REGION 5 NPDES
REAL TIME PERMIT REVIEW
MINNESOTA
FY14

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I. PQR BACKGROUND

National Pollutant Discharge Elimination System (NPDES) Permit Quality Reviews (PQRs) are an evaluation of a select set of NPDES permits to determine whether permits are developed in a manner consistent with applicable requirements established in the Clean Water Act (CWA) and NPDES regulations. Through this review mechanism, EPA promotes national consistency, and identifies successes in implementation of the NPDES program and identifies opportunities for improvement in the development of NPDES permits.

Region 5 selects draft permits for review based on the Clean Water Action Plan principle of identifying water quality problems and utilizing EPA's authority and tools to address them. The Clean Water Action Plan directly calls for utilizing one of the most direct tools that EPA has available to ensure NPDES permits issued by states are protective of water quality, that is to review the permits, and when necessary, object to those permits which do not meet federal standards. Region 5 focuses its resources to reviewing those discharges which pose the greatest threat to vulnerable populations and impaired waters. The Region annually undertakes a process to identify the expiring permits which discharge where there may be environmental justice concerns, drinking water sources, impaired waters, interstate issues, or compliance concerns. In addition, all general permits are reviewed. This selection process was identified as a National Best Practice in FY12. The Region always maintains and frequently exercises its right to review any draft or proposed permits beyond those specifically identified through the process.

Region 5 conducts "real time reviews" of draft NPDES Permits while the permits are being developed and finalized rather than reviewing just those permits that have already been finalized. During FY12-13, Region 5 reviewed Draft permits consistent with the Memorandum of Agreement (MOA) authorizing Minnesota's Pollution Control Agency (MPCA) NPDES program. In addition, the review process requires that a revised copy of the proposed NPDES permit be transmitted to EPA together with a copy of all statements received during the public notice period. EPA's second review ensures that EPA's significant comments are addressed in the final permit. At that time, the national Permit Quality Review (PQR) checklist is filled out. The real time reviews ensure that the permits that are most critical to solving our Region's water quality problems are issued in a form compliant with the CWA and consistent with solving those problems. Completion of the PQR checklist on the final permit ensures a nationally consistent evaluation of permit quality is implemented. The day to day contact between our staff and state permit writers during the real time review process has been an invaluable tool to improve our coordination, communication, and relationship and further our effort to achieve our common water quality goals.

While not all EPA comments must be addressed before any permit proceeds, all significant issues must be resolved. The Region will exercise its authority to object the permit if these significant issues are left unresolved.

In addition to the real time reviews of individual and general permits, the Region has initiated a review of each state's permit templates. The permitting templates, fact sheet and statement of basis templates, and the permitting checklists for Minnesota PCA has been received here in the Region. The Region expects the template reviews and corrections to provide an additional level

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of oversight to ensure that all standardized permit language is consistent with federal permitting requirements and to a mechanism to address several of the significant issues identified in this report. Due to resource constraints and that lack of significant template related issues identified to date through individual permit reviews, Minnesota template reviews have been a lower priority for the region than review of specific state permits.

The Region conducted the substantial portion of the technical review of the following permits under the revised SOP during FY14. As part of this process, Environmental Justice (EJ) standards were incorporated into the Federal/State checklists for Public Wastewater Treatment Works and Industrial facilities. From these applications for reissuance or a modification, a recheck of about 60 permits, were randomly selected each year for FY14 for EJ screening and/or concerns. **(Verify EJ was considered in FY'14)**

The report organized the finding of the reviews as follows: core permit reviews (including national topics) and regional topic area reviews. The permit reviews focused on core permit quality and included a review of the permit application, permit, fact sheet, and available correspondence, reports or documents that provide the basis for the development of the permit conditions.

The core permit review involved the evaluation of selected permits and supporting materials using basic NPDES program criteria. Reviewers completed the core review by examining selected permits and supporting documentation, assessing these materials using standard RTR and PQR tools, and obtaining information regarding the permit development process. The core review focused on the central tenets of the NPDES Permitting program to evaluate the Minnesota PCA NPDES program ([HYPERLINK "http://www.epa.gov/npdes/pubs/tenets.pdf"]). In addition, discussions between EPA and state staff throughout the year addressed a range of topics including program status, the permitting process, responsibilities, organization, and staffing. National topic area permit reviews are conducted to evaluate specific issues or types of permits in all states during the year that those topic area permits are developed.

Regional topic area reviews focus on regionally-specific permit types or particular aspects of permits that the EPA Region determines are of regional interest. The regional topic areas selected by EPA Region 5 included: mining, nutrient s, thermal, combined sewer overflows (CSOs) and sanitary sewer overflows (SSOs).

