

Region 5 NPDES Program and Permit Quality Review

Wisconsin

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Executive Summary

This report presents results of a Program and Permit Quality Review (PQR) of the Wisconsin Department of Natural Resources (WDNR or Department) National Pollutant Discharge Elimination System (NPDES) in Region 5. The PQR was conducted in July 2020 by the U.S. Environmental Protection Agency (EPA) under the authority of the Clean Water Act (CWA) to provide oversight of the state NPDES program. Helping states ensure that their NPDES permits are consistent with Federal requirements is a fundamental priority for EPA.

The review examined WDNR's NPDES administrative record for selected permits, gathered information from the State about their NPDES program structure and organization, and involved conference calls and virtual meetings where the EPA review team spoke with WDNR permitting staff and shared preliminary findings with the State. The review followed the EPA's national NPDES PQR Standard Operating Procedure (SOP), examining permit and program "core" elements, and permit requirements associated with national topic areas for the current PQR cycle. Core elements include permit administration, effluent limits, monitoring requirements, standard conditions, and special conditions. National topic areas for the fiscal year (FY) 2018 – 2022 PQR cycle are Permit Controls for Nutrients in impaired waters before approval of a Total Maximum Daily Load (TMDL), Effectiveness of Publicly-owned Treatment Works (POTW) NPDES Permits with Food Processor Contributions, and Small Municipal Separate Storm Sewer System (MS4) Permit Requirements. EPA Region 5 did not choose any regional topic areas for the Wisconsin PQR.

As of July 2020, WDNR administers 1,257 individual and 36 general NPDES permits. From this universe, the PQR selected permits issued between fiscal year 2018 and 2019 that had not undergone EPA real-time review. The selection methodology met the minimum number of permit types and facility sizes prescribed in the SOP. Ten individual permits were reviewed: 8 municipal permits, 2 non-municipal individual permits, and the small MS4 General Permit (GP).

Major Findings

WDNR strives to uphold the mission of the CWA through its dedication to improving program administration through implementation of process efficiencies and consistent permits and supporting documentation. WDNR has developed well-defined roles, SOPs, and guidance for their permitting staff, allowing for efficient and consistent program administration. WDNR has demonstrated success with ensuring permits consistently and appropriately implement Wisconsin rules that meet EPA's NPDES rules. Further, permit documentation is consistent across the permits reviewed.

Based on the PQR, NPDES permit conditions appear to conform with federal regulations. However, applications did not include all priority pollutant data required by 40 CFR Section 122.21. For the pretreatment topic, permit writers must ensure that all POTW NPDES permits include the requirements at 40 CFR 122.42(b) and 40 CFR 122.44(j)(2)(ii).

Action Items

The PQR identifies 2 essential and 16 recommended action items. The Essential action items were shared with WDNR managers as preliminary findings during the PQR in July 2020.

Essential action items must be addressed by WDNR to meet federal NPDES regulations and will be subject to agreed-upon milestones and due dates as a part of a workplan to be developed. Essential action items from this PQR concern permit application requirements.

WDNR should consider recommended action items to implement EPA guidance/policy more fully or otherwise improve program effectiveness. Recommended action items from this PQR are listed in Table 9 at the end of this document.

EPA is available to assist WDNR in addressing all action items and will annually track WDNR's progress with essential action items. The status of all action items will be reported during the next WDNR PQR cycle.

I. PQR BACKGROUND

The NPDES 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 CWA and NPDES regulations. Through this review mechanism, EPA promotes national consistency, and identifies successes in implementation of the NPDES program as well as opportunities for improvement in the development of NPDES permits.

This PQR report identifies action items from a PQR of the WDNR NPDES permits program in 2020. The action items are identified within Sections III and IV of this report and are divided into two categories to identify the priority that should be placed on each item.

- **Essential Actions** - “Essential” action items address noncompliance with respect to a federal regulation which EPA has cited. WDNR must address these action items in order to comply with federal regulations.
- **Recommended Actions** - “Recommended” action items are recommendations to increase the effectiveness of the state’s or Region’s NPDES permit program.

The Essential actions will be used to augment a list of “follow up actions” which will be tracked by EPA Headquarters on an annual basis and are reviewed during subsequent PQRs.

EPA’s review team, consisting of six Region 5 staff and one EPA contractor, conducted a review of the Wisconsin NPDES permitting program. The PQR was conducted remotely meaning a review of materials was conducted off-site since WDNR was able to provide all the permit information electronically. Further, the remote PQR included interviews and discussions conducted via online meetings. An opening interview was held on July 9, 2020, a discussion with WDNR staff regarding specific permit questions on July 16, 2020, and a closing meeting on July 24, 2020.

Core Review

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 PQR tools, and talking with permit writers regarding the permit development process. Core reviews evaluate similar issues or types of permits in all states to focus permit quality on the *Central Tenets of the NPDES Permitting Program*¹.

Topic Area Reviews

The national topics reviewed in the Wisconsin NPDES program were: Permit Controls for Nutrients in impaired waters before approval of a TMDL, Small MS4 Permit Requirements, and Effectiveness of POTW NPDES Permits with Food Processor Contributions.

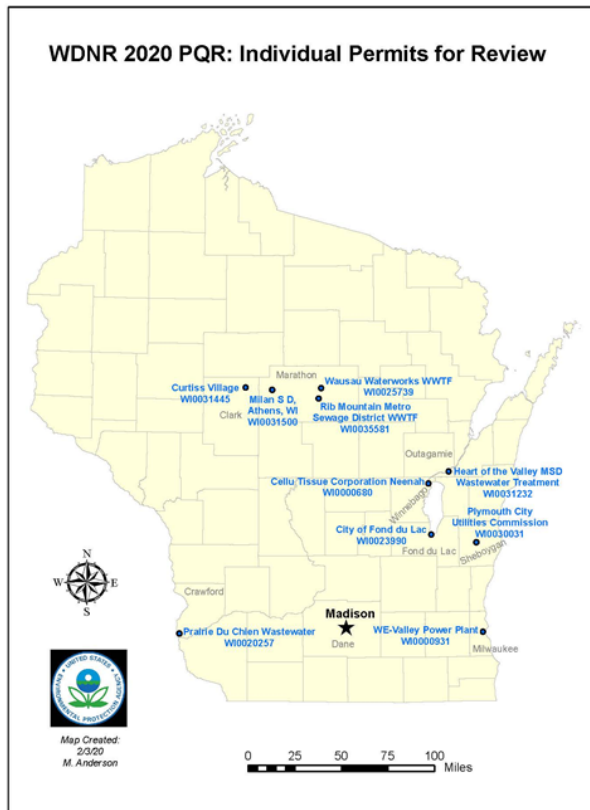
¹ <https://www.epa.gov/npdes/central-tenets-npdes-permitting-program>

The PQR reviewed ten individual permits issued within two years prior to the PQR. As shown in Table 1, eight of the permits are individual municipal (POTW) permits and two are individual non-municipal (non-POTW) permits. In addition, the MS4 GP was reviewed. Of the ten individual permits, all were reviewed for core permitting areas and six were reviewed for one or more national topic areas. In addition, the selection considered the location of permittees across the State to ensure that they are not all clustered in one watershed. The locations are shown in Figure 1.

Table 1. Permits Selected for the PQR

Permit No	FY Issued	Small MS4	Nutrients	Food Processor IU	Minor	Major	POTW	Non-POTW
WI0000931	2018					X		X
WI0000680	2018					X		X
WI0020257	2018		X			X	X	
WI0031232	2019			X		X	X	
WI0023990	2018		X	X		X	X	
WI0030031	2019		X			X	X	
WI0031500	2018			X	X		X	
WI0035581	2019					X	X	
WI0025739	2019					X	X	
WI0031445	2018			X	X		X	
WIS050075		X						
Total 11		1	3	4	2	8	8	2

Figure 1. Reviewed Individual Permit Discharge Locations and County Name



II. STATE PROGRAM BACKGROUND

A. Program Structure

WDNR administers the Wisconsin Pollutant Discharge Elimination System (WPDES) program for the State of Wisconsin. Wisconsin received authority to administer the WPDES program on February 4, 1974 (authorization to regulate federal facilities was granted on November 26, 1979), the pretreatment program on December 19, 1986, the general permits program on December 24, 1980, and the biosolids program on July 28, 2000. WDNR responsibilities are divided between three programs: Wastewater (i.e., municipal and industrial), Stormwater, and Concentrated Animal Feeding Operations (CAFO) permitting.

The WDNR WPDES program is administered in WDNR's Central Office in Madison. In addition, WDNR is organized into five main geographical regions: South Central (one main regional office and two smaller regional office locations), West Central (one main office and three smaller regional offices), Northern (one main office and three smaller regional offices), Northeast (one main office and one smaller regional office), and Southeast (one main regional office and two smaller regional office locations). Central Office staff are largely responsible for evaluating and developing regulations, policy, and guidance for statewide WPDES program implementation and general program support, responding to legislative inquiries, handling interactions with EPA, and managing program data. Central Office staff also develop individual industrial

wastewater and GPs. Several Central Office staff are considered program area coordinators (i.e., experts) for construction and industrial stormwater, municipal stormwater, pretreatment, water quality trading, mixing zones, and biosolids, among other areas. Central Office staff in the Stormwater Program provide wide-ranging stormwater program support related to communications, education and outreach, and applications and forms. In addition, stormwater staff in the Central Office are responsible for drafting and issuing stormwater GPs, program policy updates such as guidance and rulemakings, and developing, maintaining, and implementing the Water ePermitting System.

Wastewater Program staff in regional offices generate and process permit applications, issue WPDES individual and general permit coverage, conduct inspections, and follow-up compliance and enforcement actions. Formal enforcement actions at or above notices of violation level are coordinated with WDNR's Environmental Enforcement Program. Regional offices may also be staffed with regional coordinators for various aspects of the WPDES program, including pretreatment, septage and landspreading, and water quality standards (WQS) (e.g., WQS variance, trading, and adaptive management). WDNR Wastewater staff in the Central Office prepare general permits and complex industrial permits, while the staff in the five regional WDNR offices prepare municipal and less complex industrial permits, with permits assigned based on geographic location. Stormwater staff in regional offices are responsible for permit implementation and compliance determinations, processing and review of reports, processing Notice of Intent (NOI) and terminations, construction site plans and post-construction plan reviews, industrial stormwater pollution prevention plans, and responding to complaints.

As of March 2020, WDNR employed approximately 13.5 full-time equivalents (FTE) for wastewater permitting and 5 FTE for stormwater permitting. Many staff have responsibilities that span across multiple aspects of their respective permitting program and they do not solely prepare WPDES permits. WDNR reported drafting an average of 244 individual WPDES permits per year for the previous three years while noting that permit drafting does not equate to the number of permits issued or reissued per year. WDNR wastewater permit writers are supported by "limit calculators." These limit calculators are staff that focus mainly on conducting reasonable potential analyses (RPAs) and calculating water quality-based effluent limitations (WQBELs), and to a lesser extent conducting antidegradation analyses and calculating technology-based effluent limitations (TBELs). Further, wastewater permitting staff are supported by the regional program coordinators, five field supervisors, one Permits Section chief, one Wastewater Section chief, one Field Operations Director, database managers, and approximately four attorneys who divide their time between several WDNR programs. In addition, staff who support data management in the System for Wastewater Applications, Monitoring, and Permits (SWAMP) and EPA's Integrated Compliance Information System (ICIS)-NPDES assist wastewater permitting staff. Stormwater permitting staff receive support from permit intake staff (which refers to staff dedicated to receiving stormwater GP NOIs, evaluating applications, and providing permit coverage), TMDL modelers, stormwater engineers, stormwater specialists, one attorney, and one section chief. As referenced earlier, WDNR's Environmental Enforcement Program manages formal environmental enforcement, which

includes enforcement actions at the level of notice of violation and above, for all WNDR environmental programs.

WDNR reported that the number of positions in the wastewater and stormwater programs have not changed appreciably in the last three years although the CAFO program has experienced a slight increase in staffing. As of June 16, 2020, the wastewater program had 75 FTE positions, 72 of which were filled, and 12 half-time limited term employment (LTE) positions.

WDNR has developed wastewater training plans for new employees, including content that is tailored for staff who are either new to WDNR or new to the wastewater permitting program. All new wastewater employees are trained on content related to the CWA, history of the wastewater program, the EPA-WDNR delegation Memorandum of Agreement (MOA), and relevant state statutes and administrative code. New wastewater permit drafters are also required to complete a training plan tailored to their job function. In addition, new permit drafters across the permitting programs receive internal mentoring and attend EPA's in-person 5-day NPDES Permit Writers' Course, when available.

Wastewater permit drafters strive to draft permits within 3–4 months. Stormwater permit drafters initiate GP development approximately 1.5–2 years in advance of permit expiration. Stormwater staff in regional offices lead the development of individual MS4 permits.

