

Region 8 NPDES Program and Permit Quality Review Montana

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Executive Summary

The United States Environmental Protection Agency, Region 8 (EPA) performed a National Pollutant Discharge Elimination System (NPDES) Program and Permit Quality Review (PQR) of the Montana Department of Environmental Quality (DEQ) NPDES program on June 14–16, 2022. At the time of the PQR, DEQ administered 142 individual NPDES permits and, as of June 2022, 46 percent of DEQ's individual permits were current (i.e., not administratively continued).

The PQR examined 10 individual permits and 1 General Permit issued by DEQ (Table 1). The PQR also focused on several national and regional priority areas:

- Permit Controls for Nutrients in Non-Total Maximum Daily Load (TMDL) Waters,
- Effectiveness of Publicly Owned Treatment Works (POTW) NPDES Permits with Food Processor Contributions,
- Small Municipal Separate Storm Sewer System (MS4) Permit Requirements, and
- Implementation of Mining Effluent Limitations Guidelines (ELGs) (Coal Mining and Ore Mining)

Overall, the PQR revealed that DEQ permits and fact sheets reviewed by EPA were mostly consistent with federal regulatory requirements. However, EPA did identify several concerns including: inconsistency in the content and organization of Montana Pollution Discharge Elimination System (MPDES) permits and fact sheets; certain standard permit conditions absent in part or entirely from permits reviewed; and fact sheets and permit records lacking sufficient documentation for certain permit limitations and conditions.

As some of the permit deficiencies appeared to stem from processes for issuing permits, EPA recommends that DEQ develop and use standardized templates for MPDES permits and fact sheets to ensure consistency in permit organization, content, and the use of current boilerplate language. Further, a standardized template for fact sheets would support the development of consistently defensible permits with sufficiently detailed rationales for permit conditions. In addition, EPA recommends that DEQ further develop justifications for certain permit conditions to ensure regulatory requirements are met. EPA also recommends that DEQ strengthen its quality assurance/quality control (QA/QC) practices to check permit language and ensure consistency between permits and fact sheets.

In addition to the items listed above, this report provides an overview of the DEQ program and identifies specific areas where EPA and DEQ can work together to continue to strengthen permit language and documentation in MPDES permits.

DEQ reviewed and provided comments on the draft PQR report in May of 2024. The state agreed with many of the draft PQR's findings and recommendations, and committed to take action to address many of the proposed action items. Several of these actions are already underway.

Table 1. List of 11 Permits Reviewed During 2022 PQR

NPDES ID	Facility Name	Major/ Minor	Facility Description	Issue Date	Effective Date	Review Components (in addition to core review)
MT0000230	MONTANA SULPHUR & CHEMICAL CO	Minor	Chemical Manufacturing	11/20/2020	1/1/2021	
MT0020001	MILES CITY WWTP	Major	POTW	8/28/2018	10/1/2018	Nutrients
MT0020028	CITY OF HAMILTON WWTP	Major	POTW	10/18/2021	1/1/2022	
MT0021385	TOWN OF JORDAN WWTF	Minor	POTW	6/9/2021	8/1/2021	
MT0021792	TOWN OF VALIER WWTF	Minor	POTW	12/8/2021	3/1/2022	
MT0021920	CITY OF GREAT FALLS WWTP	Major	POTW	7/12/2019	9/1/2019	Food Processing / Pretreatment
MT0022535	CITY OF HAVRE WWTP	Major	POTW	6/16/2021	9/1/2021	Nutrients
MT0023604	WESTMORELAND SAVAGE CORP - SAVAGE MINE	Minor	Coal Mine	10/1/2020	10/1/2020	Mining ELGs
MT0030252	JARDINE MINERAL HILL MINE	Minor	Hard Rock Mine	12/7/2021	2/1/2022	Mining ELGs
MT0031909	BLACK BUTTE TINTINA COPPER MINE	Minor	Hard Rock Mine	4/9/2020	6/1/2020	Mining ELGs, Nutrients
MTR040000	Small MS4 General Permit	-	Stormwater	2/14/2022	4/1/2022	Small MS4s <u>only</u> (no core review)

I. PQR BACKGROUND

National Pollutant Discharge Elimination System (NPDES) Program and Permit Quality Reviews (PQRs) are an evaluation of a select set of NPDES permits to determine whether permits are developed in a manner consistent with applicable requirements established in the Clean Water Act (CWA) and NPDES regulations. Through this review mechanism, EPA promotes national consistency and identifies successes in implementation of the NPDES program as well as opportunities for improvement in the development of NPDES permits. EPA conducted a prior PQR of the Montana NPDES (MPDES) permitting program on October 17–19, 2016. The PQR summary report is available at: https://www.epa.gov/sites/default/files/2019-08/documents/montana_2016_pqr_final.pdf. The evaluation team for that PQR proposed various action items to improve the MPDES program. As part of the current PQR, EPA requested updates from Montana Department of Environmental Quality (DEQ) on the progress on those action items. Of the 9 action items identified during the last PQR as Essential¹, 3 have been resolved and the remainder represent actions that are either longer-term activities or lower-level actions on which DEQ is still making progress. In addition, EPA identified Recommended action items to improve Montana's program; DEQ has chosen to implement some of the Recommended actions. Section VI of this report contains a detailed review of the progress on action items identified during the last PQR.

During this review, the evaluation team proposed action items to improve the MPDES program. The proposed action items are identified in sections III, IV, and V of this report and 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, which EPA has cited for each Essential action item. The permitting authority must address these action items in order to come into compliance with federal regulations.
- **Recommended Actions** - Proposed Recommended action items are recommendations to increase the effectiveness of the permitting authority's NPDES permit program.

Action items from this PQR augment the existing list of action items from previous PQRs, which are tracked by EPA Headquarters (HQ) on an annual basis and reviewed during subsequent PQRs.

EPA's review team, consisting of two regional staff, one HQ staff, and two HQ contractor staff, conducted a review of the MPDES program which included an on-site visit by EPA to the DEQ office in Helena from June 14 through 16, 2022. HQ contractor staff attended the PQR remotely.

¹ During the 2012-2017 PQR cycle, these action items were known as "Category 1" and addressed deficiencies or noncompliance with respect to federal regulations. EPA is now referring to these action items as Essential. In addition, previous PQR reports identified recommendations as either "Category 2" or "Category 3" action items. EPA is now consolidating these categories of action items into a single category: Recommended.

The Montana PQR included reviews of core permit components and national and regional topic areas, as well as discussions between the review team and DEQ staff addressing their program status and permit issuance process. The permit reviews focused on core permit quality and included reviews of permit applications, permits, fact sheets, and any correspondence, reports or documents that provided the basis for the development of the permit conditions. The PQR also included conversations between EPA and the state on program status, the permitting process, responsibilities, organization, staffing, and program challenges the state is experiencing.

A total of 11 permits were reviewed as part of the PQR. Of these, 10 permits were reviewed for the core review, 3 for national topic areas, and 3 for the regional topic area. Some permits were reviewed for both the core review and one or more topic area reviews. Permits were selected based on issuance date and the review categories that they fulfilled.

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 topic reviews focus on the *Central Tenets of the NPDES Permitting Program*² and are intended to evaluate similar issues or types of permits in all states.