A total of eight permits were substantially reviewed as part of this report. EPA Region 5 developed a permit selection matrix and state specific GIS tools to identify permits significant to implementing national and regional priorities. The list of permits reviewed are listed in Table 1 below:

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The Region conducted substantial portion of the technical review of the following permits under the revised SOP during FY2014

Table 1

NPDES ID	Facility Name	Facility Type	Impaired Waters	Lake Erie Basin	Drinking Water Intake	Enforcement	Wild Rice - 1mile/5miles	Excess Flow	Additional
MN0000256	Saint Paul Park Refining Co LLC	Non-POTW				√	√		
MN0000892	Xcel – Riverside Generating plant	Non-POTW							Power plant
MN0023973	Litchfield	POTW	√						
MN0024571	Red Wing	POTW							
MN0049786	Western Lake SSD	POTW	√			√	√		
MNG250000	Non-Contact Cooling Waters - Untreated	GP							General permit
MNG255000	NCCW - Uncontaminated Once-Through or Treated	GP							General permit
MNG640000	Water Supply	GP							General permit

II. STATE PROGRAM BACKGROUND

MPCA's general authority to enforce environmental laws and administer a permit program is set forth in the Minnesota Environmental Protection Act, Laws 1973, Chapter 412, (the Act), at Section 116D.01. The State's Water Pollution Control Act is contained in Minn. Stat. Chapter 115. The MPCA implements its regulatory program for point source discharges by way of the NPDES and water quality standards programs, the former of which establishes NPDES permitting requirements for various classes of sources necessary to adopt substantive effluent limits under Chapter 7001 (Permits and Certifications) and Chapter 7050 (Water Quality Standards), respectively, of the Minnesota Administrative Rules. *See* Minn. Adm. R. §§ 7001 and 7050. In particular, the Environmental Protection Act authorizes the MPCA Board "to promote efforts that will prevent or eliminate damage to the [water] environment…" This includes regulations, requirements, effluent standards, water quality standards, standards for the issuance of permits, and inspection and monitoring requirements. Minnesota Environmental Protection Act, Chapter 116D. The Act directs the MPCA Board to adopt requirements, standards, and procedures which will enable the State to participate in and implement the NPDES program. The Water Pollution Control Act provides that "the agency shall have the authority to perform any and all acts minimally necessary including, but not limited to, the establishment of … permit conditions, consistent with and, therefore, not less stringent than, the provisions of the Federal Water Pollution Control Act, as amended…" Minn. Stat. § 115.03, Subd. 5.

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Regulations adopted by the Minnesota PCA Board prohibit the discharge of pollutants to waters of the State without an NPDES permit, and require compliance by permittees with effluent limitations and standards as established in permits. See Minn. Adm. R. §§ 7001 and 7050. Minn. Adm. R. §§ 7001.0040 and 7001.0050 establish permit application requirements for new and existing dischargers. Existing dischargers are required to apply for a permit at least 180 days before the expiration date of the existing permit or the planned date of the commencement of facility construction or of the activity. New dischargers are required to apply for a permit no later than 180 days in advance of the date on which the facility is to commence operation. Minn. Adm. R. § 7001.0040, Subparts 1 and 3.

A. Program Structure

MPCA develops, issues, and administers NPDES permits in Minnesota. The NPDES's program is regionalized in 6 regions including the main office located at 520 Lafayette Road, St. Paul, Minnesota. There are seven field offices located in Minnesota in Brained, Detroit Lakes, Duluth, Mankato, Marshall, Rochester, and Willmar. Each office is responsible for NPDES permitting, inspections, and enforcement but some permits are developed and issued by district offices, some involve a combination of staff from district and central offices, and some permits are developed and issued by the central office. The State Public Facilities Authority, Department of Health, Department of Natural Resources, Department of Economic Development, and Department of Agriculture are occasionally involved in the permitting process.

The Clean Water Act, §402(c)(2), requires states with approved NPDES programs, including Minnesota, to administer their programs in accordance with CWA §402 and the regulations EPA established under CWA §304(i)(2) at all times. These regulations appear at 40 C.F.R. Part 123. They require approved states to prohibit the discharge of pollutants from point sources unless the discharge is in compliance with an NPDES permit. They also establish requirements regarding: (1) the submission of NPDES permit applications to, and processing of NPDES permit applications (2) and development of permits by, approved states (see 40 C.F.R. §123.25), (3) state programs for evaluating compliance by point sources (see 40 C.F.R. §123.26), and (4) state enforcement authority (see 40 C.F.R. §123.27). MPCA's procedures and/or guidance for developing NPDES permits are in the permit writers manual and the permitting process checklists along with WQBEL checklists. Permits are logged, tracked and reviewed through Minnesota's permit compliance system, permitting, compliance, and enforcement information management system, which facilitates the issuance of permits and manages compliance.