WDNR's SWAMP database integrates discharger information, monitoring requirements and forms, monitoring data, permit documentation, permit deadlines, compliance schedules, pretreatment information, and permit templates. Wastewater permit drafters use SWAMP to pre-populate draft documents with standard information. In addition, permit drafters use various templates to prepare permit sections, fact sheet language, limits tables, standard conditions, and WQBEL memos. Further, WDNR has developed additional document templates for numerous administrative letters used during permit development and issuance. Generally, SWAMP updates are made on a regular basis as issues arise (approximately 2–4 updates a year); however, WDNR is currently going through a detailed review of permit language contained in these templates to ensure all language reflects current code requirements and WDNR policy. WDNR plans to make any needed revisions to permit template language and initiate fact sheet template language updates in 2021. Data from SWAMP is regularly batch uploaded into ICIS-NPDES.

WDNR permit drafters use a variety of tools to develop consistent permits and supporting documentation. For instance, the wastewater program developed a permit development checklist that guides permit drafters through the entire permit development process from pre-application activities and continuing through post-notice of final determination administrative activities, to provide clarity to the scope of work and staff roles and responsibilities. The checklist identifies roles for permit drafters, compliance staff, limit calculators, and hydrogeologists.

Individual draft permits undergo mandatory peer, compliance engineer, WQBEL calculator, and supervisor reviews, and occasionally biologist reviews. Other team members (e.g., program

coordinators) will also perform targeted reviews of select permit and fact sheet sections, as appropriate. Following internal review, the draft permit is routed to the permittee for a “fact check” review. This fact check review is a brief courtesy review for comments on factual statements, typographical errors, flow values used to develop TBELs, or technical issues with limits calculations. The permit drafter then receives the fact check comments, revises the draft permit as appropriate, provides responses to the permittee’s comments, and then prepares the public notice and draft permit package for public review and comment.

GPs are offered for review by several wastewater staff, including all managers, prior to public notice and reissuance. A team of regional staff is involved with providing feedback on GPs in the Stormwater program. Then all program staff, management, and legal are provided an internal review opportunity. Once internal comments are collected, the main permit drafter and the team address internal comments and update the draft permit documents before the public comment period commences.

Since 2017, the wastewater program has been storing files in accordance with the *Permit and Compliance Legal Files*, dated October 18, 2017. This internal brief designated SWAMP as the official location to store WPDES permit records. Physically large files, such as site plans and facility specifications, may be retained in hard copy format in the office where the permit is drafted.

B. Universe and Permit Issuance

As of March 2020, the WDNR WPDES program administers 1,257 individual permits and 36 GPs. There are 38 non-municipal major permits compared to 87 municipal major permits. Most individual permits are minor permits, and a slight majority of the overall total covers non-municipal discharges. According to Wisconsin, significant industries in the state include agriculture (including a significant cranberry grower presence), cheesemaking, food processing, pulp and paper, and electric power generation. Other pretreatment and permitted industries include metal finishing, electroplating, timber products manufacturing, contract waste haulers, and aquaculture. The main facilities contributing stormwater discharges include nonmetallic mining, ready-mix concrete, asphalt paving, materials recycling (scrap and salvage yards), food product manufacturing, trucking and warehousing, rubber, and miscellaneous plastic products. Table 2 identifies the WDNR’s 36 GPs with their issuance and expiration dates. The GPs cover a total 17,576 permittees, with just over 50 percent of which are stormwater discharges.

At the time of the PQR, WDNR reported that 12 percent of individual permits are administratively continued or expired.

Table 2. NPDES General Permits

NPDES Number	General Permit Name	Issuance Date	Expiration Date	Number of Permitted Facilities
WI-0057681-04-0	Hydrostatic Test Water or Water Supply System Water	7/1/2007	6/30/2012	429
WI-0059153-03-0	Outside Washing of Vehicles, Equipment and Other Objects	4/1/2009	3/31/2014	115
WI-0046523-05-0	Swimming Pool	4/1/2009	3/31/2014	203
WI-0047341-05-0	Satellite Sewage Collection Systems	10/1/2013	9/30/2018	266
WI-0059137-04-0	Short Duration Discharge	1/1/2015	12/31/2019	6
WI-0063835-02-2	Ballast Water Discharge	4/1/2015	3/31/2020	73
WI-B046515-06-0	Industrial Sand Mining Operations	8/1/2016	7/31/2021	93
WI-A046515-06-0	Non-Industrial Sand and Other Aggregates	8/1/2016	7/31/2021	2686
WI-0046507-06-0	Concrete Products Operations	9/1/2016	8/31/2021	181
WI-0055867-07-1	Landspreading of Industrial Liquid Wastes	9/01/2017	8/31/2022	69
WI-0044938-06-0	Noncontact Cooling Water, or Condensate and Boiler Water	10/1/2017	9/30/2022	345
WI-0057665-06-0	Landspreading of By-Product Solids	1/1/2018	12/31/2022	8
WI-0057657-06-0	Landspreading of Industrial Sludge	1/1/2018	12/31/2022	14
WI-0064556-02-1	Aquatic Plants, Algae and Pathogens	4/1/2018	3/31/2023	169
WI-0064564-02-0	Detrimental or Invasive Aquatic Animals	4/1/2018	3/31/2023	7
WI-0064572-02-0	Forest Canopy Pests	4/1/2018	3/31/2023	2
WI-0064581-02-0	Mosquitoes or Other Flying Insects	4/1/2018	3/31/2023	21
WI-0046531-06-1	Petroleum Contaminated Water	6/1/2018	5/31/2023	77
WI-0046558-06-0	Carriage and Interstitial Water from Dredging Operations	7/1/2018	6/30/2023	31
WI-0046566-07-0	Contaminated Groundwater from Remedial Action Operations	7/1/2018	6/30/2023	86
WI-0066435-01-0	Storage of Domestic Septage (Land Application as Septage)	8/1/2018	7/31/2023	0
WI-0049344-05-0	Dewatering Operations	9/1/2018	8/31/2023	124
WI-0062901-03-0	Domestic Wastewater to a Subsurface Soil Absorption System	5/1/2019	4/30/2024	12
WI-0055611-07-0	Industrial Liquid Waste to a Subsurface Soil Absorption System	5/1/2019	4/30/2024	28
WI-0046540-06-0	Water Treatment and Conditioning	1/1/2020	12/31/2024	64
S067831-5	Construction Site Storm Water Runoff General Permit	10/1/2016	9/30/2021	6217
S067849-4	Tier 1 Industrial General Permit	6/15/2016	5/31/2021	454
S067857-4	Tier 2 Industrial General Permit	6/15/2016	5/31/2021	2417
A046515-6	Non-metallic Mining Operations (Non-Industrial Sand and Other Aggregates)	8/1/2016	7/31/2021	2686
B046515-6	Non-metallic Mining Operations for Industrial Sand and Processing	8/1/2016	7/31/2021	93
S059145-3	Dismantling of Vehicles for Parts Selling and Salvage	5/26/2016	4/30/2021	243
S058831-3	Recycling of Scrap and Waste Materials	5/26/2016	4/30/2021	166
S050075-3	Municipal Separate Storm Sewer System (MS4) General Permit	5/1/2019	4/30/2024	174
S066800-1	Transportation Separate Storm Sewer System (TS4)	6/30/2018	5/31/2023	1
WI-0063274-01	Large Dairy CAFO	4/4/2011	3/31/2016	14

NPDES Number	General Permit Name	Issuance Date	Expiration Date	Number of Permitted Facilities
WI-0066575-01-0	Low-Impact Discharge	3/1/2020	2/28/2025	0

C. State-Specific Challenges (information given by WDNR)

Some staffing challenges facing WDNR are common to many states. As of June 2020, WDNR is experiencing a hiring freeze. Further, staff are reaching retirement age and WDNR is unable to replace them contributing to resource constraints.

One of Wisconsin’s top priorities is addressing per- and polyfluoroalkyl substances (PFAS) in the absence of federal and state numeric water quality criteria, especially as it relates to land application and surface water discharges. Wisconsin currently does not have state numeric criteria for PFAS but is working on three rule packages to adopt numeric WQS, groundwater standards, and maximum contaminant levels for perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA). In the meantime, Wisconsin Administrative Code (Wis. Admin. Code) at NR 102.04 presently contains narrative water quality criteria, including those addressing aquatic toxicity, human health impacts, wildlife, public water supplies, etc. Wis. Admin. Code at NR 105 contains procedures for developing numeric translations of those narrative WQC that can be used to develop NPDES permit numeric WQBELs prior to adoption and EPA approval of numeric water quality criteria. The state is also working proactively with POTWs to initiate PFAS source reduction efforts in anticipation of standards promulgation.

WDNR also noted that they currently lack adequate funding to fully comply with eReporting requirements. While the Department is making efforts to fully comply with the eReporting Rule through utilization of funding through the Exchange Network Grant, significant additional funds are necessary for WDNR to be fully compliant with the Rule by 2023. WDNR is also waiting on EPA Headquarters to completely finalize certain ICIS-NPDES program schemas (e.g., biosolids for delegated programs) prior to developing final IT solutions at the state level. The recent, national extension of the compliance deadline for implementation of Phase 2 of the eReporting Rule until December 2025 will be helpful to WDNR.

D. Current State Initiatives

WDNR has a variety of initiatives underway to implement efficiency and improve the effectiveness of the NPDES permitting program in addition to the PFAS and eReporting initiatives described above. WDNR has reduced the individual permit backlog rate (for majors and minors) from 53 percent in 2012 to 12 percent in 2020. WDNR’s goal is to maintain a permit backlog rate of approximately 10 percent providing staffing levels support the efforts. In addition, WDNR’s Wastewater Program has made strides to reissue and ensure timely reissuance of WPDES GPs, with most GPs current at the time of the PQR. Further, the WDNR’s Wastewater Program updated the vast majority of its applicable guidance documents in 2020 with aim to complete the effort by 2021.

WDNR has other state initiatives like variance options for phosphorus; WQBELs and TBELs for phosphorus; water quality trading; and adaptive management; all of which are described under the nutrient section of this report (section IV.A) starting on page 30.

III. CORE REVIEW FINDINGS

A. Basic Facility Information and Permit Application

1. Facility Information

Background

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). This information 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.

Program Strengths

All permits contained appropriate discharger name, facility location, specific discharge authorization information, and receiving stream identification. Permit records included information that identified the physical location of outfalls present at the facility. Fact sheets provided a description of the type of activities and wastewater treatment processes at the facility.

Areas for Improvement

The review team did not identify any areas for improvement in this core area.

Action Items

Essential

- The PQR did not identify any essential action items for this section.

Recommended

- The PQR did not identify any recommended action items for this section.

2. Permit Application Requirements

Background and Process

Federal regulations at 40 CFR 122.21 and 122.22 specify application requirements for persons 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.

WDNR uses state application forms that appear to require information consistent with federal application requirements, with the exception of priority pollutant monitoring.

Wastewater Program staff initiate the application renewal process 12 to 19 months before expiration of a permit, when WDNR provides permittees with application forms. Permit drafters check the status of permit applications three months prior to the due date and again 1 month before the due date. Upon receipt, permit drafters record the application received date in SWAMP and in coordination with compliance engineers, review applications to evaluate technical completeness. SWAMP supports the application process through initial generation of default questions tailored for the specific facility, based on existing information in SWAMP.

Program Strengths

Applications were consistently available for review. The review revealed applications were submitted timely and with appropriate signatories.

Areas for Improvement

Major POTWs (POTWs with a design average flow equal to or greater than 1.0 million gallons per day [MGD]) did not consistently complete application forms to meet minimum data requirements contained in Federal NPDES application regulations for “priority pollutants” (the pollutants listed in 40 CFR Part 122 Appendix J Table 2). 40 CFR 122.21(j)(4)(vi) and (vii) requires major POTWs to submit three or more samples tested for priority pollutants over 4 ½ years prior to permit expiration.

WDNR indicated during the PQR that their administrative code NR. 200.065(1)(b) requires submittal of one sample for priority pollutants and for them to collect additional samples for application purposes, requires a rulemaking. However, WDNR indicated during the PQR that they will update SWAMP to ensure that upcoming permits will include requirements for additional priority pollutant sampling; the update to SWAMP will occur ahead of the rulemaking to update NR. 200.065, given the complexity associated with updating the state code.

Action Items

Essential

- Ensure that major POTW applications include a complete data set for priority pollutants (40 CFR 122.21(j)(4)(vi) and (vii)).

Recommended

- The PQR did not identify any recommended action items for this section.

B. Developing Effluent Limitations

1. Technology-based Effluent Limitations

NPDES regulations at 40 CFR 125.3(a) require that permitting authorities develop technology-based requirements where applicable. Permits, fact sheets and other supporting documentation for POTWs and non-POTWs were reviewed to assess whether TBELs represent the minimum level of control that must be imposed in a permit.

TBELs for POTWs

Background and Process

POTWs must meet secondary or equivalent to secondary standards (including limits for biochemical oxygen demand (BOD), total suspended solids (TSS), pH, and percent pollutant 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 eight POTW permits were reviewed as part of the PQR.