Topic Area Reviews

The national topics reviewed during the PQR were: Permit Controls for Nutrients in Non-Total Maximum Daily Load (TMDL) Waters, Small Municipal Separate Storm Sewer System (MS4) Permit Requirements, and Effectiveness of Publicly Owned Treatment Works (POTW) NPDES Permits with Food Processor Contributions.

Regional topic area reviews target regionally specific permit types or particular aspects of permits. The regional topic area selected by EPA Region 8 was mining effluent limitations guidelines and standards (ELGs) implemented in permits. These reviews provide important information to DEQ, EPA Region 8, EPA HQ, and the public on specific program areas.

II. STATE PROGRAM BACKGROUND

A. Program Structure

DEQ administers the MPDES program. EPA authorized Montana DEQ to administer the MPDES program in 1974 with subsequent authorization to issue federal facilities permits and general permits in 1981 and 1983, respectively. DEQ does not have authority to implement the biosolids or pretreatment programs.

² <https://www.epa.gov/npdes/central-tenets-npdes-permitting-program>

The MPDES program is managed by the Water Quality Division at DEQ's main office in Helena. At the time of the PQR, the MPDES program was staffed at 70 percent, with 7 out of 10 permit writer positions filled. New DEQ permit writers receive structured internal training through review of various EPA resources, including the NPDES Permit Writers' Manual, Technical Support Document for Water Quality-based Toxics Control (TSD), and online training modules. They also go through a 6-week curriculum created by a senior DEQ permit writer, involving independent and group work, and eventually individual permit development assignments. Senior permit writers have continued their training by attending EPA's specialized trainings, such as the Water Quality Standards Academy, nutrient permitting, and concentrated animal feeding operations (CAFO) courses and workshops.

DEQ assigns permits based on the level of complexity as well as the educational background and interest of the permit writer. MPDES permit writers draft an average of 3–4 permits per year and aim to have draft permits distributed for public notice within 6 months of permit assignment. New applications to discharge have priority over renewals to ensure the applicant can commence permitted activity. Permit writers are supported by one administrative staff person and two data specialists. In addition, permit writers consult additional DEQ staff in specific scenarios. For example, permit writers request information from water quality standards (WQS) staff for confirmation that wasteload allocations (WLAs) in applicable TMDLs are implemented appropriately, or engineering staff to determine whether there have been upgrades to a facility.

The Fees Application Compliance Tracking System (FACTS) is the DEQ Water Protection Bureau's online system to apply for and manage wastewater and stormwater discharge permits. It allows permittees to submit permit applications, notices of intent (NOIs), and fee payments. FACTS also houses discharge monitoring information, which flows directly to EPA's Integrated Compliance Information System (ICIS). FACTS is a repository for permit administrative record information, including administrative letters to permittees. DEQ compliance staff use FACTS to receive inspection follow-up information and issue compliance documentation. The Clean Water Act Information Center (CWAIC) is DEQ's online repository for information about Montana's rivers, streams, and lakes in relation to water quality, including surface water body identification and location, impairments, and TMDL status. MPDES permit writers search CWAIC using a mapping tool, or by waterbody name, use classifications, or impairment status, and can access direct links to TMDL documents.

MPDES permit writers use templates to develop permit fact sheets and a variety of correspondence documents. Generally, they use the previous version of the permit and update effluent limitations, permit conditions, and boilerplate language as necessary. Permit writers use template spreadsheets for evaluating whether a discharge causes, has the reasonable potential to cause, or contributes to an excursion above any applicable WQS (i.e., a reasonable potential analysis or RPA).

Once drafted, the permit and fact sheet undergo peer review by another subject matter expert. DEQ indicated that review checklists were in development. The section supervisor reviews the entire draft permit package with a focus on the fact sheet. For permits that involve multiple

DEQ programs, management ensures alignment across the programs. Permit documents that are revised following initial review then receive a management review.

DEQ retains permit development documentation and permit correspondence in hard copy and electronic versions; electronic files are stored in FACTS or on DEQ's shared drive. Monitoring and reporting data and compliance records are stored electronically in EPA's NetDMR (Network Discharge Monitoring Report) and FACTS, with some compliance records also stored on the shared drive.

B. Universe and Permit Issuance

Based on information obtained from DEQ in June 2022, DEQ administers individual NPDES permits for 30 major facilities (17 POTWs and 13 non-municipal) and 112 non-major non-stormwater facilities (72 POTWs and 40 non-municipal). In addition to these individual permits, DEQ administers 3 stormwater general permits that cover 14 MS4s, 337 industrial stormwater facilities (of which 67 maintain no-exposure certifications), and 931 construction stormwater sites. DEQ also administers 11 non-stormwater NPDES general permits that cover approximately 300 facilities:

- Suction Dredges (MTG370000)
- Sand and Gravel (MTG490000)
- Pesticides Application (MTG870000)
- Petroleum Cleanup Discharges (MTG790000)
- Fish Farms (MTG130000)
- Concentrated Animal Feeding Operations (CAFOs) (MTG010000)
- Produced Water from Oil and Gas Production (MTG310000)
- Construction Dewatering (MTG070000)
- Disinfected Water and Hydrostatic Testing (MTG770000)
- Domestic Sewage Treatment Lagoons-Continuous Discharging Facilities (MTG580000)
- Domestic Sewage Treatment Lagoons-Batch and Non-Discharging Facilities (MTG581000)

DEQ indicated that significant industries in the state include petroleum refining, coal and hard rock mining, and sugar beet processing.

DEQ reported that 19 major, 57 non-major, and 1 general permit were administratively continued. Therefore, 54 percent of DEQ individual permits and 7 percent of general permits were administratively continued at the time of the PQR.

C. State-Specific Challenges

DEQ did not identify specific challenges apart from staffing shortages that were common to many authorized states. At the time of the PQR, DEQ reported three vacancies out of a permitting staff of ten. They also indicated that the average tenure for DEQ permit writers was

3.8 years (and recently a permit writer departed after 18 months). In addition, DEQ had a hiring freeze that lengthened permit writer vacancies, which historically have been filled quickly.

An ongoing challenge for DEQ is the NPDES permit backlog of 54 percent of individual permits at the time of the PQR. Causes of backlog include staffing shortages, as well as recent litigation and state rule changes that have created additional considerations when issuing permits where nutrients are pollutants of concern.

In addition, DEQ requested EPA guidance for NPDES permit writers on implementation of anti-backsliding requirements, because DEQ received recent comments arguing for a narrow interpretation of anti-backsliding requirements.

D. Current State Initiatives

DEQ has made strides recently with increasing staff retention by developing a positive work culture and community, and recognizing the stresses of regulatory roles. In addition, DEQ has developed a career progression/professional development matrix for staff, which has helped improve staff retention.

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 permit.

Program Strengths

NPDES permits presented authorization-to-discharge information and permit issuance, effective and expiration dates in a clear manner on the permit cover page. The “Description of Discharge Points and Mixing Zone” section distinctly identified outfall locations with latitude and longitude coordinates and a narrative description. Permit fact sheets provided descriptions of permit status, facility operations and treatment processes (including facility design criteria), and discharge wastestreams. Fact sheets for municipal facilities provided useful discussions of significant industrial users contributing wastewater to the treatment plant. Fact sheets clearly identified the discharge location information relative to receiving waters, as well as whether a mixing zone was allowed.

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 permittees seeking NPDES permits. Although federal forms are available, authorized states are also permitted to use their own forms provided they include all information required by the federal regulations. This portion of the review assesses whether appropriate, complete, and timely application information was received by the state and used in permit development.

