizens' Board for a decision on the need for an Environmental Impact Statement (EIS). The other 48 were not considered controversial and the MPCA Commissioner made the decision that no EISs were needed.

Avoiding Environmental Review

MPCA records were examined to identify potential wastewater treatment projects that did not go through environmental review in calendar years 2000 to 2003. There were approximately 135 projects that did not go through environmental review. (This list comes, in part, from requests for federal or state funding. Not all of the projects on the list were built).

These 135 potential wastewater projects were examined to see if project proposers were designing projects just under the EAW thresholds in order to avoid mandatory environmental review. It appeared only two projects were near the mandatory threshold levels.

By analyzing these 135 projects, it is concluded that the mandatory Wastewater Systems category thresholds were not a significant factor in the decision-making process for many cities. This makes sense since cities must size their WWTF

or sewer system to accommodate wastewater presently generated by the city and into the future.

Telephone Interviews with Project Proposers

Since cities are the project proposers for the Wastewater Systems category, it was suggested that this study gather their opinions about the environmental review process. Separate phone interviews were conducted with representatives from the following projects:

New WWTFs:

Maple Lake/Annandale
Prinsburg
Otsego

WWTF Expansions:

Montrose
Hoffman

Sewer extension:

Elm Creek.

In five cases, the city referred the interview to their consultant.

When asked if they would suggest changing the threshold, only one interviewee suggested raising the threshold for WWTF to 100,000 gpd, the others seem to think they work fine as is. However, there was some consensus with the following comments:

- Relatively few environmental issues surfaced or required project changes because of the EAW;
- The city did not make better decisions on the project because of the EAW; most decisions were fleshed out within the city well in advance of the EAW;
- The water permitting process and the EAWs often repeat the same issues, but the EAW looks at more than just water impacts (wildlife, secondary development); and
- The EAW can be a good communication tool between governmental agencies and/or environmental groups, it has mixed reviews as a communication tool for the public.

Current Water Quality Permitting and Review Procedures for Wastewater Systems

The MPCA has four programs that review WWTF projects and their water discharges: Facility Plan, Effluent Limit Summary, the National Pollutant Discharge Elimination System (NPDES) permit, and the State Revolving Fund (SRF). All are briefly described below.

Facility Plan

An MPCA engineer reviews and must approve a facility plan before a municipality can get on the list for federal funding. Facility Plan requirements are extensive. Below is a list of the some of the information that must be included and approved in a facility plan:

- alternatives considered and reasons for choosing the selected treatment plan;
- location and description of the site, including wetlands on site;
- detailed diagrams of the facility, including specific design parameters of all individual treatment units;
- existing and future (20 years) residential and non-residential wastewater flows;
- analysis of 25 and 100 year flood elevations; and
- the preliminary effluent limit summary.

Effluent Limit Summary

The MPCA sets effluent limits to ensure water quality standards are met and that waters meet their designated uses. All municipal WWTFs are required, at a minimum, to provide secondary treatment. More stringent effluent limits may be assigned to a discharge where stream flows are low during certain times of the year (for example, seasonal ammonia limits).

The MPCA considers a number of factors in developing effluent limits for a particular discharge, including the characteristics of the receiving water (use classification, water-quality standards, flow characteristics) and the discharge (design flow, discharge duration and frequency).

Toxic pollutants may also be evaluated to ensure protection of humans, aquatic life, and wildlife. New or expanded discharges of 200,000 gpd or greater require a nondegradation review.

Discharges of less than 200,000 gpd may also require nondegradation review if certain situations are met.

NPDES permit

Any municipal point source which proposes to discharge treated wastewater to surface waters of the state must apply for an NPDES permit. The permit establishes the terms and conditions that must be met in order to discharge treated wastewater and requires a certified operator to operate the treatment facility. The NPDES permit requires a 30-day public comment period.

The NPDES permit establishes limits on design flows of the facility, the route which treated wastewater will travel to the receiving water, and effluent concentrations for carbonaceous biological oxygen demand (CBOD), total suspended solids (TSS), total phosphorus and ammonia nitrogen. It may also include limits for other pollutants depending on its discharge water and industrial contributors to the WWTF.