WDNR establishes effluent limitations for POTW permits based on the sewage treatment regulations established at Wis. Admin. Code Chapter NR 210.05, which contains effluent limitations for BOD, TSS, pH, and carbonaceous biochemical oxygen demand (CBOD) based on receiving water designated use classifications. Effluent limitations established at Wis. Admin Code Chapter NR 210.05(1) are applicable to receiving waters classified as fish and aquatic life and are equal to the federal secondary treatment standards contained at 40 CFR Part 133. Effluent limitations established at Wis. Admin Code Chapter NR 210.05(2) and (3) are applicable to receiving waters classified as intermediate aquatic life and marginal surface waters, respectively, and are more stringent than the federal secondary treatment standards. WDNR permits establish appropriate minimum percent removal requirements, consistent with the federal secondary treatment regulations.

Program Strengths

The eight municipal permits reviewed contained TBELs at least as stringent as federal requirements, and in some cases, more stringent than federal secondary treatment standards. In addition, permits establish effluent limitations in appropriate units and forms. Permit fact sheets for POTWs include appropriate descriptions of the facility and treatment processes.

Areas for Improvement

The review team did not identify any areas for improvement in this core area.

Action Items

Essential

- The PQR did not identify any essential action items for this section.

Recommended

- The PQR did not identify any recommended action items for this section.

*TBELs for Non-POTW Dischargers**Background and Process*

Permits issued to non-POTWs must require compliance with a level of treatment performance equivalent to Best Available Technology Economically Achievable (BAT) or 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 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). Two non-POTW permits were reviewed as part of the PQR.

WDNR includes ELGs in the Wis. Admin. Code at Chapters NR 221–NR 297. WDNR appropriately calculates TBELs for non-municipal NPDES permits applying federal categorical ELGs. For effluent limitations based on ELGs, WDNR permit writers use spreadsheets on a case-by-case basis to develop applicable effluent limitations. WDNR’s categorical limits memos identify the applicable ELGs and discuss facility categorization and flow values used to develop mass-based effluent limitations. The limits memos also discuss changes in TBEL calculations from the previous permit issuance and include an evaluation of the permittee’s ability to comply with the proposed TBELs.

Program Strengths

The records reviewed include a Categorical Limits memo that outlines the basis for and development of ELG-based TBELs. The memo includes a discussion of the background for the permit limits, facility operations, facility categorization, and basis for existing TBELs. The memo also presents the rationale for the proposed limitations for permit reissuance, including a discussion of changes in regulations since the previous permit issuance which resulted in the permit drafter applying limitations established at 40 CFR Part 430, Subpart L instead of those established at NR 284. Further, the memo included a discussion of an evaluation of the permittee’s ability to comply with the proposed effluent limitations (which are more stringent than previous limitations).

Areas for Improvement

The review team did not identify any areas for improvement in this core area.

Action Items

Essential

- The PQR did not identify any essential action items for this section.

Recommended

- The PQR did not identify any recommended action items for this section.

2. Reasonable Potential and Water Quality-Based Effluent Limitations*Background*

The NPDES regulations at 40 CFR 122.44(d)(1)(i) and particularly 122.44(d)(1)(vii)(A)(2) require permits to include any requirements in addition to or more stringent than technology-based requirements where necessary to achieve state WQS, including narrative criteria for water quality. To establish such WQBELs, the permitting authority must evaluate whether any pollutants or pollutant parameters cause, have the reasonable potential to cause, or contribute to an excursion above any state WQS.

The permits, fact sheets, and other documents in the administrative record were evaluated on how water quality based effluent limit calculators:

- determined the appropriate WQS applicable to receiving waters,
- 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, EPA assessed whether and how limit calculators consulted and developed limits consistent with the assumptions of applicable EPA-approved TMDLs.

Process for Assessing Reasonable Potential

WDNR's limit calculators conduct RPAs and provide results to permit drafters for inclusion in WPDES permits. The following chapters and subchapters applicable to the Department of Natural Resources in the Wis. Admin. Code are used to develop permits:

Chapter NR 105 – Surface Water Quality Criteria and Secondary Values for Toxic Substances

Chapter NR 106 - Procedures for Calculating Water Quality Based Effluent Limitations for Point Source Discharges to Surface Waters

Subchapter II General Procedures for Effluent Limits

NR 106.05 - Determination of the necessity for water quality-based effluent limitations for toxic and organoleptic substances

NR 106.08 - Determination of the necessity for whole effluent toxicity testing requirements and limitations

Subchapter IV Effluent Limitation for Ammonia Discharges

NR 106.33 - Determination of the necessity for water quality-based effluent limits for ammonia

Subchapter V Effluent Limitation for Temperature

NR 106.55 Determination of water quality-based effluent limitations for temperature in WPDES permits

Sub Chapter VII Effluent Limits for Chloride Discharges

NR 106.85 - Determination of the necessity for water quality-based effluent limitations

WDNR's approaches for evaluating reasonable potential are based on EPA's Technical Support Document for Water Quality-based Toxics Control (TSD)². In addition, WDNR developed a program guidance document for evaluating the need for WET monitoring requirements and limitations and updates the document regularly with the latest Edition No. 12, dated October 29, 2019. The WDNR WET guidance includes instructions for WDNR permit drafters to follow a stepwise process (a computer program-driven WET Checklist within SWAMP) that considers site-specific information to support permit drafters with determining appropriate WET monitoring recommendations; it is intended to be used as a supporting tool. This WET guidance addresses WET reasonable potential and the need for WET permit limits, and follows the EPA toxicity test methods required under the Great Lakes Initiative (GLI) final rule (March 1995) in 40 CFR Part 132, Appendix F, Procedure 6 (D) and NR 106.08 which makes reference to EPA's toxicity test methods which at that time were guidance but were later promulgated by EPA in 2002 in 40 CFR Part 136 after the GLI final rule. SWAMP generates an automated computer program-driven WET Checklist that is designed to assist staff with determining whether WET permit limits are necessary and the appropriate required monitoring requirements. The WET Checklist assigns points based on an evaluation of various factors contributing to toxicity. The WET Checklist runs in the SWAMP database, leading the analyst through a series of questions and screens to answer specific questions regarding the discharge, test data, receiving stream characteristics (e.g., flow, distance to a variance waterbody, dilution available). The WDNR WET guidance document indicates that decisions about reasonable potential, monitoring frequencies, and other WET determinations should be based on data that are representative of the discharge being evaluated. The program factors in a coefficient of variation and multiplication factors to convert the calculated effluent toxicity value to an estimated 95th percentile value. The factor used in the equation changes based on the number of toxicity

² U.S. EPA. (March 1991). *Technical Support Document for Water Quality-based Toxics Control* (EPA/505/2-90-001). <https://www3.epa.gov/npdes/pubs/owm0264.pdf>

detects in the dataset (the fewer detects present, the higher the factor, because there is more uncertainty surrounding the predicted value). The completed Checklist calculates WET reasonable potential and recommends acute and chronic WET limits, when required according to requirements contained in the GLI 40 CFR Part 132 (Appendix F, Procedure 6 (D)) and NR 106.08, as well as WET monitoring frequencies, based on points accumulated during completion of the checklist. Checklist points totaling greater than 64 indicate quarterly WET testing is recommended, as stated in Figure 7 from WDNR's WET guidance document: *"...due to a significant level of concern about effluent toxicity. Facilities that fall into this category usually have data that shows toxicity has been present."* WET permit limits are required under the permit whenever representative of an effluent discharge(s) demonstrating reasonable potential: facility-specific data shows the effluent may be discharged at a level that will cause or contribute to an excursion above a state WET criterion, as specified in NR 106.08(6)(b), which is whenever the applicable reasonable potential equation results in a value greater than 1.0 TU_a (acute toxicity unit) or 1.0 TU_c (chronic toxicity unit). As stated above, reasonable potential calculations involve the use of a multiplication factor, which is based on the number of toxicity detects. Where there are less than 10 individual toxicity detects, the multiplication factor is based on a coefficient of variation of 0.6 and where there are 10 or more individual toxicity detects, the coefficient of variation is calculated as the standard deviation of the WET test endpoints (IC₂₅, IC₅₀, or LC₅₀) divided by the arithmetic mean of the WET tests. NR 106.08(5)(c) Table 4 provides specific multiplication factors based on the coefficient of variation. In addition, the WDNR WET guidance document states that *"As a result of the WET reasonable potential procedures in s. NR 106.08 (6), Wis. Adm. Code, a limit will be required in almost all cases where a permittee has a WET failure in their dataset. Reasonable potential can also be indicated in situations where no WET failures have occurred, if toxicity was detected near enough to the applicable limit."*

WDNR permit drafters are also encouraged to confer with the Biomonitoring Coordinator to discuss data and resulting reasonable potential and monitoring determinations. Limit calculators will review and evaluate available WET test data and related information for each outfall, ensuring that WET test data are representative of the effluent discharge(s); the WQBEL memo should indicate which WET data were evaluated for reasonable potential.

The review of WDNR's permits, fact sheets, and WQBEL memos indicates that limit calculators evaluate historical WET data, general facility information (e.g., facility type), and reference WDNR's WET guidance document to determine WET monitoring frequency and the need for WET effluent limitations. Most of the permits reviewed are for municipal dischargers and establish annual monitoring, in rotating quarters, for acute and chronic WET. One permit reviewed was for a pulp and paper mill and the permit required monitoring twice per year for acute and chronic WET. One permit issued to a minor municipal discharger established an effluent limitation for WET and required quarterly chronic WET testing established by a compliance schedule that also required implementation of a TRE. None of the fact sheets or WQBEL memos reviewed for the municipal dischargers indicate WET test failures or WET checklist scores greater than 33. The WET checklist for the pulp and paper mill resulted in 53 total points.

Wis. Admin. Code Chapter NR 212 addresses TMDL development and implementation. In addition, WDNR recently updated a guidance document that addresses TMDL development and implementation in WPDES permits (*TMDL Implementation Guidance for Wastewater Permits, Edition No. 5*, May 13, 2020); Section 4 of this guidance document describes approaches for implementing TMDLs in Wastewater permits (this guidance is updated every time a TMDL is added). Once TMDLs are approved, WPDES permits must include effluent limitations consistent with the TMDL. Limit calculators locate information on impaired waters by searching the WDNR website³, Water Assessment Tracking and Electronic Reporting System (WATERS), and the Surface Water Data Viewer. Limit calculators determine whether TMDLs have been approved for a waterbody by using the WDNR TMDLs website⁴, WATERS, Surface Water Data Viewer, and EPA’s Assessment TMDL Tracking and Implementation System (ATTAINS) website. Limit calculators establish effluent limitations at the water quality criterion for pollutants that are listed as impairing the receiving water body, where EPA-approved TMDLs are not yet available. For pollutants assigned a wasteload allocation (WLA) in an approved TMDL, limit calculators derive WQBELs based on the WLA and establish those WQBELs in the permit. To protect impaired downstream waters, Limit Calculators consider receiving stream conditions and the water quality impact imposed by the discharge and develop effluent limitations that would be protective of water quality.

Stormwater permit drafters require permittees under the Construction Site Stormwater Runoff GP (S067831-5) to determine, prior to application, whether their site discharges to an impaired waterbody or to one where an approved TMDL applies. If the discharge is to one of these categories of water bodies, applicants need to identify in their erosion control and stormwater management plans appropriate best management practices (BMPs) and control measures. In addition, the GP contains performance standards based on WQS established at Wis. Admin Code Chapter NR 151, with which permittees must achieve. Enrollees under the Industrial Stormwater GPs are required to do annual checks to identify whether any new water bodies have been added to WDNR’s list of impaired waters as well as evaluate their current onsite BMPs to determine if they will still achieve applicable WQS. Industrial Stormwater permittees are also required to update their Stormwater Pollution Prevention Plan (SWPPP) to revise BMPs as necessary. Municipal stormwater permits include appendices for each approved TMDL. Permittees discharging to a waterbody pre-TMDL are required to include in their Stormwater Management Program (SWMP) approaches for how they are implementing BMPs or control measures to minimize or reduce discharges that could be contributing to the impairment. For discharges to water bodies with EPA-approved TMDLs, MS4 permittees are required to submit a TMDL implementation plan which in turn becomes the TMDL compliance plan, which specifically identifies actions to be taken to comply with the WLAs. WDNR plans to begin including this in the MS4 permit appendices, to better track prescriptive action plans, specific goals, and measurement to demonstrate progress towards meeting WLAs.

³ <https://dnr.wisconsin.gov/topic/SurfaceWater/Impairments.html>

⁴ <https://dnr.wisconsin.gov/topic/TMDLs/TMDLReports.html>

TMDL staff are an integral part of the permit review team and provide oversight for TMDL implementation in permits; they also track TMDL implementation using individual spreadsheets. Permit drafters also track TMDL implementation in SWAMP.

Permit drafters determine pollutants of concern are those pollutants with the following: applicable TBELs, a WLA assigned in a TMDL, WQBELs in the previous permit, effluent monitoring data indicating their presence in the discharge, or potential for exceeding WQS if the discharge of the pollutant is not limited. Limit calculators follow the procedures outlined in Wis. Admin. Code Chapter NR 106 to determine whether a discharge demonstrates reasonable potential for an excursion of the state's aquatic life protection water quality criteria as part of the state's WET WQS.