MPCA currently uses the Delta database that contains all NPDES related data. Also a generated NPDES/SDS Permit Procedural Checklist. This document provides detailed internal directions for application reviews, documented approvals from other staff at each stage of the review process. Other systems presently in use Access, Excel and EQUIS data systems also support NPDES permit development and implementation. Permits applications are routed automatically to the permit writer assigned in Delta for a 30-day application completeness review. MPCA uses standard templates that are auto filled by the database. All permit language and limits and monitoring requirements are written in the database and used to produce the permit. Attached is a copy of MPCA's electronic NPDES/SDS Permit Procedural Checklist generated from this database. This checklist provides detailed internal directions for application reviews, facility operations, requirements and limitations, sampling and monitoring, technical documents, or other

forms of reports or any permit conditions including documented approvals from other staff at each stage of the review process of new, renewal, modification and/or transfers down to the issuance of the permit.

Once a preliminary review by the Minnesota Permit Document Coordinator is complete that includes verification of receipt of correct application, forms and fee indicated on the Permit Application Checklist, under Minn. Stat. 116.03, there should be sufficient details to allow for drafting and issuance of a permit. If the information on application provided is determined to be sufficient and complete. Minn. Adm. R. § 7001.0150, Subp. 2, provides that "each draft and final permit must contain conditions necessary for the permittee to achieve compliance with applicable Minnesota or federal statutes or rules, including each of the applicable requirements in parts 7045.0450 to 7045.0649 and 7045.1390, and any conditions that the agency determines to be necessary to protect human health and the environment." Minn. Adm. R. § 7053.0205, Subp. 6, provides that "the requirements of [chapter 7053] ... are in addition to any requirements imposed on a discharge by the Clean Water Act, United States Code, title 33, sections 1251 et seq., and its implementing regulations.

In the case of a conflict between the requirements of [chapter 7053], chapters 7050 and 7052, and the requirements of the Clean Water Act or its implementing regulations, the more stringent requirement controls."

To assure that permits are issued in a timely manner Minnesota Stat 116.03 goal is to issue permits within 150-days of receipt of a complete application and the permit will need to be on public notice within 115-days. If the application is incomplete MPCA notifies applicants of incomplete applications within 30 days. In addition to the above, Minn. R. 7001.0150 subp 3 item G requires that incomplete or incorrect reports of information may be amended, if possible, electronically. MPCA must be notified and MPCA will provide direction for the amendment submittals

Application forms are available on-line at http://www.pca.state.mn.us/water/permits/index.html. Expiring permits are flagged within the system and a reminder of renewal letter is sent out to those facilities 180. Renewal applications of prior permits have / are revised and updated before reissuance. If a permit application for renewal has not been received 180 days prior to permit expiration, MPCA contacts the Permittee to complete and obtain a permit application.

The Effluent Limits Unit staff set WQBELs; TMDL staff; data management staff; MNIT staff; and surface water sampling staff are involved in the permitting process. Upon the permit writers request the Effluent Limits staff identifies any incomplete information or additional information required within 10-days of receipt of request of the review.

The Supervisor and the Basin Planners/TMDL staff in which the facility is located are contacted to see if there are any issues with the facility's discharge as it pertains to the location basin and Total Maximum Daily Load (TMDL) projects on particular steam reaches.

Determination of reasonable potential and calculation of water quality based effluent limits for toxic pollutants are done on a spreadsheet derived from EPAs Technical Support Document for Water Quality – based Toxics Control. When necessary MPCA uses CORMIX to calculate

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mixing zones. For most parameters, dilution is determined with the use of stream flow design estimates (e.g. $7Q_{10}$).

The commissioner must give public notice of a completed NPDES permit application for new municipal discharges in the official county newspaper of the county where the discharge is proposed. In addition to other steps that are done for public notice of a permit, public notice for a general permit requires publication in the State Register in accordance with Minn. R. 7001.0210, subp. 4. MPCA uses an e-public notice system.

Peer reviews are made by other permit writers and other appropriate staff, including supervisor(s) and the permit compliance/enforcement staff, engineering staff, basin planner, etc. review the draft permit; make appropriate changes before printing of the final draft for public notice. In some cases, as in mining permits, other state agencies also participate in the peer review, such as the Minnesota Department of Natural Resources. If the permit contains new monitoring requirements, a compliance schedule, or something out of the ordinary, a pre-public notice draft is routed and sent to the Permittee, the data and information management staff for review and comment prior to the formal public notice permit.

Permit files and the administrative record are kept both in paper and electronic format. Electronic files are kept in the DELTA database. The Northeast Region minor facility files are maintained in the Duluth Regional Office. For municipal/domestic facilities, Permit files are maintained electronically, as well as the physical files. The Administrative Record or Administrative Document Set with its specific naming convention for specific documents (Table of Contents, Fact Sheet, Statement of Basis, Notice of Intent, etc. is "sketched out" by the system automatically in DELTA and available electronically.