State Revolving Fund

The SRF provides loans to municipalities for planning, design and construction of wastewater and stormwater treatment projects. The loan program is administered by two state agencies: the MPCA and the Public Facilities Authority.

In order to receive a SRF loan, the proposer of the project must submit a NEPA-like document with the facility plan called the environmental information worksheet (EIW). The EIW is not as detailed as the EAW and does not have similar public notice requirements. MPCA staff routinely use the EIW for WWTF less than 50,000 gpd. The EAW is now used for SRF reviews for WWTF greater than 50,000 gpd, although an EIW could be used if the threshold was raised.

Adequacy of MPCA's Water Permitting and Review Programs

In the MPCA's permitting and review authorities provide a reasonable level of review and consideration of water quality issues for WWTF projects below the mandatory threshold levels;

therefore, there is no clear need to lower the mandatory threshold numbers.

In addition, the MPCA’s permitting and review programs adequately address environmental issues related to WWTFs, especially new discharges. New or expanded WWTF projects are undertaken for the specific purpose of abating pollution. This is different than other environmental review categories where the new projects are intended for other purposes and pollution abatement is only a secondary consideration.

EAW review occurs as a result of the present threshold levels focused on issues typically outside of the permitting process, such as odor, hydrology, impacts to wetlands, and potential historical/archaeological sites. The impact of new development is also an issue that MPCA staff are frequently asked to address in WWTF and sewer extension EAWs. The WWTFs are being designed for a 20-year design flow. However, unless the development is known at the time of EAW, future development can only be addressed in a generic way.

Rationale for Potential Changes

Raising the Threshold for Sewer Extensions when the Discharge is to a Larger WWTF

Estimated Design Flows for Ten Largest WWTF

Facility Name	Area served	Design Wastewater Flow (Mgpd)
Metropolitan	Mpls/St. Paul & suburbs	251
Western Lake Superior	Duulth/Cloquet & suburbs	56.5
Seneca	South suburbs	34.0
Blue Lake	West and South suburbs	32.0
Rochester	Rochester Area	19.1
Grand Rapids	GrandRapids/ Blandin Paper	15.2
Empire	South suburbs	14.4
St. Cloud	St. Cloud Area	13.0
Albert Lea	Albert Lea Area	12.5
Mankato	Mankato Area	10.0

Depending on where the threshold was set, new sewer connections to the above facilities could be affected. Adding not more than 10 percent to the capacity of a large WWTF should not create impacts beyond those addressed at the time of the original WWTF. In the past four years, this change would have potentially reduced the number of EAWs from 11 to 8.

Raising the Threshold to 200,000 gpd for new and expanding WWTF

Raising this threshold would align it with the industrial wastewater category, which is also 200,000 gpd. This number also coincides with the 200,000 gpd requirement for new discharges to complete a nondegradation review.

In the past four years, 12 out of the 27 WWTF expansions were under 200,000 gpd. However, two of those projects had requests for an EIS. Because of this, we make the assumption that those projects would have completed an EAW through the petition process. Therefore, from past numbers, we can conclude that this change would mean approximately 37% fewer EAWs for WWTF expansions.

In the past four years, 9 out of the 15 new WWTF were under 200,000 gpd. None had requests for an EIS. Therefore, from past numbers, we can conclude that this change would mean approximately 60% fewer EAWs for new WWTFs. In addition, if state SFR funds are used for WWTF between 50,000 gpd and 200,000 gpd, they would still need to complete an EIW.

Wastewater Systems projects are typically needed by municipalities in order to continue to grow or to upgrade outdated or failing treatment processes. Even without environmental review, there are several programs and permits that review WWTF projects and some do require public notice.

The majority of Wastewater Systems projects tend to be noncontroversial. However, the petition process (Minn R. 4410.1100) should pick up any projects under the suggested new thresholds that require further analysis.