WDNR's limit calculators develop WQBEL memos for each permit issuance and reissuance. In 2016, Wisconsin's regulations were updated to align Wisconsin's WQBELs with 40 CFR 122.45(d)(2), which require WPDES permits contain weekly average and monthly average limitations for POTWs and daily maximum and monthly average limitations for all other discharges. WQBEL memos acknowledge this regulatory update and describe the methods for calculating effluent limitations for POTWs. In addition, WQBEL memos include a meaningful discussion of existing effluent limitations, receiving waterbody information (stream segment, designated uses, and impairment status), data considered in the evaluation, results of the RPA, demonstration of effluent limitation calculations, and pollutant-specific determinations.

Process for Developing WQBELs

Limit calculators are also responsible for fully developing WQBELs for inclusion in WPDES permits through the use of Excel spreadsheets. Wis. Admin. Code Chapter NR 106 includes procedures for calculating WQBELs that are based on EPA's TSD. Further, Wis. Admin. Code Chapter NR 106.06(6) directs permit drafters on how to implement water quality criteria within mixing zones. Additionally, Wis. Admin Code Chapter NR 106.07 includes procedures for expression of concentration effluent limitations for continuous discharges. WQBEL memos include documentation of effluent limitation calculations, including mixing zone considerations.

Program Strengths

Reasonable Potential

WDNR clearly demonstrates how reasonable potential is determined for pollutants of concern; documentation includes data inputs for the analyses and important intermediate calculations (e.g., the P99 values). WDNR's WQBEL memos are organized, address all pollutants of concern, and present relevant information, including receiving stream information. WPDES permits consistently include maximum daily and monthly average effluent limitations and use appropriate units.

WQBEL Development

WDNR's WQBEL memos present general summary information for understanding how WQBELs are derived, including summaries of data used in the calculations, application of

mixing zones, and evaluation of the need for compliance schedules. WDNR establishes WQBELs using appropriate forms (e.g., maximum daily and monthly average) and units. WPDES permits include WQBELs that are consistent with the rationale provided in fact sheets.

Areas for Improvement

Reasonable Potential

WDNR’s WET monitoring frequencies are generally established at a minimum of annual testing; which is to satisfy the NPDES application requirements for WET data. Annual, and in some cases semiannual, monitoring may not be sufficient to fully capture all toxic discharges that may result in an excursion of the state’s WQS; WDNR should consider when increasing the minimum WET monitoring frequency in order to appropriately evaluate the toxicity of discharges that it is sufficient to determine whether toxicity is not being potentially missed based on species sensitivity and effluent variability. WDNR’s WQBEL memos include summaries of the RPA and therefore, may lack expanded information on certain data points entered in the RPA tool (presumed to be an Excel spreadsheet) that might enable a full understanding of exact WQBEL calculations—presentation of receiving water background data and station identification and locational information, specific sample collection dates, and all effluent data considered in the analysis. WQBEL memos and the permit record would be strengthened with a more detailed discussion of the full RPA.

WQBEL Development

The review team did not identify any areas for improvement in this core area.

Action Items

<p>Essential</p>	<ul style="list-style-type: none"> • <u>Reasonable Potential</u> <ul style="list-style-type: none"> • The PQR did not identify any essential action items for this section. • <u>WQBEL Development</u> <ul style="list-style-type: none"> • The PQR did not identify any essential action items for this section.
<p>Recommended</p>	<ul style="list-style-type: none"> • <u>Reasonable Potential</u> <ul style="list-style-type: none"> • Consider expanding the WQBEL memo discussion to include specific information for all data evaluated in the RPA, including presentation of receiving water background data, all effluent monitoring data, and an indication of dates samples were collected. • Also refer to the recommendation in the Monitoring and Reporting Requirements • <u>WQBEL Development</u> <ul style="list-style-type: none"> • The PQR did not identify any recommended action items for this section.

3. Final Effluent Limitations and Documentation

Background and Process

Permits must include all applicable statutory and regulatory requirements, including technology and WQS, and must include effluent limitations that ensure that all applicable CWA requirements are met. The permitting authority must identify the most stringent effluent limitations and establish them as the final effluent limitations in the permit. In addition, for reissued permits, if any of the limitations are less stringent than limitations on the same pollutant in the previous NPDES permit, the permit writer must conduct an anti-backsliding analysis, and if necessary, revise the limitations accordingly. In addition, for new or increased discharges, the permitting authority should conduct an antidegradation review, to ensure the permit is written to maintain existing high quality of surface waters, or if appropriate, allow for some degradation.

In addition, permit records for POTWs and industrial facilities should contain document development of all effluent limitations. Technology-based effluent limits should include assessment of applicable State WQS, data used in developing effluent limitations, and actual calculations used to develop effluent limitations. The procedures implemented for determining the need for WQBELs as well as the procedures explaining the basis for establishing, or for not establishing, WQBELs should be clear and straight forward. 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 permit writer should sufficiently document determinations regarding anti-backsliding and antidegradation requirements.

Permits reviewed during the PQR included effluent limitations appropriate to the facility and discharge and included effluent limitations that are at least as stringent as those in the previous permit.

As required by 40 CFR 124.8, WDNR's fact sheets adequately describe the facility operations and wastewater treatment processes. WDNR's fact sheets clearly and consistently identify the regulatory basis for each effluent limitation. WDNR develops memos separately that discuss the basis for TBELs and WQBELs. The WQBEL memos clearly identify the appropriate receiving water, applicable beneficial uses and WQS and they discuss stream impairment status and whether a TMDL applies to the discharge. The WQBEL memos also identify pollutants of concern and summarize the RPA and WQBEL development. The RPA and WQBELs calculations are maintained in electronic format, with a summary provided in the WQBEL memo. WDNR permit drafters consider both TBELs and WQBELs when establishing final effluent limitations. Fact sheets discuss applicable standards and effluent limitations and identify the most stringent effluent limitation which is then established in the permit.

Wis. Admin. Code Chapter NR 207, Subchapters I and II include antidegradation and anti-backsliding requirements, respectively. Antidegradation is triggered whenever there is a proposal to increase an existing discharge or create a new discharge to the surface waters of the state. Permit drafters evaluate anti-backsliding whenever there is a proposal for an

increased or less stringent limitation from what was included in the previous permit. WDNR is currently developing guidance for implementing antidegradation requirements and evaluating anti-backsliding provisions. Limit calculators evaluate facility data to determine whether the facility can meet current limits and whether antidegradation or backsliding analyses are warranted as part of permit reissuance; WQBEL memos discuss anti-backsliding evaluations. Additionally, the Water Quality Bureau plans to reinstate an administrative code regulatory revision effort to update the state’s antidegradation regulatory requirements in 2020.

Program Strengths

WDNR’s WQBEL memos consistently provide a thorough discussion of the basis for effluent limitations, including reasonable potential determinations and WQBEL development. Further, the memos discuss the status of receiving stream impairment and TMDLs and determination of allowable mixing zones. The WQBEL memos also present a comparison of proposed and existing effluent limitations, providing a clear demonstration that the permit writer evaluated the need to establish effluent limitations as stringent as those in the previous permit. In addition, certain records reviewed include memos that specifically discuss the basis for and development of TBELs based on ELGs. WDNR permits appropriately apply procedures to develop TBELs and WQBELs.

Areas for Improvement

One fact sheet reviewed during the PQR lacks a discussion regarding the basis for changing the limited parameter from CBOD to BOD. During the PQR’s technical discussion via Teams, the WDNR permit drafter reviewed the permit record and explained that the permittee requested the change in parameter at the last-minute during the permit development process. Due to the timing of the permittee’s request, the omission of the rationale in the fact sheet was an oversight for this permit. Another fact sheet lacked discussion of the basis for effluent limitations that are carried forward from the previous permit. Permit drafters are encouraged to identify the current permit record for the basis for effluent limitations that are continued from the previous permit to include that information as a renewal of the original basis for decision. Avoiding backsliding is an appropriate basis. While WDNR’s SWAMP program allows permit drafters to customize fact sheet language and therefore, permit writers can “override” default template language and generate original rationale language where necessary, it appears to be an oversight during drafting.

Action Items

Essential

- The PQR did not identify any essential action items for this section.

Recommended

- Permit drafters should ensure that fact sheets or the administrative record include discussion of the basis for all effluent limitations, including the original basis for effluent limitations that are continued from the previous permit.

C. Monitoring and Reporting Requirements

Background and Process

NPDES regulations at 40 CFR 122.41(j) require permittees to monitor their discharge 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 in a manner that is representative of the permitted effluent discharge(s) 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 reporting of 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(b) 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. 40 CFR Part 127 requires NPDES-regulated entities to submit certain data electronically, including discharge monitoring reports and various program-specific reports, as applicable.

NPDES permits should specify appropriate monitoring locations to ensure compliance with the permit limitations and provide the necessary data to determine the effects of the effluent on the receiving water. A complete fact sheet will include a description and justification for all monitoring locations required by the permit. Permits must also specify the sample collection method for all parameters required to be monitored in the permit. The fact sheet should present the rationale for requiring grab or composite samples and discuss the basis of a permit requirement mandating use of a sufficiently sensitive 40 CFR 136 analytical test method(s).

Generally, WDNR permit drafters continue monitoring requirements from the previous permit unless there is a reason to adjust specific monitoring requirements. WDNR has draft guidance for implementing reductions in monitoring frequency for reissued WPDES permits, this is based on EPA's memorandum (*Interim Guidance for Performance-Based Reductions of NPDES Permit Monitoring Frequencies*, April 19, 1996). Permit drafters implement WDNR WET guidance for determining whether it is appropriate to include WET monitoring requirements in WPDES permits. WDNR's WET guidance recommends that the monitoring frequencies for major municipal and primary industrial facilities remain consistent with federal application WET testing requirements at 40 CFR 122.21(j)(5)(iv), that require the submission of a minimum of four WET tests. WDNR's WET checklist is configured to recommend a minimum of annual acute and chronic WET monitoring for major municipal and primary industrial facilities, to ensure that data are available at the time of the next permit application and reissuance. In addition, WDNR's WET guidance reminds permit writers that following the step-wise process that the Checklist offers, the monitoring recommendations made by the WET Checklist should be carefully considered and the final monitoring frequency should be based on the best

professional judgment of staff that are knowledgeable about the discharge. Staff should use their own judgment and their knowledge of the facility to decide whether the WET Checklist recommendations are appropriate for the discharge being evaluated. The WDNR WET guidance also includes recommendations for additional testing requirements for when a WET test results in a positive result; the permittee is required to submit the test results from at least two resampling events within 90 days of a positive test result. In addition, the WDNR WET guidance includes recommendations for when a Toxicity Reduction Evaluation (TRE) should be included in a permit. The WDNR WET guidance includes sample permit language requiring submission of a WET identification and reduction report within 60 days of the completion of a WET resampling event with positive test results. The WET Checklist recommends a TRE compliance schedule based on the percent failures that have occurred. In cases where data are limited or where toxicity has appeared infrequently, a TRE may not be recommended. In these cases, the WET Checklist often recommends more frequent monitoring instead, in order to determine whether toxicity reappears over time. Standard language typically included in WPDES permits requires the permittee to conduct a TRE if WET test results are non-compliant with the WET limit occur during the permit term. Therefore, repeated occurrences of toxicity test results that exceed the NPDES permit monitoring requirements or permit WET limit may still trigger the need for a TRE. As stated above, 40 CFR 122.48(b) requires that permits specify the type, intervals, and frequency of monitoring sufficient to yield data which are representative of the monitored activity. In addition, 40 CFR 122.48(c) requires permits to specify applicable reporting requirements based upon the impact of the regulated activity. The review of individual permits reveals that WDNR's WET monitoring frequencies are generally established at a minimum of annual testing; which WDNR has indicated is to satisfy the NPDES application requirements for WET data. Annual, and in some cases semiannual, monitoring may not be sufficient to fully capture all toxic discharges that may result in an excursion of the state's WQS; WDNR should consider increasing the minimum WET monitoring frequency in order to appropriately evaluate the toxicity of discharges.

WET testing results are submitted on DMRs and on a specific WET results form. Permits establish specific reporting requirements for special conditions. In addition, WPDES permits include a table at the end of the permit document that provides a summary of reports due and fact sheets provide rationale for monitoring requirements.

Program Strengths

WDNR establishes appropriate monitoring requirements in NPDES permits for municipal and non-municipal facilities. WDNR adequately considers the type of treatment process, effluent variability, and compliance history in establishing monitoring requirements. Monitoring requirements, including monitoring location, are clearly identified in permits. Permits appropriately require the use of sufficiently sensitive EPA-approved (i.e., 40 CFR Part 136) analytical test methods and require electronic submittal of DMRs. Permits clearly identify reporting requirements; WPDES permits include a table at the end of the permit document that provides a summary of reports due.