The MPDES permit program uses EPA’s application forms in addition to Montana Form 1, which is required for all applicants other than POTWs. Montana’s Form 1 requires the same information as EPA’s Form 1, but requests additional information regarding discharges to groundwater, because DEQ issues permits for discharges to groundwater.

The MPDES permit program typically sends application renewal reminder notification letters to individual permittees approximately 12 to 18 months prior to the expiration date of the current permit. The renewal letter informs permittees of required fees, application forms, and testing. It also recommends how to access online application forms or apply via FACTS. Permittees use FACTS to submit an application in one of two ways—either as an uploaded PDF document or by directly completing application fields within the FACTS database, after which the system compiles the responses into an application document.

Upon submittal of an application, tracking information is entered into FACTS and the MPDES supervisor assigns the application to a permit writer to review for technical completeness. The permit writer generally conducts the completeness review within 30 days of assignment and issues a letter of completeness or deficiency. In the case of deficiency, the applicant is asked to provide additional information by a specific date, either directly into FACTS or in hard copy. For submittals added directly to FACTS, FACTS notifies the permit writer automatically.

Program Strengths

MPDES permit records included consistent documentation of DEQ’s determination of application completeness or incompleteness, including correspondence with permittees requesting additional information.

Areas for Improvement

Some POTW applications reviewed lacked effluent testing data for several priority pollutants, as required by 40 CFR 122.21(j)(4). An application for a non-municipal facility lacked information regarding acute and chronic whole effluent toxicity (WET) testing as required by 40 CFR 122.21(g)(11), despite a requirement in the existing permit for routine WET testing during the permit term. Applications did not consistently identify analytical methods used and reporting limits achieved by the testing laboratory, so reviewers were unable to evaluate whether sufficiently sensitive analytical methods were used.

Action Items

Essential

- Ensure that POTW applications include complete monitoring data (40 CFR 122.21(j)(4)) and non-POTW applications include WET data, if applicable (40 CFR 122.21(g)(11)).
- Ensure that all applicants identify the analytical methods and reporting limits used for analysis of chemical parameters to determine whether sufficiently sensitive analytical methods were used, consistent with 40 CFR 122.21(j)(4)(ix).

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 technology-based effluent limitations (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 five-day biochemical oxygen demand (BOD₅), total suspended solids (TSS), pH, and percent pollutant removal), and permits 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.

MPDES permit writers evaluate the achievability of meeting the federal secondary treatment standards, or whether the facility was eligible for treatment equivalent to secondary or alternative state requirements, consistent with 40 CFR Part 133.

Program Strengths

MPDES permits for POTWs appropriately established effluent limitations reflecting federal secondary treatment standards. Permits clearly established average weekly and average monthly effluent limitations for BOD₅ and TSS, as well as minimum percent removal requirements for BOD₅ and TSS.

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 Practicable Control Technology Currently Available (BPT), 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 ELGs have been developed for a category of dischargers, the TBELs in a permit must be based on 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 basis using best professional judgment (BPJ) in accordance with the criteria outlined at 40 CFR 125.3(d).

MPDES permit writers reviewed application information relative to ELGs, then referenced the federal ELGs available to determine applicability. For new sources, permit writers also reviewed ELG development documentation and facility processes to assist with TBEL development. This PQR included one permit to which ELGs were applicable: a new mining operation.

For TBELs based on BPJ, DEQ indicated there was no defined process and that permit writers had not developed new BPJ-based limits for recently reissued permits; rather, BPJ-based effluent limitations were generally carried forward from the previous permit.

Program Strengths

MPDES permits appropriately established TBELs for non-POTWs and the record provided sufficient documentation. Overall, permit fact sheets provided an adequate description of facility operations and treatment processes relative to applicable ELGs, the specific applicability of available ELGs, and—where ELGs were applicable—discussion of facility categorization (e.g.,

facility as an existing or new source). One fact sheet reviewed for a new mine discussed the availability of the ELG development document and the applicability of ELGs, including discussion of the mine as a new source. MPDES fact sheets identified expected wastestreams and pollutants of concern for non-POTWs.

Areas for Improvement

A permit issued for an inactive mine included effluent limitations based on BPJ, and the fact sheet cited ELGs as the basis for the BPJ-based limitations but did not mention the specific application of 40 CFR 125.3(d) in applying BPJ. In conversations with EPA, DEQ noted that historically, MPDES permit writers did not substantiate BPJ-based effluent limitations and MPDES fact sheets simply stated that the effluent limitations were carried forward from the previous permit without demonstrating these limits were still adequate and applicable.

Action Items

Essential	<ul style="list-style-type: none"> •Ensure that fact sheets contain a clear discussion of the 40 CFR 125.3(d) factors appropriate for the application of BPJ-based TBELs for non-municipal permits, including explanation of the reasons that such conditions are applicable (40 CFR 124.56(b)(1)(iv)). •Ensure that fact sheets discuss the basis for effluent limitations, especially those that are carried over from the previous permit, including any calculations or other necessary explanation of the derivation of the limitations and reasons why the limitations are applicable (40 CFR 124.56(a)).
Recommended	<ul style="list-style-type: none"> •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) 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 “water quality-based effluent limits” (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 applicable WQS.

The PQR for Montana assessed the WQBEL development process by reviewing permits, fact sheets, and other documents in the administrative record to evaluate how permit writers and water quality modelers:

- Identified applicable WQS,
- 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
- calculated such limits or other permit conditions where necessary.

For impaired waters, the PQR also assessed whether and how permit writers consulted and developed limits consistent with the assumptions of applicable EPA-approved TMDLs.

Process for Assessing Reasonable Potential

MPDES permit writers conduct the RPA for numeric WQS using mass balance/steady-state equations based on EPA's TSD. To conduct an RPA for narrative WQS, permit writers provide a qualitative assessment that TBELs are insufficient to protect applicable WQS and therefore, WQBELs are required. Permit writers identify pollutants of concern based on data in permit applications, discharge monitoring reports (DMRs), observation of data near or above applicable water quality criteria, and waterbody impairment status that identifies point sources as probable causes for the impairment. For POTWs, permit writers evaluate pollutants of concern based on non-domestic wastewater contributions to the POTW.

MPDES permit writers evaluate all effluent data that are available from the most recent 3 to 5 years, with the range of data differing based on site-specific representativeness (e.g., facility upgrades). Permit writers review and evaluate data submitted through DMRs, permit applications, and effluent monitoring, and select the maximum reported effluent concentration as the data point for conducting the RPA. For new discharges, DEQ asks the applicant to estimate effluent quality by providing samples from nearby similar facilities. If that data is not available, then DEQ conducts a literature/permit review. DEQ uses this information to conduct the RPA. Permits for major POTWs included WET monitoring, and permit writers reviewed WET data and established WET effluent limitations when a WET test indicated that reasonable potential was demonstrated (40 CFR Part 122.44(d)(1)(ii)). DEQ indicated that a single WET test indicating that reasonable potential was demonstrated would result in a WQBEL for WET.

MPDES permit writers consider ambient data available in the Water Quality Portal, a cooperative service sponsored by the United States Geological Survey (USGS), EPA, and the National Water Quality Monitoring Council. In some cases, permit writers also consider ambient data collected by permittees.