B. Universe and Permit Issuance

While the universe of permits and the percentage of those current fluctuates throughout the year, based on information provided at the time of drafting of this report, MPCA reported that it administers permits for the following:

- POTWs
  - 75 major and 268 minor; 0 of these facilities have CSOs
- non-municipal facilities
  - 25 major and 345 minor
- 1378 concentrated animal feeding operations (CAFO) facilities
- Stormwater general permits covering:
  - 235 municipal permittees (municipal separate storm sewer systems (MS4s))
  - 1411 industrial permittees – active no exposure
  - 815 construction permittees.
- MPCA also has non-stormwater general permits that cover 276 permittees for facilities engaged in activities such as non-contact cooling water, controlled domestic stabilization pond, water treatment plant backwash, contaminated groundwater pump out, and non-metallic mining 4-pesiticide, industrial stormwater, construction stormwater, MS4, and feedlots.

The MPCA estimates that 32 percent of NPDES major permits and 12 percent of NPDES minor permits are expired and administratively continued (backlogged). There are 18 expired permits for mines and mining related activities (1 Major, 17 Minors). Eight permits have been expired for more than 10 years (1 Major, 7 Minor permits).

The federal regulation at 40 C.F.R. §122.44 (made applicable to states by 40 C.F.R. §123.25(a)(15)) addresses a variety of topics, such as technology-based effluent limitations and standards, and implementing water quality standards and state requirements, including water quality criteria expressed in either a numeric or narrative fashion. The regulation at 40 C.F.R. §122.44(d)(1) requires that permits include any requirements necessary to achieve water quality standards established under section 303 of the CWA, including state narrative criteria. Section 122.44(d)(l)(i) requires that limitations must control all pollutants that "are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any state water quality standard." Section 122.44(d)(l)(ii) further provides that when conducting such a reasonable potential analysis, the permitting authority "shall use procedures" that account for certain specified factors in the regulation. Section 122.44(d)(l)(vii) provides that limitations must be derived from and comply with water quality standards and must be consistent with the assumptions and requirements of any approved TMDL. Technology-based effluent limits (TBELs) in NPDES permits are determined by using one or more of the following:

1) National standards for municipal dischargers or effluent guideline regulations (BPT, BCT, BAT, and NSPS) established by EPA for various industrial categories;
2) Case-by case analyses based on best professional judgment (BPJ).

Case-by-case BPJ limits are determined using: 1) permit file information (e.g., current and previous NPDES application forms and correspondence files; previous NPDES permit and fact sheet; statistical evaluation of effluent performance data from discharge monitoring reports (DMRs); compliance inspection reports); 2) information from existing facilities and permits (e.g., NPDES Individual and general permits for other NPDES permits issued to facilities in the same region or state, or that include case-by-case limitations for the same pollutants; toxicity reduction evaluations (TREs) for selected industries; ICIS-NPDES data; literature (e.g., technical journals and books); treatability manuals, state guidance documents); and 3) effluent guidelines development and planning information (industry experts within EPA headquarters, EPA Regions, and states; ELG Technical Development Documents, CWA section 308 questionnaires, proposed and final regulations, and EPA guidance manuals; EPA's Technical Support Documents (TSDs)).

MPCA recognizes that the maintenance of existing high quality in some waters of outstanding resources value to the state is essential to their function as exceptional recreational, cultural, aesthetic, or scientific resources. To preserve the value of these special waters, the agency prohibits or stringently controls new or expanded discharges from either point or nonpoint sources to outstanding resource value waters.

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Monitoring frequencies for municipal dischargers are based on a matrix that has been established for POTWs. Monitoring requirements for non-municipal dischargers (industrial) are based on guidance established and available to permit writers

Once the public notice, draft permit, and fact sheet are finalized, the signed public notice is sent to the local newspaper for publication, and there is a 30-day period for public review and comment. Any comments are reviewed by MPCA staff, who develop written responses that are included in the administrative record.

III. CORE REVIEW FINDINGS

A. Basic Facility Information and Permit Application

1. Facility Information

Basic facility information is necessary to properly establish permit conditions. For example, information regarding facility type, location, processes and other factors is required by NPDES permit application regulations (40 CFR §122.21) because it is essential for developing technically sound, complete, clear and enforceable permits. Similarly, fact sheets must include a description of the type of facility or activity subject to a draft permit.

The 17 Minnesota NPDES permits and fact sheets, and one SDS permit with NPDES elements, reviewed during the core review include permit issuance, effective and expiration dates, authorized signatures, and contain specific authorization-to-discharge information. These permits and fact sheets identify the location of the facility, identify the receiving waterbody by name and include a description of the types of activities and treatment, and identify outfalls. The fact sheets discuss the designated uses and any impairment of the receiving waterbodies. The SDS permit authorized a discharge to ground water only yet it contained numerous references to the CWA and NPDES.

2. Permit Application Requirements

Federal regulations at 40 CFR §§122.21 and 122.22 specify application requirements for permittees seeking NPDES permits. Although federal forms are available, authorized states are also permitted to use their own forms provided they include all information required by the federal regulations. This portion of the review assesses whether appropriate, complete, and timely application information was received by the state and used in permit development. In general, MPCA provided current, appropriate, and complete permit applications. No significant issues were noted.