Areas for Improvement

As discussed above and in section III.B.2, WDNR’s generic WET monitoring frequencies (e.g., annual, and in some cases, semiannual) may not be sufficient to fully capture all toxic discharges that may result in an excursion of the state’s WQS; WDNR should consider increasing the minimum WET monitoring frequency in order to appropriately evaluate the toxicity of discharges. In order to appropriately evaluate the toxicity of the discharge, WET monitoring objectives should be based on data that sufficiently considers effluent variability and test species sensitivity. These WET testing recommendations are found in EPA’s Technical Support Document for Water Quality-Based Toxic Control (TSD) and are consistent with 122.41(j)(1), 122.44(i)(1) and (1)(iv) and (2), and 122.48 (a-c) which specify that monitoring requirements are conducted in a manner that is “representative” monitored activity which includes frequency and sufficiently sensitive methods.

Action Items

Essential

- The PQR did not identify any essential action items for this section.

Recommended

- Recommend permit writers consider additional WET testing which includes at least quarterly WET testing be conducted during the first year of an NPDES permit while using different test species from EPA’s promulgated toxicity test methods (*to identify the most sensitive and thus most appropriate test species to use for monitoring*), with the option to decrease the frequency of WET testing if the effluent is demonstrated to be not toxic based on valid WET data that is in compliance with the State’s WQS and NPDES WET permit limits, and if the monitoring frequency is sufficient to address effluent variability and maintains representative monitoring appropriate for the discharge.

D. Standard and Special Conditions

Background and Process

Federal regulations at 40 CFR 122.41 require that all NPDES permits, including NPDES general permits, contain certain “standard” permit conditions. Further, the regulations at 40 CFR 122.42 require that NPDES permits for certain categories 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 those in the federal regulations.

Permits may also contain additional requirements that are unique to a particular discharger. These case-specific requirements are generally referred to as “special conditions.” Special conditions might include requirements such as: additional monitoring or special studies such as a 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.

WDNR generally incorporates standard conditions by reference to Chapter NR 205 (ss NR 205.07(1) and (2)), of the Wisconsin Administrative Code, but also includes certain standard conditions in section 6 of WPDES permits.

WDNR includes special conditions establishing requirements for compliance schedules, WQS variances, mercury pollutant minimization programs, sanitary sewage collection system and treatment plant overflows, and land application. Narrative effluent limitations are included in section 6.4 of WPDES permits (*Surface Water Requirements*). Wisconsin allows variances from certain state surface WQS—mercury, copper, chloride, and phosphorus. Wisconsin administers a statewide multi-discharge variance for phosphorus. Permittees are required to request a variance through submittal of a variance application form and supplemental supporting information and then receive approval from both WDNR and EPA.

Program Strengths

Permits incorporate appropriate special conditions and compliance schedules. WPDES permits implement WQS variances adequately and the administrative record contains complete documentation and justification for granting variances. WDNR’s website provides useful information about WQS variances.

Areas for Improvement

The review team did not identify any areas for improvement in this core area.

Action Items

Essential

- The PQR did not identify any essential action items for this section.

Recommended

- The PQR did not identify any recommended action items for this section.

E. Administrative Process

Background and 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 (40 CFR 124.5). EPA discussed each element of the administrative process with Wisconsin, and reviewed materials from the administrative process as they related to the core permit review.

WDNR provides a 30-day public comment period. This public notice is through a local newspaper and WDNR's website for typical permits. The comment period is typically 45-days for those permits that include a WQS variance. WDNR holds in-person public hearings for permits of significant interest as well as those with a proposed WQS variance. For those permits where WDNR holds a public meeting, the public notice is for the draft permit, the proposed WQS variance, and the public hearing. WDNR holds the public hearing after the completion of the comment period and continues to accept comments for an additional 7 days following the public hearing. Following the closing of the comment period, the public notice is removed from the public notice website, permit drafters prepare a Notice of Final Determination (NFD), which is WDNR's response to comments document, or a "No Comments Received" form for the administrative record. WDNR mails an NFD to all who commented on the draft permit.

Program Strengths

Permit administrative records reviewed include complete documentation demonstrating that public notice procedures were implemented appropriately. In addition, permit records reviewed include comments received as well as WDNR's response to comments. Further, WDNR's administrative permit records include a File Memo-Public Record of No Comments Received when no comments are received which offers a clear understanding of whether public comments were received on the draft permit.

Areas for Improvement

The review team did not identify any areas for improvement in this core area.

Action Items

Essential

- The PQR did not identify any essential action items for this section.

Recommended

- The PQR did not identify any recommended action items for this section.

F. Administrative Record and Fact Sheet

Background and Process

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 a final permit. Authorized state programs should have equivalent documentation. The administrative 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;⁵ 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 and final response to comments.

Regulations 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.

WDNR's administrative record is comprised of the "permit legal file," which is the official record of permit issuance or reissuance actions and decisions for a facility, and the "compliance file." NPDES permit records are stored in SWAMP and include both the permit legal file and compliance file.

Program Strengths

WDNR's electronic permit files are complete, well organized, clearly named, and easy to understand. WDNR develops consistent and complete fact sheets for both industrial and municipal permits. In addition, the fact sheets are well organized and make useful information readily available. For example, fact sheets contain a clear summary of compliance status which provides important information. Both the wastewater and stormwater permitting program supporting documentation is maintained in a consistent manner. WQBEL memos provide useful and detailed information concerning RPAs, development of WQBELs, and waterbody impairment information.

⁵ Per 40 CFR 124.8(a), every EPA and state-issued permit must be accompanied by a fact sheet if the permit: Incorporates a variance or requires an explanation under 124.56(b); is an NPDES general permit; is subject to widespread public interest; is a Class I sludge management facility; or includes a sewage sludge land application plan.

Areas for Improvement

The review team observed that WDNR’s fact sheets would be strengthened by including discussions of the basis for and development of WQBELs. This could include a reference to supporting information such as the WQBELs.

*Action Items***Essential**

- The PQR did not identify any essential action items for this section.

Recommended

- Consider updating fact sheet templates to include discussions of reasonable potential evaluations and development of WQBELs or at a minimum, reference the WQBEL attachment within the fact sheet.

IV. NATIONAL TOPIC AREA FINDINGS

National topic areas are 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 scale. National topic areas are reviewed for all state PQRs. The national topics areas are: Permit Controls for Nutrients in Non-TMDL Waters, Effectiveness of POTW NPDES Permits with Food Processor Contributions, and Small Municipal Separate Storm Sewer System (MS4) Permit Requirements.

A. Permit Controls for Nutrients in Non-TMDL Waters

Background

Nutrient pollution is an ongoing environmental challenge, however, nationally permits often lack nutrient limits. It is vital that permitting authorities actively consider nutrient pollution in their permitting decisions. Of the permits that do have limits, many are derived from wasteload allocations in TMDLs. For this section, waters that are not protected by a TMDL are considered. These waters may already be impaired by nutrient pollution or may be vulnerable to nutrient pollution due to their hydrology and environmental conditions. For the purposes of this program area, ammonia is considered as a toxic pollutant, not a nutrient.

Federal regulations at 40 CFR 122.44(d)(1)(i) require permit limits to be developed for any pollutant which causes, has the reasonable potential to cause, or contributes to an excursion of the state’s WQS, whether those standards are narrative or numeric.

To assess how nutrients are addressed in the WDNR program, EPA reviewed the three individual major municipal permits selected because they discharge to nutrient impaired water bodies but do not have a completed TMDL (Fond du Lac, Plymouth Utilities and Prairie du

Chien). The EPA review considered supporting documentation in each permit's administrative record as well as information about the receiving water from the 2016 Integrated Report which identifies impaired waters on the State's CWA Section 305(b) list and probable causes of impairment on the CWA Section 303(d) list.

Program Overview

WDNR provides a comprehensive approach to control phosphorus from discharges to surface waters of the state. The approach includes monitoring requirements, effluent limitations, compliance schedules, variances, and point source compliance alternatives such as water quality trading and adaptive management.

Phosphorus TBELs have been in place in WPDES permits for most major municipal facilities since the early 2000's, requiring a generally achievable 1 mg/L monthly average effluent limitation. In 2010, EPA approved Wis. Admin. Code Chapter NR 102.06, providing numeric phosphorus water quality criteria within its jurisdiction for flowing waters (rivers and streams), reservoirs and lakes, including Lakes Michigan and Superior. WQBELs derived from these criteria can be an order of magnitude more stringent than the TBEL.

Wis. Admin. Code Chapter NR 217 regulates how to apply phosphorus water quality criteria to WQBELs in WPDES permits. Wis. Admin. Code NR 217.17 allows compliance schedules specifically for phosphorus WQBELs for up to nine years.

In addition to requirements in the administrative code, WDNR utilizes *Wisconsin's Nutrient Reduction Strategy* (NRS), developed in 2013 as a "living document."⁶ Through the NRS, WDNR builds on existing programs and requirements to achieve further phosphorus reductions.⁷

Additionally, WDNR recently issued *Guidance for Implementing Wisconsin's Phosphorus Water Quality Standards for Point Source Discharges* June 2020.⁸ The Guidance is non-regulatory and is used to assist WDNR permitting staff and is available to inform WPDES permittees.

WDNR offers permittees some flexibility on achieving phosphorus WQBELs, most of which become effective in the 2018 to 2023 timeframe. Meeting these phosphorus requirements can require expensive capital investment for treatment system optimization or construction. Additionally, if approved by WDNR, permittees can pursue point source compliance alternative strategies. These alternative strategies include water quality trading or adaptive management. As of June 2020, about 40 NPDES permittees in Wisconsin utilize water quality

⁶ <https://dnr.wisconsin.gov/topic/Wastewater/Phosphorus>

⁷ The Wisconsin NRS was developed in response to the Gulf Hypoxia action plan 2008 call for each state in the Mississippi River Basin to develop a strategy by 2013 to reduce the amount of phosphorus and nitrogen carried in waterways of the state to address Gulf Hypoxia. The Wisconsin NRS also addresses intra-state needs for lakes, streams and groundwater and it includes needs for the Great Lakes consistent with Annex 4 of the Great Lakes Water Quality Agreement of 2012.

⁸ Available at <https://dnr.wi.gov/topic/wastewater/phosphorus/index.html>

trading to meet requirements, typically by installing nonpoint source phosphorus reductions as offsets⁹ and adaptive management has been undertaken by 20 permittees statewide.¹⁰

For those permittees experiencing economic hardship, WDNR works closely with EPA to develop variance options for phosphorus WQBELs. A multi-discharger variance (MDV), approved by EPA in 2017 enables a statewide payment system in which covered permittees make payments based on the pounds of phosphorus discharged while working towards compliance or an offset of sorts through a watershed project. The funding is used by county conservation departments to reduce agricultural phosphorus loading to surface waters by implementing projects in their county. Individual variances for phosphorus have also been developed when a permittee has been determined to be ineligible for the MDV, allowing permittees to tailor a pollutant minimization plan to the unique circumstances at their facility. Statewide, multi-discharger and individual phosphorus variances have been approved for 114 and 24 permittees, respectively.

Program Strengths

WDNR has tracked annual point source phosphorus loading for decades. Trends depict decreasing levels over the period of record (1995 to 2018) showing that annual point source phosphorus loadings decreased by about 70 percent or about 2,788,100 pounds per year. The most recent biannual progress reports on the NRS, the 2017-2019 Progress Report further confirms that through these efforts WDNR is making steady progress to reduce phosphorus loads.

Phosphorus has long been recognized by WDNR as a controlling factor in plant and algae growth in Wisconsin lakes and streams. Consequently, WPDES controls on nutrients have centered primarily on phosphorus. Nitrogen is another nutrient parameter of concern and WDNR is paying increasing attention to nitrogen-containing pollutant parameters.¹¹ Specifically, WPDES applicants statewide must provide the results from at least one effluent testing for ammonia nitrogen, nitrate-nitrite, TKN, and total nitrogen when the applicant is a municipal discharger with flow equal to or greater than 0.1 MGD or if it is an industrial applicants which knows or has reason to believe that any of these parameters is present at levels equal to or greater than 10 µg/L. In addition, consistent with the [Gulf Hypoxia Task Force Action Plan 2008](#), all WPDES permits for major municipal dischargers in the Mississippi River Basin include quarterly monitoring requirements for total nitrogen.

Areas for Improvement

Federal regulations at 40 CFR 122.44(d)(1)(i) require permit limits for any pollutant that causes, has the reasonable potential to cause, or contribute to an excursion of the state's WQS, whether those standards are narrative or numeric. Wisconsin's requirement for conducting reasonable potential determinations is located at Wis. Admin. Code Chapter NR 205.067,

⁹ <https://dnr.wi.gov/topic/wastewater/WaterQualityTrading.html>

¹⁰ <https://dnr.wi.gov/topic/wastewater/AdaptiveManagement.html>

¹¹ WPDES permits include limitations on ammonia-nitrogen where RPA exists due to aquatic toxicity criteria. Ammonia-nitrogen criteria are at s. NR 106.33 Wis. Adm. Code

providing for protection of water quality in receiving waters and downstream waters; the procedures to conduct an RPA are found at Wis. Admin. Code NR 205.067. Wisconsin procedures for conducting RPAs specifically address narrative WQS and when a calculated numeric water quality criterion is required.