MPDES fact sheets presented a summary of the RPA and listed the pollutants evaluated, applicable water quality criteria, maximum reported effluent concentrations, and calculations to determine whether reasonable potential was demonstrated. DEQ indicated that raw monitoring data was included as a separate summary, rather than in the fact sheet, so the fact sheet could be readily understood by the general public. MPDES permit writers add the original RPA spreadsheet file to the administrative record.

Process for Developing WQBELs

Prior to development of WQBELs, MPDES permit writers document applicable WQS, 303(d) listings, TMDLs, an antidegradation analysis, and the mixing zone determination in the fact sheet. Permit writers develop WQBELs, using the RPA spreadsheet, where the RPA indicates they are necessary. Permit writers identify applicable TMDLs using CWAIC, review the TMDL, and determine the appropriate WLA for the discharge. DEQ indicated that if the WLA in the TMDL is not applicable to the discharge, the permit writer documents the justification in the permit fact sheet.

Montana statute (75-5-301(4), Montana Code Annotated [MCA]), requires that mixing zones have the smallest practicable size, minimum practicable effect on water uses, and definable boundaries. DEQ authorizes three distinct types of mixing zones: standard, alternative, and source-specific (these are further explained below). Montana requires that a mixing zone and its type be requested with a permit application; a mixing zone, if approved, is granted on a parameter-by-parameter basis. Montana's mixing zone rules, located in Administrative Rules of Montana (ARM) section 17.30.505–516, contain many of the implementation procedures, but DEQ does not have a separate mixing zone policy. The rules do not explain how mixing zone width is determined, but they specify the length based on the stream width at critical low flow, which the permit writer typically determines based on aerial imagery. Montana prohibits the excursion of acute water quality criteria in the mixing zone unless DEQ concludes minimal initial dilution will not threaten or impair existing uses. Mixing is only allowed to meet acute aquatic life criteria if an alternative mixing zone or source-specific mixing zone is granted. Montana's rules do not define alternative mixing zones, but they specify that DEQ has the authority to define them.

As stipulated in ARM section 17.30.516, the standard mixing zone is used when nearly instantaneous mixing is presumed. This applies to major dischargers whose mean daily flow exceeds the 7-day, 10-year low flow (7Q10) of the receiving stream or if a diffuser extends across the stream channel at low flow. Major dischargers who are not eligible for a standard mixing zone are typically required to collect data to justify and model a source-specific mixing zone. For minor dischargers the standard chronic mixing zone is either 100 percent of the 7Q10 or 25 percent of the 7Q10, depending on the dilution ratio between the 7Q10 of the receiving stream and the mean annual discharger flow. Montana's rules specify that effluent limits for nutrients (total nitrogen and total phosphorus) be based on the entire seasonal 14-day, five-year low flow (14Q5) of the receiving water. ARM section 17.30.505(1)(c) states that mixing zones granted in a permit issued prior to April 29, 1993, are retained from one permit cycle to the next if there is no demonstration the mixing zone has impaired existing or anticipated beneficial uses.

For pollutants where the permit writer determines the pollutant will cause, have reasonable potential to cause, or contribute to an excursion of the water quality standard for human health or chronic/acute aquatic life, DEQ indicated they would develop effluent limits. WQBELs are typically expressed as maximum daily and average monthly limits in either mass and/or

concentration consistent with the regulations. For parameters with a WLA the WQBEL is checked to ensure consistency with the WLA.

Program Strengths

Reasonable Potential

DEQ's CWAIC was a useful resource for both MPDES permit writers and the public as a comprehensive repository for waterbody information such as waterbody identification, classifications, impairment, and TMDL status. Fact sheets consistently identified receiving stream, waterbody classification, designated uses, and applicable WQS.

WQBEL Development

MPDES permits established WQBELs appropriately and in correct forms, including appropriate limit averaging periods. Fact sheets clearly indicated whether a mixing zone was granted for the facility and explained the basis for the mixing zone, as well as calculations used to develop WQBELs, including references to EPA's TSD procedures.

Areas for Improvement

Reasonable Potential

MPDES fact sheets provided a general description, but insufficient detail, about how pollutants of concern were identified. In some cases, they also lacked an affirmative conclusion whether reasonable potential was demonstrated for each pollutant analyzed. One fact sheet identified water quality criteria that apply to the receiving stream, but it did not discuss whether any pollutants of concern were present that had the reasonable potential to cause or contribute to an exceedance of these criteria. The process of identifying pollutants of concern, performing an RPA, and developing necessary WQBELs should consider all applicable WQS, and this deliberation should be well documented in the fact sheet.

WQBEL Development

In several fact sheets reviewed, the basis for the mixing zone size (i.e., length and width) was not well documented. One fact sheet (Havre) only states that the mixing zone was determined in a previous permit, while another fact sheet (Jardine) does not explain the mixing zone size determination at all. MPDES fact sheets should describe how permit writers determined the appropriate mixing zone size.

Action Items

Essential	<ul style="list-style-type: none"> •<u>Reasonable Potential</u> <ul style="list-style-type: none"> •Ensure that fact sheets provide sufficiently detailed discussion of how pollutants of concern were identified (40 CFR 124.56(a)). •Ensure that fact sheets include discussion and results for each pollutant analyzed for reasonable potential (40 CFR 124.56(a)). •<u>WQBEL Development</u> <ul style="list-style-type: none"> •The PQR did not identify any essential action items for this section.
Recommended	<ul style="list-style-type: none"> •<u>Reasonable Potential</u> <ul style="list-style-type: none"> •The PQR did not identify any recommended action items for this section. •<u>WQBEL Development</u> <ul style="list-style-type: none"> •Fact sheets should describe in greater detail how the mixing zone size was determined.

3. Final Effluent Limitations and Documentation

Background and Process

Permits must reflect all applicable statutory and regulatory requirements, including technology and water quality standards, and must include effluent limitations that ensure that all applicable CWA standards are met. The permitting authority must identify the most stringent applicable 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. The WQS regulations at 40 CFR 131.12 outline the common elements of the antidegradation review process.

In addition, permit records should contain comprehensive documentation of the development of all effluent limitations. Documentation for TBELs should include assessment of applicable standards, data used in developing effluent limitations, and actual calculations used to develop effluent limitations. The procedures to determine the need for WQBELs and the basis for establishing, or for not establishing, WQBELs should be clear and straightforward. 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.

MPDES permit writers documented effluent limitations development in permit fact sheets with a thorough discussion of facility operations, treatment processes, expected wastestreams,

pollutants of concern, and compliance with previous effluent limitations. Further, permit writers identified the regulatory basis for TBELs and WQBELs and provided calculations to illustrate how effluent limitations were developed. Fact sheets contained summaries of the RPA and proposed WQBELs, and the original RPA spreadsheets were in the permit record. After TBELs and WQBELs were calculated, the permit writer conducted a stringency analysis to ensure that the final effluent limitations were the most stringent of applicable TBELs and WQBELs, and an anti-backsliding analysis to ensure the final effluent limitations are at least as stringent as the previous permit.

MPDES permit writers consider anti-backsliding when a facility seeks relaxation or removal of effluent limitations in a reissued permit. Permit writers evaluate the federal requirements in their determination of whether the relaxation is permissible. DEQ indicated that MPDES fact sheets documented the assessment when effluent limitations are relaxed.