B. Technology-based Effluent Limitations

NPDES regulations at 40 CFR §125.3(a) require that permitting authorities develop technology-based requirements where applicable. Technology based effluent limitations (TBELs) represent the minimum level of control that must be imposed in a permit. Permits, fact sheets and other

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supporting documentation for POTWs and non-POTWs were reviewed to assess whether TBELs were properly incorporated in to the state's permits.

1. TBELs for POTWs

POTWs must meet secondary or equivalent to secondary standards (including limits for BOD, TSS, pH, and percent removal) and must contain numeric limits for all of these parameters (or authorized alternatives) in accordance with the Secondary Treatment Regulations at 40 CFR Part 133. A total of 4 POTW permits were reviewed. No significant comments were noted.

EPA recommends that MPCA improve the clarity and accuracy of **Mercury Limits and Monitoring Requirements** by stating in Chapter 4 of the permit that, (a) the monthly average and daily maximum limitations for total mercury (as Hg) apply year-round, and (b) that sampling to ensure compliance with these limits shall be done, at minimum, twice per month during the months of January, March, May, July, September and November. **(Recommendation - effluent limits and monitoring requirements)**

2. TBELs for Non-POTW Dischargers

Permits issued to non-POTWs must require compliance with a level of treatment performance equivalent to Best Practicable Control Technology Currently Available (BPT), Best Available Technology Economically Achievable (BAT), and Best Conventional Pollutant Control Technology (BCT) for existing sources, and consistent with New Source Performance Standards (NSPS) for new sources. Where federal effluent limitations guidelines (ELGs) have been developed for a category of dischargers, the TBELs in a permit must be based on the application of these guidelines. If ELGs are not available, a permit must include requirements at least as stringent as BPT/BAT/BCT developed on a case-by-case using best professional judgment (BPJ) in accordance with the criteria outlined at 40 CFR §125.3(d).

C. Water Quality-Based Effluent Limitations

The NPDES regulations at 40 CFR §122.44(d) require permits to include any requirements in addition to or more stringent than technology-based requirements where necessary to achieve state water quality standards, including narrative criteria for water quality. To establish such "water quality-based effluent limits" (WQBEL), the permitting authority must evaluate the proposed discharge and determine whether technology-based requirements are sufficiently stringent, and whether any pollutants or pollutant parameters could cause or contribute to an excursion above any applicable water quality standard.

The permit reviews for Minnesota assessed the processes employed by permit writers and water quality modelers to implement these requirements. Specifically, the reviewed permits, fact sheets, and other documents in the administrative record to evaluate how permit writers and water quality modelers:

- determined the appropriate water quality standards applicable to receiving waters,

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- evaluated and characterized the effluent and receiving water including identifying pollutants of concern,
- determined critical conditions,
- incorporated information on ambient pollutant concentrations,
- assessed any dilution considerations,
- determined whether limits were necessary for pollutants of concern and, where necessary,
- calculated such limits or other permit conditions.

For impaired waters, the reviews also assessed whether and how permit writers consulted and developed limits consistent with the assumptions of WLAs established in applicable EPA-approved total maximum daily loads (TMDLs). The following WQBELs related comments were generated during the reviews:

D. Monitoring and Reporting

NPDES regulations at 40 CFR §122.41(j) require permittees to periodically evaluate compliance with the effluent limitations established in their permits and provide the results to the permitting authority. Monitoring and reporting conditions require the permittee to conduct routine or episodic self-monitoring of permitted discharges and where applicable, internal processes, and report the analytical results to the permitting authority with information necessary to evaluate discharge characteristics and compliance status.

Specifically, 40 CFR §122.44(i) requires NPDES permits to establish, at minimum, annual monitoring for all limited parameters sufficient to assure compliance with permit limitations, including specific requirements for the types of information to be provided and the methods for the collection and analysis of such samples. In addition, 40 CFR §122.48, requires that permits specify the type, intervals, and frequency of monitoring sufficient to yield data which are representative of the monitored activity. The regulations at 40 CFR §122.44(i) also require reporting of monitoring results with a frequency dependent on the nature and effect of the discharge.

E. Special and Standard Conditions

Federal regulations at 40 CFR §122.41 require that all NPDES permits, including NPDES general permits, contain an enumerated list of "standard" permit conditions. Further, the regulations at 40 CFR §122.42 require that NPDES permits for certain of dischargers must contain additional standard conditions. Permitting authorities must include these conditions in NPDES permits and may not alter or omit any standard condition, unless such alteration or omission results in a requirement more stringent than required by the federal regulations.