Wisconsin's EPA-approved numeric water quality criteria are provided at NR 102.06 which contains numeric water quality criteria for total phosphorus and NR 102.04 contains narrative criteria to protect waterbodies from harmful effects of nutrients and algae such as objectionable deposits, or materials producing color, odor, taste, or unsightliness. According to NR 102.06(6)(b), certain waters are excluded from numeric total phosphorus criteria, including ephemeral streams and small lakes or reservoirs. The PQR did not include any permittees discharging to receiving waters where an exclusion from NR 102.06(6) would apply.

To more closely align with 40 CFR 122.44(d)(1), the state should perform an RPA evaluation of the discharge against the narrative criteria consistent with NR 205.067; NR 106.05; and NR 106.08 where one or more of the following conditions exist: a nutrient-related narrative water quality standard is exceeded; there is no nutrient-related TMDL applicable to the discharger; and the cause of nutrient-related impairment is not traceable to an exceedance of Wisconsin's total phosphorus water quality criteria (including situations where the discharge meets one or more of the exemptions in NR 102.06(6)(b)). The RPA should consider whether nitrogen is a limiting chemical for algal productivity in the nutrient-impaired waters. Where reasonable potential for an excursion of the narrative WQS exists, Wisconsin should set effluent limits for total phosphorus and/or nitrogen as appropriate based on the reasonable potential determination.

The 40 CFR 122.44(d)(1) regulations and Wis. Adm. Code NR 205.067(4) state that an RPA must be performed and that effluent limits must be included in permits as needed to ensure the achievement of WQS.

Action Items

Essential

- The PQR did not identify any essential action items for this section.

Recommended

- Wisconsin should develop procedures to assess and interpret permittee monitoring data for nitrogen to make progress in developing numeric limits for nitrogen where needed to protect aquatic systems.

B. Effectiveness of POTW NPDES Permits with Food Processor Contributions

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

Indirect discharges of food processors can be a significant contributor of pollutant load to recipient POTWs. Food processing discharges contribute to nutrient pollution (e.g., nitrogen, phosphorus, ammonia) to the nation's waterways. Focusing specifically on the Food Processing Industrial Sector will synchronize PQRs with the Office of Enforcement Compliance and Assurance (OECA)'s Significant Non-compliance (SNC)/National Compliance Initiative (NCI).

The goal of the PQR was to identify successful and unique practices with respect to the control of food processor discharges by evaluating whether appropriate controls are included in the receiving POTW's NPDES Permit and documented in the associated fact sheet or statement of basis; as well as by compiling information to develop or improve permit writers' tools to be used to improve both POTW and industrial user compliance.

Table 3 identifies the pretreatment and NPDES requirements considered during this PQR. For purposes of this table, the terms *Director* and *Permitting Authority* refer to WDNR. As the Approval Authority, WDNR is responsible for administering the WPDES program consistent with provisions of the CWA, including issuance of WPDES permits to POTWs with pretreatment programs. The term *Control Authority* refers to the two POTWs with approved pretreatment programs, or to WDNR for the two POTWs without an approved pretreatment program.

Table 3. Regulatory Focus for this Section of the PQR

Citation	Description
40 CFR 122.42(b)	POTW requirements to provide adequate notice of new pollutants to the Director
40 CFR 122.44(j)	Pretreatment Programs for POTW
40 CFR 124.3(a) and (c)	The POTW must submit a timely and completed application for an NPDES permit or NPDES permit renewal
40 CFR 124.8(a) and (b)	The permitting authority must prepare a fact sheet for every draft permit for a major NPDES facility. Fact sheets must briefly set forth the principal facts and the significant factual, legal, methodological and policy questions considered in preparing the draft permit including references.
40 CFR 403.5(a), (b) and (c)	National pretreatment standards: Prohibited discharges
40 CFR 403.3	Definitions
40 CFR 403.8	Pretreatment program requirements: Development and implementation by POTW
40 CFR 403.10	Development and submission of NPDES state pretreatment programs
40 CFR 403.11	Approval procedures for POTW pretreatment programs and POTW granting of removal credits

Findings

Pretreatment Program Coverage

As shown in Table 4, 27 POTWs have an approved pretreatment program; those POTWs are the Control Authority for a total of 518 SIUs. WDNR serves as the Control Authority for 130 SIUs distributed without an approved pretreatment program. There are currently no Federal categorical pretreatment standards for food processors.

Table 4. Wisconsin SIUs by Pretreatment Program Status

SIU Description	Number of SIU(s) Controlled by an Approved Pretreatment Program (27 POTWs)	Number of SIU(s) Not Controlled by an Approved Pretreatment Program	Total
Categorical Industrial User (CIU)	293	130	423
Non-CIU	225	1	226
Total SIU	518	131	659

To select the permits for review, EPA reviewed the list the state sends of permits from POTWs who receive food processor inputs and built the permit selection using a random number selection. Next, the selection factored whether the POTW discharges to nutrient impaired receiving waters without a TMDL (for the sake of PQR efficiency not due to any correlation between the two factors).

Table 5 identifies the four WPDES permits selected for this topic area. All four have a sewer use ordinance (SUO) controlling discharges to the POTWs. However, only the two POTWs with an approved pretreatment program (City of Fond du Lac and Heart of the Valley Metropolitan Sewerage District) have SUOs approved by WDNR in accordance with 40 CFR 403. Table 3 shows minimum standards for industrial users (IUs) through the SUO local limits (LLs) and/or surcharge controls for conventional pollutants. The type of control (LL or surcharge) and parameters controlled vary by SUO: all four regulate BOD₅ and TSS; three control phosphorus; two control ammonia nitrogen; and one controls fats, oils, and grease (FOG). SUOs are available online for two of the POTWs (hyperlinked in the table).

Table 5. Permits Selected for the Pretreatment Topic Area

Permittee (SUO is linked)	Permit No.	Approved Program?	Design Average Flow (DAF) (MGD)	No. of SIUs ¹	No. of Food Processor IUs ¹	Example of SUO Controls
Curtiss Village (SUO provided to EPA HQ in electronic format [PDF])	WI-0031445-09-0	No	0.095	2 ²	2	BOD, TSS, FOG, and phosphorus local limits (can exceed if receive approval from the Village) BOD concentration is used to calculate the sewer use charge.
City of Fond du Lac	WI-0023990-09-0	Yes	11.1	10	2 ³	Cadmium, copper, cyanide, chromium, zinc, lead, mercury, nickel, and silver maximum concentration local limits BOD, TSS, phosphorus, ammonia nitrogen, average daily flow local limits (can exceed if receive approval from the City)
Heart of the Valley Metropolitan Sewerage District	WI-0031232-09-0	Yes	8.5	21	5 ³	Cadmium, chromium, copper, lead, mercury, nickel, zinc, cyanide, and polychlorinated biphenyls daily maximum concentration local limits BOD, TSS, phosphorus, ammonia nitrogen, and chloride concentrations are used in a formula to calculate the user's service charge
Milan Sanitary District (SUO provided to EPA HQ in electronic format [PDF])	WI-0031500-08-0	No	0.139	1	1	BOD and TSS local limits and surcharge.
¹ Based on the information provided in the permit application, unless otherwise noted. ² The NPDES permit application lists the food processing industrial users as CIUs. ³ WDNR provided the number of food processing industrial users permits listed here for review. The permit application did not specify which SIUs were food processors.						

EPA reviewed seven IU discharge permits issued by the POTWs with approved pretreatment programs to identify how and if any IU controls on conventional pollutants are being implemented. As shown in Table 6, the review included two food processors for the City of Fond du Lac and five food processors for Heart of the Valley Metropolitan Sewerage District.

Table 6. Summary of Discharge Permit Conditions

Facility Name	Permit Number	Receiving POTW	Type of Food Processor	Classification by POTW	Average Process Wastewater Discharge (gallons per day [gpd]) ¹	Monitored Pollutants ²
LaClare Family Creamery	FDL-2318	City of Fond du Lac	Goat milk and cheese production ³	SIU	Unknown	Flow, pH, cyanide, cadmium, chromium, copper, lead, mercury, nickel, silver, zinc; BOD ₅ , TSS, phosphorus, and ammonia nitrogen ⁴
Milk Specialties Global	FDL-2302	City of Fond du Lac	Milk, whey protein ingredients, and animal nutrition products manufacturer ³	SIU	Unknown	Flow, pH, cyanide, cadmium, chromium, copper, lead, mercury, nickel, silver, zinc; BOD ₅ , TSS, phosphorus, and ammonia nitrogen ⁴
Agropur Inc.	4/92	Heart of the Valley	Dairy cheese manufacturer ¹	SIU	48,000-95,000	SIU: Flow, pH, BOD, suspended solids, phosphorus, ammonia, chlorides, and O&G District: the above pollutants of concern (POCs) + 8 metals and cyanide ⁵
Bel Brands Cheese	1/92	Heart of the Valley	Cheese by-products production and processing ¹	SIU	26,000-28,000	SIU: Flow, pH, BOD, suspended solids, phosphorus, ammonia, chloride, and O&G District: above POCs + 8 metals and cyanide ⁵
Bernatello's Foods	6/19	Heart of the Valley	Frozen pizza manufacturer ³	SIU	Unknown	SIU: Flow, pH, BOD, suspended solids, phosphorus, ammonia nitrogen, chloride, and O&G; District: above POCs + 7 metals and cyanide ⁵
Lamers' Dairy	2/92	Heart of the Valley	Dairy milk product processing ¹	SIU	4,400-12,000	SIU: Flow, pH, BOD, suspended solids, phosphorus, ammonia, chloride, and O&G; District: above POCs + 8 metals and cyanide ⁵
Nestle USA – Nestle Pizza Division	3/92	Heart of the Valley	Pizza making – crust, sauce, pepperoni, cheese, green peppers, onion, etc. ¹	SIU	77,000-160,000	SIU: Flow, pH, BOD, suspended solids, phosphorus, ammonia nitrogen, chlorides, and O&G; District: above POCs + 8 metals and cyanide ⁵

¹ Based on information included in the POTW's NPDES permit application.

² Includes parameters identified in the permit with numerical discharge limits, applicable surcharge values, and/or monitoring only requirements.

³ Based on information obtained on the SIU's company webpage.

⁴ The permit contains limits for flow, pH, cyanide, cadmium, chromium, copper, lead, mercury, nickel, silver, and zinc; the permit does not contain limits for BOD₅, TSS, phosphorus, and ammonia nitrogen. The City performs all monitoring in lieu of requiring the SIUs to conduct self-monitoring.

⁵ The permit contains daily maximum limits for eight metals, cyanide, oil and grease (petroleum oil, nonbiodegradable cutting oils, or products of mineral oil origin), and pH; the permit does not contain limits for flow, BOD, suspended solids, phosphorus, ammonia nitrogen, or chlorides.

Minimal monitoring of an IU discharge that potentially has inconsistent quality may prevent a POTW from detecting and expeditiously reacting to influent quality changes. EPA compared IU effluent limitations and discharge monitoring frequencies for food processors with those for the receiving POTWs to evaluate the adequacy of IU discharge monitoring frequencies to support timely detection of discharges that exceed local limits applicable to the discharge.

Table 7. Discharge Permit Conditions

IU and Receiving POTW	Pollutant Monitoring Frequency and Limit ¹									
	Total P		Ammonia		BOD		TSS		O&G	
City of Fond du Lac										
LaClare Family Creamery (City performs monitoring)	Daily	N/A	Daily	N/A	Daily	N/A	Daily	N/A	N/A	100 mg/L
Milk Specialties Global (City performs monitoring)	Daily	N/A	Daily	N/A	Daily	N/A	Daily	N/A	N/A	100 mg/L
City of Fond du Lac	Daily	0.8 mg/L MA	Daily	Varies ²	Daily	45 mg/L WA; 30 mg/l MA	Daily	45 mg/L WA; 30 mg/L MA	N/A	N/A
Heart of the Valley										
Agropur Inc.	1 st , 3 rd , and 4 th Quarters	N/A	1 st , 3 rd , and 4 th Quarters	N/A	1 st , 3 rd , and 4 th Quarters	N/A	1 st , 3 rd , and 4 th Quarters	N/A	1 st , 3 rd , and 4 th Quarters	N/A
Bel Brands Cheese	1 st , 3 rd , and 4 th Quarters	N/A	1 st , 3 rd , and 4 th Quarters	N/A	1 st , 3 rd , and 4 th Quarters	N/A	1 st , 3 rd , and 4 th Quarters	N/A	1 st , 3 rd , and 4 th Quarters	N/A
Bernatello's Foods	1 st , 2 nd , and 4 th Quarters	N/A	1 st , 2 nd , and 4 th Quarters	N/A	1 st , 2 nd , and 4 th Quarters	N/A	1 st , 2 nd , and 4 th Quarters	N/A	1 st , 2 nd , and 4 th Quarters	N/A
Lamers' Dairy	2 nd , 3 rd , and 4 th Quarters	N/A	2 nd , 3 rd , and 4 th Quarters	N/A	2 nd , 3 rd , and 4 th Quarters	N/A	2 nd , 3 rd , and 4 th Quarters	N/A	2 nd , 3 rd , and 4 th Quarters	N/A
Nestle USA – Nestle Pizza Division	1 st , 2 nd , and 4 th Quarters	N/A	1 st , 2 nd , and 4 th Quarters	N/A	1 st , 2 nd , and 4 th Quarters	N/A	1 st , 2 nd , and 4 th Quarters	N/A	1 st , 2 nd , and 4 th Quarters	N/A
Heart of the Valley	5/wk. ³	1.0 mg/L MA	5/ wk. ³	Varies ⁴	5/wk. ³ Nov.-April; Daily May-Oct.	45 mg/L WA; 30 mg/l MA	5/wk. ³	45 mg/L WA; 30 mg/l MA	N/A	N/A

¹ For this table, not applicable is abbreviated N/A, weekly average is abbreviated WA, and monthly average is abbreviated MA.