Montana's antidegradation policy is referred to as nondegradation. The nondegradation policy is defined in MCA section 75-5-303 and the procedures are at ARM section 17.30.7. The permit writer first evaluated whether the discharge was a new or increased source, which was defined in ARM section 17.30.702(17) as an activity resulting in a change of existing water quality occurring on or after April 29, 1993. If the determination was "no," the permit writer concluded nondegradation was inapplicable. The level of protection for the receiving water that directed the specifics of the analysis was consistent with 40 CFR 131.12: protection of existing uses for waters that are not high quality (Tier 1), maintenance and protection of high-quality waters (Tier 2), and protection of Outstanding Resource Waters (Tier 3). Montana evaluated the receiving water quality on a parameter-by-parameter basis, which meant if a specific parameter was not on the 303(d) list, the receiving water was high quality for that parameter. Montana's rules contained criteria to determine if changes in existing water quality were significant. There were criteria associated with changes in the flow of the receiving water, discharges containing carcinogenic or bioconcentrating parameters, changes in toxic parameters, and changes in harmful parameters. In general, the changes were associated with an allowable change as a percentage of the assimilative capacity and were dependent on the ambient concentration in relation to the WQS. MPDES fact sheets addressed the state's nondegradation policy and the permit writer's evaluation of whether a detailed assessment was conducted.

Program Strengths

MPDES fact sheets provided a clear indication that the most stringent of TBELs and WQBELs was established as the final effluent limitation.

Areas for Improvement

MPDES permit writers should ensure they address anti-backsliding considerations when removing effluent limitations from reissued permits; at least one fact sheet reviewed lacked discussion of anti-backsliding requirements when a reissued permit discontinued an effluent limitation that was in the previous permit.

*Action Items***Essential**

- Conduct (40 CFR 122.44(l)) and document (40 CFR 124.56(a) and 124.8(b)(4)) anti-backsliding evaluations in the fact sheet when reissued permits contain effluent limitations less stringent than those in the previous permit.

Recommended

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

C. Monitoring and Reporting Requirements*Background and Process*

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

Specifically, 40 CFR 122.44(i) requires NPDES permits to establish, at minimum, annual reporting of monitoring for all limited parameters sufficient to ensure 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 an effluent on the receiving water. A complete fact sheet will include a description and justification for all monitoring locations required by the permit. States may have policy or guidance documents to support determining appropriate monitoring frequencies. EPA recommends that documentation include an explicit discussion in the fact sheet providing the basis for establishing monitoring frequencies, including identification of the specific state policy or internal guidance referenced. 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 Part 136 analytical test method.

Based on EPA’s review of permit files, DEQ reviewed MPDES POTW permits to compile monitoring frequencies and sampling types and provide a baseline set of requirements for permit writers to consider when developing POTW permits. Permit writers used previous permits as guides for the sample type and monitoring frequency. They also determined representative monitoring locations based on a review of application information, process flow diagrams, engineering designs, and site visits. Permits required ambient monitoring at a location outside the influence of the discharge. Permit writers consulted federal regulations at 40 CFR Part 136 to establish appropriate sampling types.

Permits required electronic submittal of monitoring results via NetDMR, no later than the 28th day of the month following the end of the monitoring period. Permits clearly identified required reporting values (RRVs) and referred to DEQ’s Circular DEQ-7 for RRVs, which is DEQ’s selection of a laboratory reporting limit that could be met by most local laboratories, based on an inter-laboratory study DEQ conducted. DEQ’s Circular DEQ-7 states, “In most cases, the RRV is sufficiently sensitive to meet the most stringent water quality standard.”

Program Strengths

Permits presented influent and effluent monitoring requirements in a specific table, separate from numeric effluent limitations, providing a thorough and clear arrangement of monitoring requirements. Permits clearly identified and described influent and effluent monitoring locations and established monitoring frequencies and sampling types appropriate for the discharge. Permits required electronic submittal of monitoring results and use of sufficiently sensitive analytical test methods. Permits described reporting requirements such as calculations for loading, percent removal, monthly and weekly averages, and composite sampling. Permits clearly identified WET testing requirements and pollutant-specific RRVs.

Areas for Improvement

The review indicated that one POTW permit’s list of monitoring requirements was inconsistent with the rationale provided in the fact sheet. Given that the rationale in the fact sheet appeared accurate, improved QA/QC in fact sheets (discussed further below) should address this issue.

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.

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; a toxicity identification evaluation (TIE) or toxicity reduction evaluation (TRE) to identify the source(s) of toxicity and provide possible solutions to control, reduce or eliminate the toxicity; 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.

MPDES permits established standard conditions in sections II (Monitoring, Recording and Reporting Requirements), III (Compliance Responsibilities), and IV (General Requirements), while section V contained definitions—including bypass, severe property damage, and upset. DEQ used boilerplate language based on Montana’s administrative rules, which were based on the federal regulations. DEQ updated the standard conditions language to address requirements for electronic reporting and NetDMR.

The Special Conditions section of MPDES permits contained specific narrative permit requirements, such as special monitoring for specific pollutants, Pollutant Source Identification and Reduction Report, Storm Water, Compliance Schedules, and TIE/TRE. Special conditions also included general prohibitions against excursions of narrative WQS. The special conditions also included requirements for pretreatment as well as conformance with the 40 CFR Part 503 standards for sewage sludge use or disposal. DEQ allowed compliance schedules in accordance with ARM section 17.30.1350 and they were included as Special Conditions, with milestone reporting requirements. ARM section 17.30.661 allowed for water quality variances, upon DEQ’s review and approval of a permittee’s application, a determination that no reasonable alternative to the variance existed, and a public hearing. EPA approval of the variance was subsequently required.

Program Strengths

MPDES permits clearly identified and organized standard and special conditions. One permit reviewed (Jordan) contained a compliance-like schedule to provide time to create an approved pretreatment program. This compliance schedule contained enforceable interim milestones that help provide a logical defense of the schedule’s timeline.

Areas for Improvement

MPDES permit fact sheets lacked explanation of special conditions. Additionally, two permits that contained compliance schedules (Great Falls, Montana Sulfur and Chemical Company) only included “annual report” as the interim milestones. A more robust compliance schedule with incremental enforceable interim milestones that show progress towards compliance would provide better justification than simply including annual reporting on progress. DEQ needs to ensure permits with compliance schedules contain appropriate and defensible interim milestones for those compliance schedules as required by 40 CFR 122.47(a).

The review indicated that standard conditions differed between permits; it did not appear that a single set of boilerplate language was used to develop the MPDES permits reviewed. Permits lacked certain federal standard conditions in part or entirely, as follows:

- Language at 40 CFR 122.41(a)(1), Duty to Comply: Certain POTW and non-POTW permits omitted this provision, and permits that did include this provision were missing the reference to sludge use or disposal.
- Language at 40 CFR 122.41(a)(3), Administrative Penalties: Certain POTW and non-POTW permits omitted this provision, and in permits that did include this provision the penalty language was not fully consistent with the federal language.
- Language at 40 CFR 122.41(d), Duty to Mitigate: MPDES permits lacked the language related to sludge use or disposal.
- Language at 40 CFR 122.41(i), Inspection and Entry: MPDES permits lacked the language specifying “an authorized contractor acting as a representative of the Administrator” was an authorized representative.
- Language at 40 CFR 122.41(j)(2), Monitoring and Records: MPDES permits lacked the language specifying sludge use and disposal activities.
- Language at 40 CFR 122.41(j)(4), Monitoring and Records: MPDES permits used the language “Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit” instead of the required “Monitoring must be conducted according to test procedures approved under 40 CFR Part 136 unless another method is required under 40 CFR subchapters N or O.”
- Language at 40 CFR 122.41(j)(5), Monitoring and Records: MPDES permit language specifying imprisonment terms was less stringent than 40 CFR 122.41(j)(5) and lacked the federal standard condition language for penalties for subsequent violations.
- Language at 40 CFR 122.41(l)(1), Reporting requirements—Planned changes: Several permits omitted the language specifying that notice is required when the alteration or addition to a permitted facility meets one of the criteria for determining whether the facility is a new source.
- Language at 40 CFR 122.41(l)(1)(iii), Reporting requirements—Planned changes: At least one permit omitted the language related to planned changes resulting in the permittee’s sludge use or disposal practices.