In addition to standard permit conditions, permits may also contain additional requirements that are unique to a particular permittee or discharger. These case-specific requirements are generally referred to as "special conditions." Special conditions might include requirements such as:

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additional monitoring or special studies (e.g., pollutant management plan, mercury minimization plan); best management practices [see 40 CFR §122.44(k)], or permit compliance schedules [see 40 CFR §122.47]. Where a permit contains special conditions, such conditions must be consistent with applicable regulations. The permit does not establish requirements/timetables for communities to implement the SWPPP in new areas added to the MS4 (e.g., an adjacent unincorporated area is annexed, or a new subdivision is built). (MS4)

F. Administrative Process

The administrative process includes documenting the basis of all permit decisions (40 CFR §124.5 and 40 CFR §124.6), coordinating EPA and state review of the draft (or proposed) permit (40 CFR 123.44), providing public notice (40 CFR §124.10), conducting hearings if appropriate (40 CFR §124.11 and 40 CFR §124.12), responding to public comments (40 CFR §124.17), and modifying a permit (if necessary) after issuance (40CFR §124.5). No items other than those already discussed in the fact sheet portion of the report were noted.

G. Administrative Record

The administrative record is the foundation that supports the NPDES permit. If EPA issues the permit, 40 CFR §124.9 identifies the required content of the administrative record for a draft permit and 40 CFR §124.18 identifies the requirements for final permits. Authorized state programs should have equivalent documentation. The record should contain the necessary documentation to justify permit conditions. At a minimum, the administrative record for a permit should contain the permit application and supporting data, draft permit, fact sheet or statement of basis, all items cited in the statement of basis or fact sheet including calculations used to derive the permit limitations, meeting reports, correspondence between the applicant and regulatory personnel, all other items supporting the file, final response to comments and, for new sources where EPA issues the permit, any Environmental Assessment, Environmental Impact Statement, or Finding of No Significant Impact.

The available permit records included the permit, fact sheet, application (including data), comment/response documents.

Current regulations also require that fact sheets include information regarding the type of facility or activity permitted, the type and quantity of pollutants discharged, the technical, statutory, and regulatory basis for permit conditions, the basis and calculations for effluent limits and conditions, the reasons for application of certain specific limits, rationales for variances or alternatives, contact information, and procedures for issuing the final permit. Generally, the administrative record includes the permit application, the draft permit, any fact sheet or statement of basis, documents cited in the fact sheet or statement of basis, and other documents contained in the supporting file for the permit.

The fact sheet and supporting documentation were reviewed with the administrative record.

Documentation of Effluent Limitations

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Permit records for POTWs and industrial facilities should contain comprehensive documentation of the development of all effluent limitations. Technology based effluent limits should include assessment of applicable standards, data used in developing effluent limitations, and actual calculations used to develop effluent limitations. The procedures implemented for determining the need for water quality-based effluent limitations, whether contained in the fact sheet or permit record, should be clear and straightforward in explaining the basis for establishing water quality-based effluent limitations, or for determining that water quality-based effluent limitations are not necessary for the discharge. The permit writer should adequately document changes from the previous permit, ensure draft and final limitations match (unless the basis for a change is documented), and include all supporting documentation in the permit file.

The permits and fact sheets developed for municipal facilities that were part of the core review provide a description of the wastewater treatment processes and describe in the fact sheet the basis of TBELs. Similarly, the fact sheets for the four non-municipal permits reviewed include a good description of the facility including processes, wastestreams and pollutants, and treatment, as well as the applicable standards and any special considerations.

H. National Topic Areas

National topic areas are specific aspects of the NPDES permit program that warrant review based on the specific requirements applicable to the selected topic areas. These topic areas have been determined to be important on a national level.

1. Nutrients

For more than a decade, both nitrogen and phosphorus pollution have consistently ranked among the top causes of degradation of surface waters in the U.S. Since 1998, the EPA has worked at reducing the levels and impacts of nutrient pollution and, as a key part in this effort, has provided support to states to encourage the development, adoption and implementation of numeric nutrient criteria as part of their water quality standards (see the EPA's *National Strategy for the Development of Regional Nutrient Criteria*). In a 2011 memo to the EPA regions titled *Working in Partnerships with States to Address Nitrogen and Phosphorus Pollution through use of a Framework for State Nutrient Reductions*, the Agency announced a framework for managing nitrogen and phosphorus pollution that in part relies on the use of NPDES permits to reduce nutrient loading in targeted or priority watersheds.

To assess how nutrients are addressed in the Minnesota NPDES program, EPA Region 5 reviewed 6 POTW permits as well as relevant supporting documents.

Critical Findings

2. Pesticides

Critical Findings

None - The Region did not review the permit during FY12 and 13.

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3. Pretreatment

The general pretreatment regulations (40 CFR 403) establish responsibilities of federal, state, and local government, industry and the public to implement pretreatment standards to control pollutants from industrial users which may cause pass through or interfere with POTW treatment processes or which may contaminate sewage sludge.