² The City of Fond du Lac's NPDES permit contained ammonia limits that vary throughout the year, ranging from 6.1-34 mg/L monthly average, 17-34 mg/L weekly average, and a variable daily maximum limit with the effluent pH (e.g., pH ≤ 7.5 = 34 mg/L ammonia limit; and pH > 9.0 = 2.6 mg/L ammonia limit).

³ Permit states that “parameters required to be monitored at a frequency of 5/week shall be monitored each day that an in-plant diversion occurs”.

⁴ The Heart of the Valley Metropolitan Sewerage District’s NPDES permit contained ammonia limits that vary throughout the year, ranging from 4.4-18 mg/L monthly average, 17 mg/L daily maximum year-round, and 11-29 mg/L weekly average limit.

Program Strengths

Approved Programs

WPDES permit standard provisions require the permittee to implement a pretreatment program in compliance with the approved POTW pretreatment program, any subsequent program modifications, 40 CFR Part 403, and Chapter NR 211 of the Wisconsin Administrative Code. The fact sheets specify that the POTW is required to administer a pretreatment program. The WPDES permit fact sheets also indicate the basis for requiring pretreatment program development.

The WPDES permit standard provisions require the permittee to submit annual pretreatment reports that include the number of discharge permits issued, pollution prevention activities, summary of inspections and monitoring events, program budget and personnel, discussion of program progress in meeting the objectives of the pretreatment program, and summary comments and recommendations for the program.

The WPDES permits require the permittee to maintain a current inventory of the general character and volume of wastewater that IUs discharge to the POTW, in accordance with 40 CFR 122.44(j)(1).

The WPDES permits contain secondary treatment standards in accordance with 40 CFR 133.102. The WPDES permits also establish effluent monitoring and limitations for phosphorus and ammonia. As noted above in Table 5, the City of Fond du Lac has adopted local limits for BOD, TSS, ammonia, and phosphorus. Heart of the Valley Metropolitan Sewerage District calculates each IU’s service charge based on BOD5, TSS, phosphorus, and ammonia nitrogen effluent concentrations.

Fact sheets identify the number of noncategorical SIUs and CIUs and the POTW DAF. Although the POTW fact sheets do not clearly identify the POTW conventional pollutant capacity, all permits issued to the food processors by the City of Fond du Lac have similar monitoring frequencies to the POTW’s NPDES permit. The permits issued to food processors by the Heart of the Valley Metropolitan Sewerage District require monitoring for conventional pollutants three quarters per year and the POTW’s NPDES permit requires monitoring five times per week.

These monitoring frequencies appear adequate to provide the POTW (and WDNR) information to assess if the industrial conventional pollutant flow affects the POTW operations.

Non-approved Programs

As noted in Table 5 above, Curtiss Village has adopted local limits for BOD, TSS, and phosphorus; the BOD concentration is also used to calculate the sewer use charge. Milan Sanitary District has adopted local limits and surcharge fees for BOD and suspended solids.

The permit fact sheets for the POTWs without approved pretreatment programs identify the food processing IUs as sources of “Significant Industrial Loading.” Furthermore, the Curtiss Village NPDES permit includes monitoring requirements for one of its food processors. The permit requires the POTW to perform daily monitoring of BOD, TSS, and pH and continuous flow monitoring at Sampling Point 702, “the sampling station at the Abbyland Pork Plant [PorkPak].”

The permit fact sheets for POTWs without approved pretreatment programs specify the percent of the influent that is contributed to the food processor. For example, the Curtiss Village fact sheet states that Abbyland PorkPak contributes more than 90 percent of the influent loading. The Milan Sanitary District fact sheet states that ForeMost Farms – Milan’s loading accounts for approximately 90 percent of the Milan WWTP flow.

Areas for Improvement

WPDES Permits and Fact Sheets – All Programs

All POTW WPDES permits must contain complete requirements for notification and impact assessment of significant changes in industrial flow or character in accordance with 40 CFR 122.42(b). The WPDES permit standard requirements for the permits reviewed in this topic area include these requirements by reference to Wis. Admin. Code Chapter NR 207.07(2). The notification requirements could be improved with additional specificity. To improve permit clarity, the WPDES permits could spell out the requirements under 40 CFR 122.42(b), rather than simply incorporating them by reference.

The notification requirements at 40 CFR 122.42(b) specify that all POTWs must provide “adequate notice to the Director” concerning new introduction of pollutants to the POTWs from an IU, or substantial change in the volume or character of the indirect discharge. In addition to incorporating the federal notification requirements by reference to the state administrative code, the standard requirements in the WPDES permits reviewed do not include a timeframe for the POTW to provide adequate notice. While a timeframe for this notification is not required by federal regulations, a timeframe in the permit would improve POTW accountability and permit enforceability. Therefore, to enhance permit enforceability and

program efficiency, it is recommended that the WPDES permits be revised to specify a reasonable timeframe to provide the notice after the POTW becomes aware of changes identified in 40 CFR 122.42(b).

None of the four WPDES permits reviewed specify whether the POTW accepts hauled waste (which might affect capacities). However, the permit application for the City of Fond du Lac indicates that the POTW does accept hauled waste, including domestic holding tank wastes, landfill leachate, and “other.” It is recommended that the WPDES permit writer note in the fact sheet whether the POTW accepts hauled waste. WPDES requirements at 40 CFR 124.8(a) state that fact sheets shall briefly set forth the principal facts in preparing the draft permit. The acceptance of hauled waste is a principal fact. The POTW permit fact sheet should include information on the industrial discharges, including hauled waste, being contributed to the POTW.

The WPDES permit fact sheets did not characterize IU waste streams even though the POTWs’ SUOs have local limits and/or surcharge values for conventional pollutants or nutrients. It is recommended that the permittees with food processor SIU(s) be required to report the POTW’s organic loading capacity as part of the permit application. In addition, the WPDES permit fact sheet should identify and characterize contributing industrial dischargers to clarify the need for a pretreatment program and identify the domestic/industrial loading that may affect the POTW. This information will provide a record of the types of industrial discharges known at the time of permit issuance and distinguish them from new waste streams accepted after permit issuance (see notification requirements of 40 CFR 122.42(b))

WPDES Permits and Fact Sheets – Approved Programs

The WPDES permit fact sheets for POTWs with approved programs do not identify and characterize all contributing industrial dischargers. The permit fact sheets indicate the number of SIUs and CIUs that discharge to the POTWs, but do not further characterize these IUs. Furthermore, the City of Fond du Lac’s permit application does not provide information on the contributions to the POTW from food processors. It is recommended that the POTW permit fact sheet should include information on the industrial discharges being contributed to the POTW.

The WPDES permits for the POTWs with approved pretreatment programs include the general and specific prohibitions by reference to the Wis. Admin. Code Chapter NR 211 and state and federal pretreatment regulations. To improve permit clarity, it is recommended that the WPDES permits for POTWs with approved pretreatment programs include the prohibitions found at 40 CFR 403.5(a)(1) and (b), rather than incorporating those requirements by reference.

The WPDES permits do not specify the submission date of the last local limits evaluation and do not require the POTWs to submit a technical evaluation of the need to revise local limits within

one year of permit issuance or reissuance. All POTW WPDES Permits issued to POTWs with approved pretreatment programs must contain a requirement to provide a written technical evaluation of the need to revise local limits following POTW WPDES permit issuance or reissuance, per 40 CFR 122.44(j)(2)(ii).

The WPDES permits for the POTWs with approved programs require implementation of the pretreatment program and any subsequent modifications; however, the permits do not specify the date of pretreatment program approval or subsequent modification approval dates. The permit fact sheet for the City of Fond du Lac lists a program approval date of June 18, 1994; however, the POTW listed a program approval date of January 1, 1992 in the permit application. Further, the permit fact sheet for Heart of the Valley Metropolitan Sewerage District only lists the date of program approval as “1981”; however, the POTW entered the date of program approval as January 31, 1985, in its latest permit application. Although the program approval dates are included in the permit fact sheets, it is important that information be provided regarding the status of any program modifications that have been approved since the time of program approval listed. It is recommended that WDNR include the approval date of the original pretreatment program and any subsequently approved modifications in the permit record and ensure that the permit fact sheets correctly list the program approval and modification dates.

WPDES Permits and Fact Sheets – Non-approved Programs

The WPDES permit application for Milan Sanitary District lists Foremost Farms USA – Milan as an IU that has been previously designated as a SIU or contributes “an average of 25,000 gallons per day or more of wastewater, excluding sanitary wastewater, noncontact cooling water and boiler blowdown” or “a process waste stream that makes up 5% or more of the average dry weather hydraulic or organic capacity of the treatment plant.” However, the POTW does not provide in the permit application information on the industrial processes that affect or contribute to the SIU’s discharge. In addition, the permit application does not specify how wastewater from the food processor is introduced to the POTW. WDNR should ensure that the POTW includes sufficient information in the permit application for the permit writer to understand the pollutant contributions to the POTW. In addition, although Curtiss Village lists food processors (Abbyland PorkPak and Abbyland Distribution Center) in its permit application and provides information on the users and their discharges, the permit application indicates that these users are CIUs. There are currently no federal categorical pretreatment standards for food processing facilities and therefore the IUs in the permit applications should not be listed as CIUs, unless there are other industrial processes onsite that are subject to categorical standards.

Food processor SIU permits were not provided for Abbyland PorkPak and Abbyland Distribution Center (located in Curtiss Village), nor for Foremost Farms USA – Milan (located in Milan Sanitary District). Therefore, it is not clear whether the POTWs have issued discharge permits to these industrial users. Based on information provided in the Curtiss Village NPDES permit application, Abbyland PorkPak contributes approximately 70,000 gpd of process wastewater to the WWTP and contributes more than 90 percent of the influent loading to the WWTP. In addition, the Curtiss Village permit application indicates that the WWTP has received high phosphorus, BOD, TSS, flow, and chlorine loadings from the food processor in the past. Based on information provided in the Milan Sanitary District NPDES permit fact sheet, ForeMost Farms USA – Milan contributes approximately 90 percent of the Milan WWTP influent flow (based on the annual average influent flow of the WWTP provided in the fact sheet, the food processor's discharge is approximately 139,000 gpd). Although the reviewer was not provided information on the food processors' total percent of loading for conventional pollutants, based on the limited information provided for review regarding wastewater flow and the potential to cause harm to the POTW from these food processors, it is recommended that WDNR require Curtiss Village and Milan Sanitary District to develop formal pretreatment programs. Alternatively, WDNR may provide additional information to support not requiring pretreatment programs.

Industrial User Permit Deficiencies-

This section does not apply directly to WDNR as a permit issuer (Control Authority) but as an Approval Authority, WDNR should be ensuring that their approved pretreatment programs (such as Fond Du Lac and Heart of the Valley) are issuing permits that comply with the law and are protective of the POTW.

LaClare Family Creamery and Milk Specialties Global permits issued by the City of Fond du Lac:

- The effluent limitations listed in the SIU permits do include the limits for BOD, TSS, phosphorus, and ammonia nitrogen that are included in Section 639.15(A)(2) of the City's SUO. Although the permit specifies that the City monitors for the pollutants for billing purposes, the SUO lists local limitations for these pollutants of concern and therefore the SIUs must be made aware of these limitations. The federal requirements at 40 CFR 403.8(f)(1)(iii)(B)(3) require permits to contain effluent limits.
- The SIU permits include periodic reporting requirements. The permit language requires the SIUs to submit semi-annual reports, due 14 days following the last day of the reporting period. However, the City currently performs all monitoring in lieu of requiring the SIUs to conduct self-monitoring. It is recommended that the City remove the language requiring periodic reports from the SIU permits unless it is the City's intent to require the SIUs to submit periodic reports.