- Language at 40 CFR 122.41(l)(6), Reporting requirements—Twenty-four hour reporting: The regulations require reporting of “any noncompliance which may endanger health or the environment.” However, several MPDES permits reviewed specified “...noncompliance which may *seriously* endanger health or the environment...” In addition, this standard condition in several permits lacked the requirement to report “Violation of a maximum daily discharge limitation for any of the pollutants listed by the Director in the permit to be reported within 24 hours” as required by 40 CFR 122.41(l)(6)(ii)(C).
- Language at 40 CFR 122.42(a) and (b), Additional standard conditions: This language was missing from several of the permits reviewed.

Action Items

Essential

- Ensure that permits with compliance schedules contain appropriate and defensible interim milestones for those compliance schedules as required by 40 CFR 122.47.
- Ensure that the permit standard conditions contain and are consistent with all federal standard conditions in 40 CFR 122.41.
- Ensure that federal standard conditions contained in 40 CFR 122.42(a) for non-POTWs and 122.42(b) for POTWs are included in all applicable NPDES permits.

Recommended

- Provide rationale for special conditions in permit fact sheets.

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 Montana, and reviewed materials from the administrative process as they related to the core permit review.

Montana’s rules for public participation (i.e., public notice, public comments, response to comments, and public hearings) are in ARM sections 17.30.1372–1377. The rules specify that the public comment period must be at least 30 days but that it can be extended if the permit is complex or generates significant public interest. MPDES permit writers work with DEQ administrative staff to prepare a draft permit package for public notice. DEQ publishes public notices in newspapers within the area affected by the facility or permitted activity and on DEQ’s public website (ARM section 17.30.1372). DEQ indicated that it still must publish public notices in newspapers due to negative reactions to DEQ’s proposal to publish them solely on its website. DEQ distributes the draft permit package to permittees by direct mail and the public notice and draft permit to interested parties via either email or direct mail. DEQ maintains a list

of interested parties to whom the draft permit package is distributed. DEQ accepts written comments on draft permits via email or by mail.

At the close of the public comment period, MPDES permit writers compile comments received, review comments, evaluate whether changes are required to the draft permit, and draft responses to comments. The response to comments document is distributed to permittees, EPA Region 8, and any party that commented on the draft permit. DEQ's goal is to complete the response to comments document within 60 days of the close of the public comment period. The response to comments document is a separate document that supersedes the applicable portion of the fact sheet if DEQ made changes in response to public comment; the response to comments document clearly states that it is "incorporated within, amends, and supersedes the relevant portions of the Fact Sheet and administrative record supporting the draft permit."

DEQ conducts public hearings on draft permits based on public request during the comment period, public interest in the permit, or whether it was controversial. DEQ's rules require a public hearing for all general permits.

Several permits reviewed were permits for which DEQ issued a minor modification, to correct typographical errors. Records included documentation of the minor modification in addition to the revised fact sheet and permit.

DEQ indicated that several permits were appealed each year and could predict at the time of permit issuance whether an appeal was likely. Permittees appeal final permits to the Board of Environmental Review and other interested parties file appeals with the Montana District Court. If a permittee appeals the final permit, the MPDES Permitting Section and DEQ's legal staff typically work with the permittee to resolve the appeal. If DEQ and the permittee are unable to negotiate a resolution to the appeal, the portion of the permit being appealed goes to the Board of Environmental Review for a final determination. Appeals that reach the Board may receive a decision through a hearing before the Board, or the Board may issue a decision on behalf of DEQ without going through a formal hearing process.

Program Strengths

Public notices were available for all permits reviewed and, where comment letters were available, files were clearly labeled to identify them as such. Several records reviewed included EPA's comment letters to DEQ. The response to comments documents reviewed were well organized and thorough, and they provided an understanding of DEQ's decisions that informed the development of the draft permit.

Areas for Improvement

Public notice language was insufficient for several permits reviewed. Public notices lacked language from 40 CFR 124.10(d)(iv) (name and address of person to contact for more information), (vi) (statement that all permittee's data was part of the public record), and (vii) (description and location of sludge use and disposal practices).

*Action Items***Essential**

- Ensure that all public notices contain the public notice contents required by 40 CFR 124.10(d).

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 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;³ all items cited in the statement of basis or fact sheet including calculations used to derive the permit limitations; meeting reports; correspondence between the applicant and regulatory personnel; all other items supporting the file; final response to comments; and, for new sources where EPA issues the permit, any environmental assessment, environmental impact statement, or finding of no significant impact.

Current regulations at 40 CFR 124.8 and 124.56 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.

NPDES permit writers develop fact sheets, using an initial template selected by the permit writer and updating it to reflect updates in facility operations, treatment processes, compliance data review, effluent limitations, monitoring requirements, and other permit conditions. NPDES permit writers draft fact sheets first, then permits. Montana's rules distinguish between fact sheets and statements of basis; however, DEQ develops fact sheets for all permits.

³ 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.

Program Strengths

MPDES fact sheets were well organized and generally provided a logical overview of the basis of effluent limitations and monitoring requirements. MPDES fact sheets consistently provided background information on the facility, permit status, application, and compliance history and provided a thorough presentation of the regulatory basis for permit conditions, including effluent limitations and monitoring requirements. Fact sheets also summarized proposed changes from the previous permit, which provided a useful at-a-glance understanding of permit conditions. MPDES fact sheets generally described the basis for the effluent limitation for each parameter limited in the permit, and the “Final Pollutant Evaluation” section identified whether final effluent limitations were TBELs or WQBELs. In addition, fact sheets documented calculations of ELG-based TBELs and their applicability to the discharge. Fact sheets clearly identified the receiving waterbody, applicable WQS, and impairment status. Fact sheets provided a good understanding of the RPA and rationale for WQBELs.

The MPDES administrative record contained documentation that supported final permit decisions, such as the previous permit, permit renewal application, discharge monitoring data, correspondence, inspection reports, special studies, public comments, and responses to comments. DEQ maintains the administrative record in FACTS, on local DEQ computer network drives, and in NetDMR. DEQ indicated their files are routinely retained for 30 years and include numerous boxes of hard copy files, stored off site.

Areas for Improvement

MPDES fact sheets did not always include the complete basis for all effluent limitations, including those effluent limitations carried forward from the previous permit. This was also a finding during the 2016 PQR. In addition, certain fact sheets lacked adequate discussion of the removal of effluent limitations for total residual chlorine and how the removal of the effluent limitations was consistent with federal anti-backsliding requirements. Fact sheet content was inconsistent across those reviewed, and EPA recommends use of a standardized template to ensure consistency in content and level of detail of the discussion of the basis for effluent limitations. Fact sheets did not consistently identify the DEQ staff person who prepared the permit. One POTW permit’s list of monitoring requirements was inconsistent with the rationale provided in the fact sheet. It appears the fact sheet provided justification for permit conditions that were not carried through into the permit. Developing improved QA/QC processes would help catch these mistakes.