Background

The goal of this pretreatment program review was to assess the status of the pretreatment program in Minnesota, as well as assess specific language in POTW NPDES permits. MPCA is authorized to implement the pretreatment and sludge NPDES program components. With respect to NPDES permits, focus was placed on the following regulatory requirements for pretreatment activities and pretreatment programs:

- 40 CFR §122.42(b) (POTW requirements to notify Director of new pollutants or change in discharge);
- 40 CFR §122.44(j) (Pretreatment Programs for POTWs);
- 40 CFR §403.8 (Pretreatment Program Requirements: Development and Implementation by POTW);
- 40 CFR §403.9 (POTW Pretreatment Program and/or Authorization to revise Pretreatment Standards: Submission for Approval);
- 40 CFR §403.12(i) (Annual POTW Reports); and
- 40 CFR §403.18 (Modification of POTW Pretreatment Program).

The report also summarizes the following: Program Oversight (number of audits and inspections conducted; numbers of significant industrial users (SIUs) in approved pretreatment programs; numbers of categorical industrial users (CIUs) discharging to municipalities that do not have approved pretreatment programs); and the status of implementation of changes to the general pretreatment regulations at 40 CFR part 403 adopted on October 14, 2005 (known as the streamlining rule).

Critical Findings

4. Storm water

The NPDES program requires storm water discharges from certain municipal separate storm sewer systems (MS4s), industrial activities, and construction sites to be permitted. Generally, the EPA and NPDES-authorized states issue individual permits for medium and large MS4s and general permits for smaller MS4s, industrial activities, and construction activities.

Background

The Minnesota stormwater permits at the time of the report were as follows:

- 248 Phase I MS4s

Region 5 reviewed only the NPDES stormwater general permit during the period.

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Critical Findings

IV. REGIONAL TOPIC AREA FINDINGS

A. Combined Sewer Overflows (CSOs)

Combined sewers were built to collect primarily domestic wastewater discharges, as well as storm water runoff, and transport this combined wastewater to treatment facilities. During larger wet weather events, the volume of storm water entering the combined sewer system may exceed the capacity of the combined sewers or the treatment plant. When this happens, combined sewers are designed to allow a portion of the untreated combined wastewater to overflow into the nearest stream, river, or lake.

CSOs contain not only storm water but also untreated domestic and possibly industrial wastewaters. CSOs are among the major sources responsible for beach closings, shell fishing restrictions, aesthetic impairments and other water impairments. As of 2012, MPCA identified two potential CSO communities. Of those only the Red Wing Permit was reviewed. Since the facility separated their system several years ago, no CSOs are authorized by the permit.

B. Sanitary Sewer Overflows (SSOs) and Bypasses

Background

Properly designed, operated, and maintained sanitary sewer systems are meant to collect and transport all of the wastewater flows into them to a POTW. However, periodic, unintentional discharges of untreated wastewater, sanitary sewer overflows (SSOs) from municipal sanitary sewers occur in almost every system. SSOs have a variety of causes, including but not limited to, blockages, line breaks, sewer defects that allow storm water and groundwater to overload the system, lapses in sewer system operation and maintenance, power failures, inadequate sewer design and vandalism.

Older collection system infrastructure can also permit storm water and snow melt to infiltrate sanitary sewer systems. During significant wet weather events it is possible for influent flows to exceed the design capacity of the treatment system. These wet weather flows are sometimes diverted around secondary treatment units and then either recombined with flows from the secondary treatment units or discharged directly into receiving waters from the treatment plant in order to prevent any damage to the treatment facility. These are referred to as bypasses. Of the ten permits reviewed as part of the core review, all six municipal permits contained SSO and bypass requirements and provisions.

Critical Findings

C. Mining

Metallic Mining can be an economic boon to communities and states but also has the potential to cause serious harm to the environment. Responsible and protective management of large volumes of waste rock, tailings, and slurry from extraction and processing of ore during the life of the mine is a challenge for the industry. These waste materials generally remain after mine site closure and have the potential to adversely impact water quality and aquatic ecosystems for years to come. During the period the Region began a comprehensive review of NPDES permit activities due to the increase in exploration and mine expansion proposals along with proposals for new mining operations in both unmined and previously mined areas. Many permits were long expired and were not adequately controlling the current discharge of pollutants. MPCA was heavily focused on permitting new and expanded facilities due to the economic lift such operations could bring to the communities.

Critical Findings

V. ACTION ITEMS

This section provides a summary of the main findings of the review and provides proposed Action Items to improve MPCA's NPDES permit programs. This list of proposed Action Items will serve as the basis for ongoing discussions between U.S. EPA Region 5 and MPCA as well as between EPA Region 5 and EPA HQ. These discussions should focus on eliminating program deficiencies to improve performance by enabling good quality, defensible permits issued in a timely fashion.

The proposed Action Items are divided into three categories to identify the priority that should be placed on each Item and facilitate discussions between Regions and states.

- **Critical Findings** (Category One) - Most Significant: Proposed Action Items will address a current deficiency or noncompliance with respect to a federal regulation.
- **Recommended Actions** (Category Two) - Recommended: Proposed Action Items will address a current deficiency with respect to EPA guidance or policy.
- **Suggested Practices** (Category Three) - Suggested: Proposed Action Items are listed as recommendations to increase the effectiveness of the State's or Region's NPDES permit program.