- The Milk Specialties Global permit became effective on September 30, 2018 and expires on September 29, 2023. The permit contains language stating that if the permittee wishes to continue to discharge after the expiration date, an application must be filed a minimum of 90 days prior to the expiration date. However, the permit is already issued for the maximum duration of five years and therefore cannot be administratively extended. The federal regulations at 40 CFR 403.8(f)(1)(iii)(B)(1) require that individual and general control mechanism be enforceable and include a statement of duration that is not longer than five years.

Nestle Pizza Company, Agropur Inc, Bel Brands Cheese, Bernatello’s Foods, and Lamers’ Dairy permits issued by the Heart of the Valley Metropolitan Sewerage District:

- The permits require records to be maintained for three years and also reference records retention language in the Wis. Admin. Code Chapter NR 211.15(8)(c). While NR211.15(8)(c) includes that record retention may be extended by request of WDNR or EPA, the permits themselves do not state that the record retention period may be extended by request of WDNR or EPA as required by federal regulations. The permits must be revised to state records retention requirements including extensions requested by WDNR or EPA. The federal regulations at 40 CFR 403.8(f)(1)(iii)(B)(4) require that permits include record-keeping conditions. The federal regulations at 40 CFR 403.12(o)(2) require records must be maintained for at least three years. Additionally, the retention period is extended during unresolved litigation or when requested by the WDNR Director or the EPA Regional Administrator.
- The permits do not state civil and criminal penalty amounts. Instead, the permits reference sections 15.08 and 15.09 of the District’s SUO. The SIU permits must be revised to include civil and criminal penalty amounts. The federal regulations at 40 CFR 403.8(f)(1)(iii)(B)(5) require permits to include a “[s]tatement of applicable civil and criminal penalties for violation of Pretreatment Standards and requirements, and any applicable compliance schedule.”
- It is not clear whether the permittees must notify the District within 24 hours of becoming aware of the violation. Part Three.3 of the permits states that the permittee must notify the District within 24 hours but does not specify that the notification must occur within 24 hours of becoming aware of the violation. The federal pretreatment regulations at 40 CFR 403.12(g)(2) state that if sampling performed by an IU indicates a violation, the IU shall notify the Control Authority within 24 hours of becoming aware of the violation. The IU shall also repeat the sampling and analysis and submit the results of the repeat analysis to the Control Authority within 30 days after becoming aware of the violation.
- The permits do not include bypass notification requirements. The federal regulations at 40 CFR 403.8(f)(1)(iii)(B)(4) require permits to include “[s]elf-monitoring, sampling, reporting, notification, and record keeping requirements.” The federal regulations at 40 CFR 403.17 require industrial users to notify the District of bypasses.

- The permits contain obligations for the District. Part Two. B of the permit states that “the District will perform the following monitoring” followed by a table listing pollutant parameters and sampling frequencies. It is recommended that the District remove any obligations for the District from its industrial user permits.

Action Items

Essential

- The permit writer must ensure that POTW permits include the requirement at 40 CFR 122.44(j)(2)(ii).

Recommended

- Revise POTW permit standard conditions to specify the timeframe for adequate notice regarding changes in quality or quantity in effluent discharge to the POTW for the notification requirements of 40 CFR 122.42(b).
- Permit writers should consider including POTW organic capacity and identifying and characterizing contributing industrial discharges, including SIUs and hauled waste, in the NPDES permit fact sheet.
- NPDES permits for POTWs with approved pretreatment programs should provide explicit language regarding the general and specific prohibitions found at 40 CFR Section 403.5(a)(1) and (b), rather than incorporating these requirements by reference.
- NPDES permits and fact sheets for POTWs with federally approved pretreatment programs should identify the approval date(s) of the currently effective pretreatment program not just the date the program was first approved. [40 CFR 403.8(c)]. Note: WDNR noted after the PQR that the whole state nows uses a fact sheet template that includes this information.
- WDNR should institute an WPDES permit application review process that ensures that all potential SIUs and CIUs are identified and properly classified in Section F of the POTW WPDES application, including hauled industrial waste. WDNR's review should also evaluate the POTW organic capacity to ensure that POTWs do not accept excess loading.
- It is recommended that WDNR work with Curtiss Village and Milan Sewerage District (and similar facilities) to ensure that their industrial users do not adversely affect their systems.

C. Small Municipal Separate Storm Sewer System (MS4) Permit Requirements

Background

The PQR reviewed the state’s small GP for Small MS4s (Small MS4 GP) for consistency with the Phase II stormwater permit regulations. EPA recently updated the small MS4 permitting regulations to clarify: (1) the procedures to be used when coverage is by general permits (see 40 CFR 122.28(d)); (2) the requirement that the permit establish the terms and conditions necessary to meet the MS4 permit standard (i.e., “to reduce the discharge of pollutants from the MS4 to the maximum extent practicable (MEP), to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act”), including conditions to

address the minimum control measures, reporting, and, as appropriate, water quality requirements (see 40 CFR 122.34(a) and (b)); and (3) the requirement that permit terms must be established in a “clear, specific, and measurable” manner (see 40 CFR 122.34(a)).

WDNR’s Small MS4 GP was signed and became effective May 1, 2019. This GP was written following the MS4 Remand Rule which was effective on January 9, 2017. WDNR’s Small MS4 GP complies with the Remand Rule and was the first Small MS4 GP issued within Region 5 to do so. WDNR’s GP is a comprehensive GP, and includes all the requirements, including TMDL related requirements upfront. Permittees will update/amend current Storm Water Management Program (SWMPs) to document how they will meet the requirements of the new permit. Based on receiving SWMPs and annual reports for the duration of this permit term, WDNR will adjust future iterations to best establish the measures and goals necessary to protect water quality from Small MS4 discharges.

Program Strengths

- The GP includes a number of good examples of provisions that meet the 40 CFR 122.34(a) regulatory requirements for clear, specific, and measurable provisions, particularly in the sections addressing the minimum control measures (MCMs) and in the TMDL appendices.

Areas for Improvement

- The GP includes requirements for construction site pollutant control and post construction stormwater controls via reference. Including these requirements within the text of the permit would provide greater clarity and certainty for permittees.
- In GP Section 2.4.1, consider specifying that sites subject to the state’s construction general permit (CGP) be held to the requirements of that permit in addition to the requirements of this section. In Section 2.4.2, the GP could be enhanced by providing greater specificity on what the expectations are for the MS4’s site plan review.
- Consider removing reference to the term “measurable goals” so that the GP avoids suggesting that otherwise enforceable requirements are not enforceable. The term “measurable goals” was also removed as part of the MS4 Remand Rule from 40 CFR 122.34.
- Consider also defining the term “major outfall” to add specificity to those sections, and to better define what the GP means by “appropriate” or “appropriate action” in various parts of the permit to avoid misinterpretation.

*Action Items***Essential**

- The PQR did not identify any essential action items for this section.

Recommended

- The GP includes requirements for post construction stormwater controls via reference. Including these requirements within the text of the permit would provide greater clarity and certainty for permittees.
- In GP Section 2.4.1, consider specifying that sites subject to the state’s construction general permit (CGP) be held to the requirements of that permit in addition to the requirements of this section. In Section 2.4.2, the GP could be enhanced by providing greater specificity on what the expectations are for the MS4’s site plan review.
- Consider removing reference to the term “measurable goals” so that the GP avoids suggesting that otherwise enforceable requirements are not enforceable. The term “measurable goals” was also removed as part of the MS4 Remand Rule from 40 CFR 122.34.
- Consider also defining the term “major outfall” to add specificity to those sections, and to better define what the GP means by “appropriate” or “appropriate action” in various parts of the permit to avoid misinterpretation.

V. REGIONAL TOPIC AREA FINDINGS

Region 5 elected not to include a Regional Topic in this review.

VI. and VII. REVIEW OF PROGRESS ON ESSENTIAL AND RECOMMENDED ACTION ITEMS FROM LAST PQR

Region 5 did not participate in the 2012-2017 PQR cycle, therefore, there are no previous essential or recommended action items.

VIII. ACTION ITEMS FROM FY 2018–2022 PQR CYCLE

This section provides a summary of the main findings of the PQR and provides proposed action items to improve Wisconsin NPDES permit programs, as discussed throughout sections III, IV, and V of this report.

The proposed action items are divided into two categories to identify the priority that should be placed on each item and facilitate discussions between Regions and states.

- **Essential Actions** - Proposed “Essential” action items address noncompliance with respect to a federal regulation. EPA has provided the citation for each Essential action item. The permitting authority is expected to address these action items in order to comply with federal regulations. As discussed earlier in the report, prior PQR reports identified these action items as Category 1. Essential actions are listed in Table 8 below.
- **Recommended Actions** - Proposed “Recommended” action items are recommendations to increase the effectiveness of the state’s or Region’s NPDES permit program. Prior reports identified these action items as Category 2 and 3. Recommended actions are listed in Table 9 below.

The following tables summarize only those action items that were identified in Sections III and IV of the report.

Table 8. Essential Action Items from FY 2018-2022 PQR Cycle

Topic	Action(s)
Permit Application Requirements	Ensure that major POTW applications include a complete data set for priority pollutants (40 CFR 122.21(j)(4)(vi) and (vii)).
Pretreatment: Food Processing Sector	The permit writer must ensure that POTW permits include the requirement at 40 CFR 122.44(j)(2)(ii).

Table 9. Recommended Action Items from FY 2018-2022 PQR Cycle

Topic	Action(s)
Reasonable Potential	<ul style="list-style-type: none"> Consider expanding the WQBEL memo discussion to include specific data information for all data evaluated in the RPA, including presentation of receiving water background data, all effluent monitoring data, and an indication of dates samples were collected. Also refer to the recommendation in the Monitoring and Reporting Requirements.
Final Effluent Limitations and Documentation of Effluent Limitations Development	Permit drafters should ensure that fact sheets include discussion of the basis for all effluent limitations, including the original basis for effluent limitations that are continued from the previous permit.
Monitoring and Reporting Requirements	Recommend permit writers consider additional WET testing which includes at least quarterly WET testing be conducted during the first year of an NPDES permit while using different test species from EPA’s promulgated toxicity test methods (<i>to identify the most sensitive and thus most appropriate test species to use for monitoring</i>), with the option to decrease the frequency of WET testing if the effluent is demonstrated to be not toxic based on valid WET data that is in compliance with the State’s WQS and NPDES WET permit limits, and if the monitoring frequency is sufficient to address effluent variability and maintains representative monitoring appropriate for the discharge.
Administrative Record and Fact Sheet	Consider updating fact sheet templates to include discussions of reasonable potential evaluations and development of WQBELs or at a minimum, reference the WQBEL attachment within the fact sheet.
Nutrients	Wisconsin should develop procedures to assess and interpret permittee monitoring data for nitrogen to make progress in developing numeric limits for nitrogen where needed to protect aquatic systems.

<p>Pretreatment: Food Processing Sector</p> <p>Continued – Pretreatment: Food Processing Sector</p>	<ul style="list-style-type: none"> • Revise POTW permit standard conditions to specify the timeframe for adequate notice regarding changes in quality or quantity in effluent discharge to the POTW for the notification requirements of 40 CFR 122.42(b). • Permit writers should consider including POTW organic capacity and identifying and characterizing contributing industrial discharges, including SIUs and hauled waste, in the NPDES permit fact sheet. • NPDES permits for POTWs with approved pretreatment programs should provide explicit language regarding the general and specific prohibitions found at 40 CFR Section 403.5(a)(1) and (b), rather than incorporating these requirements by reference. • NPDES permits and fact sheets for POTWs with federally approved pretreatment programs should identify the approval date(s) of the currently effective pretreatment program not just the date the program was first approved. [40 CFR 403.8(c)]. Note: WDNR noted after the PQR that the whole state nows uses a fact sheet template that includes this information. • WDNR should institute an NPDES permit application review process that ensures that all potential SIUs and CIUs are identified and properly classified in Section F of the POTW NPDES application, including hauled industrial waste. WDNR's review should also evaluate the POTW organic capacity to ensure that POTWs do not accept excess loading. • It is recommended that WDNR work with Curtiss Village and Milan Sewerage District (and similar facilities) to ensure that their industrial users do not adversely affect their systems.
<p>Municipal Separate Storm Sewer Systems (MS4s)</p>	<ul style="list-style-type: none"> • The GP includes requirements for post construction stormwater controls via reference. Including these requirements within the text of the permit would provide greater clarity and certainty for permittees. • In GP Section 2.4.1, consider specifying that sites subject to the state’s construction general permit (CGP) be held to the requirements of that permit in addition to the requirements of this section. In Section 2.4.2, the GP could be enhanced by providing greater specificity on what the expectations are for the MS4’s site plan review. • Consider removing reference to the term “measurable goals” so that the GP avoids suggesting that otherwise enforceable requirements are not enforceable. The term “measurable goals” was also removed as part of the MS4 Remand Rule from 40 CFR 122.34. • Consider also defining the term “major outfall” to add specificity to those sections, and to better define what the GP means by “appropriate” or “appropriate action” in various parts of the permit to avoid misinterpretation.