*Action Items***Essential**

- Ensure that fact sheets document the rationale for the removal of effluent limitations and evaluation of anti-backsliding, consistent with 40 CFR 124.56(a) and 124.8(b)(4).

Recommended

- Develop and implement a standardized template for MPDES fact sheets to ensure consistency in content and organization.
- Fact sheets should consistently identify the DEQ staff person who prepared the permit.
- Conduct adequate QA/QC reviews of draft MPDES permits and fact sheets to ensure requirements are consistent between permits and fact sheets.

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 PQRs. The national topic areas are: Permit Controls for Nutrients in Non-TMDL Waters, Effectiveness of POTW NPDES Permits with Food Processor Contributions, and Small MS4 Permit Requirements.

A. Permit Controls for Nutrients in Non-TMDL Waters

Background

Nutrient pollution is one of America's most widespread, costly, and challenging environmental problems. It is vital that permitting authorities actively consider nutrient pollution in their permitting decisions. In April 2022, EPA issued a memo⁴ reiterating EPA's commitment to nutrient pollution reductions throughout the country. Some of the topics discussed in the memo include "strongly encouraging states to rely on numeric targets for...NPDES permitting" and an expectation that states will "commit to use numeric targets to implement applicable narrative criteria statements." However, nationally permits often lack nutrient limits and/or monitoring. Of the permits that do have limits, many are derived from WLAs in TMDLs. For this section of the report, 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 review, 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 water quality standards, whether those WQS are narrative or numeric.

To assess how nutrients are addressed in the MPDES program, EPA Region 8 reviewed three permits, as well as two documents published by DEQ that relate to nutrient controls in permits:

⁴ EPA. [Accelerating Nutrient Pollution Reductions in the Nation's Waters](#), Assistant Administrator Radhika Fox, April 2022.

Circular DEQ-12A (Montana Base Numeric Nutrient Standards) and Circular DEQ-12B (Nutrient Standard Variances).

Montana has a lengthy history of nutrient criteria development and adoption. In 2014, Montana adopted numeric nutrient criteria (NNC) for total nitrogen (TN) and total phosphorus (TP) to protect the designated uses of wadeable streams and certain segments of the Yellowstone River, WQS variances for nutrients justified based on the economic impacts of attaining the NNC for facilities discharging to these waters, and non-severability provisions linking the applicability of nutrient criteria to the availability of WQS variances for nutrients. EPA approved the NNC and WQS variances pursuant to CWA Section 303(c) in 2015. In 2017, EPA approved Montana's revised variance for a subset of dischargers. EPA subsequently approved the non-severability provisions in 2020. EPA's approval of the variance provision was challenged in court and DEQ intervened as a defendant. Ultimately, EPA's approval of the variance provision was upheld. On April 30, 2021, Montana Governor Gianforte signed Senate Bill 358 into law. This bill removed the NNC (along with Circulars DEQ-12A and 12B) from state law and tasked DEQ with coming up with a new approach to nutrient that uses the narrative criteria and an adaptive management approach. In May 2022, EPA disapproved certain provisions of Senate Bill 358 and clarified that Senate Bill 358 is not effective for CWA purposes, and that the previous NNC remain in place until replaced by an EPA-approved WQS. DEQ is currently working on a combined criteria approach that would include both causal and response variables, and plans to initiate rulemaking in 2024.

EPA reviewed three facilities' NPDES permits to determine how the nutrient provisions above were being implemented in permits. A general summary of the findings is included below:

- Black Butte/Tintina Mine, MT0031909 (industrial, minor)
 - Receiving stream is Sheep Creek.
 - Sheep Creek does have NNC for both TN and TP, and is not listed as impaired for nutrients.
 - Facility's fact sheet indicated that both TN and TP were nutrients of concern.
 - RPA was performed for the NNC (RP was found).
 - Permit contains effluent limits and monitoring requirements for TN and TP.
- Havre, MT0022535 (POTW, major)
 - Receiving stream is the Milk River.
 - Milk River does have NNC, and is not listed as impaired for nutrients.
 - Facility's fact sheet indicated that both TN and TP were nutrients of concern.
 - RPA was performed only for the narrative criteria, and not for the NNC (no RP was found for the narrative criteria).
 - Permit contains effluent monitoring requirements for TN and TP.
- Miles City, MT0020001 (POTW, major)
 - Receiving stream is Yellowstone River.
 - Yellowstone River does have NNC, and is listed as impaired for nitrate+nitrite, but a TMDL has not yet been completed.
 - Facility's fact sheet indicated that both TN and TP were nutrients of concern.

- RPA was performed for the NNC (no RP was found).
- Permit contains effluent monitoring requirements for TN and TP.

Program Strengths

Montana has currently adopted NNC and regularly includes monitoring and (when necessary) permit limits for both TN and TP. DEQ is working diligently to get through the rulemaking required by Senate Bill 358 to continue to address nutrients. All three permits reviewed included nutrients as pollutants of concern. The fact sheets contained discussions of impairment status and whether a TMDL applies, RP analyses of both TN and TP, and monitoring requirements for TN and TP. In some cases, WQBELs were included for both TN and TP.

Areas for Improvement

One of the fact sheets reviewed (Havre) considered the narrative criteria but not the NNC. In other permits reviewed, DEQ performed a standard quantitative reasonable potential analysis using the NNC and mass balance stream mixing. DEQ should ensure that it uses a consistent approach to address the CWA effective (i.e., EPA-approved) nutrient criteria when nutrients are a pollutant of concern.

Action Items

Essential

- Ensure that all applicable CWA effective (i.e., EPA-approved) water quality standards, including for nutrients, are considered when developing permit conditions (40 CFR 122.44(d)).

Recommended

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

B. Effectiveness of POTW NPDES Permits with Food Processor Contributions

The general pretreatment regulations (40 CFR Part 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 from food processors can be a significant contributor to noncompliance at 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 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.

The PQR also assessed the status of the pretreatment program in Montana as well as specific language in POTW NPDES permits. With respect to NPDES permits, focus was placed on the following regulatory requirements for pretreatment activities and pretreatment programs:

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

As of the time of this PQR, the state of Montana has not been authorized to implement the pretreatment program; therefore, EPA Region 8 is the approval authority for Montana POTWs and for individual SIUs. In this context, any reference to the "Director" or "Permitting Authority" in the context of pretreatment would refer to EPA Region 8.

Montana currently has six approved pretreatment programs overseen by EPA Region 8 (Table 2). These six approved programs represent six of the seven larger cities in Montana. The seventh, Kalispell, is currently working with EPA to develop a pretreatment program in the immediate future. There were 39 SIUs in approved programs in Montana. These represent about 90 percent of the SIUs in Montana (Table 3). Of these 39 SIUs in approved pretreatment programs, eleven are categorical industrial users (CIUs).

EPA Region 8 also permitted four CIUs in non-approved POTWs in Montana. These include a pharmaceuticals company in Hamilton, MT, and three metal finishers in Big Timber, MT. None of these are non-significant CIUs (NSCIUs), and therefore CIU requirements apply. "Non-approved POTWs" or "non-approved program" in this section refer to POTWs that did not have approved pretreatment programs. Because Montana does not have pretreatment program authority, Region 8 is the control authority over the IUs in these non-approved POTWs.