The critical findings and recommended action proposed action items should be used to augment the existing list of "follow up actions" currently established as an indicator performance measure and tracked under EPA's Strategic Plan Water Quality Goals and/or may serve as a roadmap for modifications to the Region's program management.

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A. Basic Facility Information and Permit Application

The Minnesota permit, fact sheets, and files that were reviewed provide a good level of facility information on which to base permit requirements. Permit applications appear to meet requirements for timing and completeness. Proposed Action Items to help MPCA strengthen its NPDES permit program include the following:

B. Technology-based Effluent Limitations

For the most part, the Minnesota permits reviewed properly implement TBELs for municipal and non-municipal facilities. Proposed Action Items to help the MPCA strengthen its NPDES permit program include the following:

C. Water Quality-Based Effluent Limitations

For most parameters, the fact sheets reviewed provide a very good narrative of the process Minnesota EPA uses to determine if WQBELs are required. Proposed Action Items to help the MPCA strengthen its NPDES permit program include the following:

D. Monitoring and Reporting

Generally, monitoring and reporting requirements in the permits reviewed appeared to be consistent with program requirements. Proposed Action Items to help MPCA strengthen its NPDES permit program include the following:

E. Special and Standard Conditions

The standard conditions reviewed appeared at times, inconsistent with federal requirements. Legal review of the state's extensive template system may be resource intensive. The special conditions appeared to be appropriate and reasonably documented. The Bypass standard condition was revised in the context of the review of Litchfield permit.

- No action items at this time

F. Administrative Process (including public notice)

Several of the permits reviewed contained substantive changes between public notice and final issuance. Proposed Action Item to help MPCA strengthen its NPDES permit program include the following:

G. Documentation (including fact sheet)

The fact sheets reviewed were generally found to be complete. Proposed Action Items to help MPCA strengthen its NPDES permit program include the following:

H. National Topic Areas

Proposed Actions Items for national topic areas are provided below.

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1. Nutrients

Minnesota has developed numeric water quality criteria for total phosphorus for lakes and reservoirs and is in the process of developing criteria for rivers and streams. Where TMDLs have been completed for nutrient impaired waterbodies, permits contained phosphorus limits based on wasteload allocations contained in a TMDL. The Region is in the process of reviewing a petition to withdraw the state NPDES program based in part, on the alleged state failure to implement their narrative criteria in permits. Several permits reviewed by EPA where the Region raised concerns about phosphorus limitations have yet to be issued. Proposed Action Items to help MPCA strengthen its NPDES permit program include the following:

2. Pesticides

While the Minnesota PGP was not reviewed in detail during the year it was reviewed at the time of issuance and is very similar to the federal PGP and the state permit requirements appear to be consistent with federal NPDES pesticide permitting requirements. No Action Items for NPDES pesticides permitting were identified.

3. Pretreatment

The permits reviewed for pretreatment appeared to contain standard pretreatment boilerplate language that meets federal requirements and the fact sheets adequately describe the programs for each of the permits and municipalities. No Action Items for pretreatment were identified.

4. Stormwater

The two storm water permits that EPA reviewed were general permits for construction sites and MS4s, which are more recent, appear to meet or be more prescriptive than the minimum requirements. While numerous minor comments were noted which in combination improved the clarity and enforceability of the permits, no significant Action Items were identified.

I. Regional Topic Areas

Proposed Actions Items for regional topic areas are provided below.

1. Combined Sewer Overflows

Overall, the requirements of the CSO program and incorporation of requirements in NPDES permits are consistent with those required. The state no longer has CSO facilities permitted in the state. The Red Wing facility had CSOs at one time but they have been eliminated. No significant issues were identified. No Action Items for CSOs were identified.

2. Sanitary Sewer Overflow and Bypass

No significant SSO or Bypass issues were identified. Proposed Action Items to help MPCA strengthen its NPDES permit program include the following:

3. Mining

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Overall, mining NPDES permits are not current and this fact along with an anticipated increase in applications for new and expanded operations creates a substantial workload and environmental vulnerability.

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J. Review Permits Status

Permit Review Table
Issuance Dates and Status of Proposed Significant Comments on Permits Reviewed in CY'14
Table 2

NPDES ID	Issuance Date	T-TBELs	WQBELs	Nutrients	Monitoring/Limits	316 (a)	316 (b)	Excess Flow/ Wet Weather	Special Conditions	Compliance Schedules	Pretreatment	Standard Conditions	Reasonable Potential	Antidegradation	Permit Application	Bypass	New Discharge to Impaired waters	Administrative Record	Comments Addressed Yes/No
MN0000256	6/3/2014																		
MN0023973	7/1/2014				√														
MN0024571	1/1/2014																		
MNG250000	6/12/2014																		
MNG255000	6/12/2014																		

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Conclusion

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