While planning for the PQR, it became apparent that EPA could not review many of the six approved programs' POTW permits. Due to ongoing nutrient litigation and rulemaking, DEQ has administratively continued most of these for a long period of time. Only one of them – Great Falls POTW – was issued in the timeframe that was acceptable for a PQR review. The Great Falls POTW does have two food processor industrial users (IUs) – Meadow Gold Dairy (dairy manufacturing) and Malteurop North America (barley malting). However, since EPA administers the approved pretreatment program for Great Falls, the documentation necessary for a review of these IU control mechanisms was not available from the state during the PQR. Additionally,

the town of Jordan is in the process of developing a pretreatment program, and they will have one IU (a slaughterhouse). There are no POTWs with food processor IUs outside of the approved pretreatment programs that EPA could have potentially reviewed. Thus, EPA was unable to review any food processing details for this PQR.

Table 2. Approved Pretreatment Programs in Montana

Approved Pretreatment Program	NPDES Permit ID	Number of SIUs
Great Falls	MT0021920	6
Butte-Silver Bow	MT0022012	3
Helena	MT0022641	3
Billings	MT0022586	5
Bozeman	MT0022608	5
Missoula	MT0022594	17

Table 3. Summary of Industrial Users (IUs) in Montana

IU Description	Number of SIUs in Approved Pretreatment Programs	Number of CIUs discharging to non-approved POTWs (controlled by the Approval Authority)	Total
CIU	11	4	15
Non-CIU	28	0	28
Total	39	4	43

Program Strengths

Based on EPA's evaluation of the DEQ permits, it appears that most permits have standard pretreatment language that encapsulates the requirements of 40 CFR 403.5(a) and (b), as well as 40 CFR 122.42(b). This language was found in all but one POTW permit reviewed. Furthermore, it appears that the single DEQ permit for a municipality with an approved pretreatment program evaluated during the PQR (Great Falls) contains pretreatment implementation language found in 40 CFR 403.8 and 403.12, including the approval date for the program. The permit application for this facility included a description of all IUs, identified all applicable categorical classifications, and included all IU information required at 40 CFR 122.21(j)(6)(i) and (ii). Finally, DEQ has recently issued the town of Jordan a compliance-type schedule to work with EPA to develop a pretreatment program.

Areas for Improvement

One permit reviewed (Great Falls) did not contain the language in 40 CFR 122.42(b). EPA notes that this permit is one of the older permits reviewed and did contain some similar language that met some of these requirements. DEQ should continue to make sure all permits include this language.

The fact sheet for Great Falls POTW did not provide sufficient detail about IU discharge characteristics or discuss how specific industrial contributions were considered in the RPA. Permit writers should ensure that fact sheets for POTWs with pretreatment programs describe IUs in more detail and specify whether the RPA included analysis of pollutants common for the types of industries discharging to the POTW. EPA recommends that the fact sheet summarize the information found in Part F of the application regarding number and names of IUs, descriptions, and categorical classifications at a minimum.

The fact sheet for Great Falls POTW did not specify the basis for requiring the POTW to implement a pretreatment program (e.g., presence of CIU discharges, exceedances of NPDES limits attributed to industrial discharges). Inclusion of this information in the POTW NPDES permit fact sheet is important for documenting the rationale for the POTW's monitoring and sampling requirements. Fact sheets should specify the basis and rationale for requiring a pretreatment program. See 40 CFR 403.8(a) for the criteria.

The fact sheets reviewed did not mention whether hauled waste was accepted at the POTWs. Permit fact sheets should specify whether the POTW accepts hauled waste and provide more information on hauled waste types, volumes, discharge locations, and whether hauled waste contributions were included in the RPA. Permit writers should consider including POTW organic capacity and identify and characterize contributing hauled waste in the NPDES permit fact sheet.

Additionally, DEQ should consider including a reopener clause in NPDES permits for non-approved POTWs. This would ensure that if an approved program were needed, the permit could be reissued as a minor modification per 40 CFR 122.63(g).

Action Items

Essential	<ul style="list-style-type: none"> •The PQR did not identify any essential action items for this section.
Recommended	<ul style="list-style-type: none"> •Consider revising the permit reopener clause for non-approved POTW program NPDES permits to ensure that permits could be reopened to require a pretreatment program if necessary. •Ensure that fact sheets state why a pretreatment program was required to be developed and the basis for the requirements of the permit. •Fact sheets should specify whether the POTW accepts hauled waste and whether hauled waste contributions were included in the RPA. •Ensure that fact sheets for POTWs with pretreatment programs describe IUs in detail, and specify whether the RPA included analysis of pollutants common for the types of industries discharging to the POTW.

C. Small MS4 Permit Requirements

Background

As part of this PQR, EPA reviewed Montana's General Permit for Storm Water Discharges Associated with Small Municipal Separate Storm Sewer Systems (MTR040000) for consistency with the Phase II stormwater permit regulations. This permit was effective April 1, 2022, modified July 11, 2022, and expires on March 31, 2027.

In 2017, EPA finalized updates to 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)).

Program Strengths

This permit is a comprehensive general permit. Overall, the permit and fact sheet are well written and contain conditions which are clear, specific and measurable.

Areas for Improvement

EPA noted two areas for improvement. First, minimum control measure 4 requirement (3)(b)(iv) only requires one construction inspection per year by the permittee ("The permittee must annually identify and inspect a minimum number of projects not equaling zero"). EPA recommends requiring a percentage of the MS4's construction universe be inspected annually (e.g., 5 percent of the construction universe inspected annually), rather than just one inspection. Larger Phase II MS4s may have significantly more construction activity than smaller Phase II MS4s. Requiring a percentage of the universe to be inspected annually will provide more oversight authority for the MS4s and be more representative of their construction universe.

Second, EPA commends the state for requiring semi-annual monitoring for all permittees. However, EPA recommends the state add language in the next permit renewal fact sheet describing how it will utilize this data such as in the determination/effectiveness of BMPs, monitoring and assessments, TMDL development, etc.

*Action Items***Essential**

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

Recommended

- Require a percentage of construction universe be inspected annually rather than just one (1) inspection per year.
- Add language as to how DEQ will utilize the semi-annual data collected from MS4 permittees, such as in the determination/effectiveness of BMPs, monitoring and assessments, or TMDL development.

V. REGIONAL TOPIC AREA FINDINGS

Regional topic areas are aspects of the NPDES permit program that have been determined by EPA and the state to be important on a regional scale. Regional topic areas are reviewed for some PQRs. The regional topic area identified for this PQR is Implementation of Mining ELGs.

A. Implementation of Mining ELGs*Background*

EPA has promulgated technology-based limitations and standards that reflect pollutant reductions that can be achieved by categories, or subcategories, of industrial point sources using specific technologies (including process changes) that meet the statutorily prescribed level of control under the authority of CWA sections 301, 304, 306, 307, 308, 402, and 501.

The national industrial wastewater controls are called effluent limitations guidelines and standards (effluent guidelines or ELGs). Unlike other CWA tools, such as WQS, effluent guidelines are national in scope and establish performance standards for all facilities within an industrial category or subcategory. ELGs promulgated by EPA are found at 40 CFR Subchapter N.

One such broad category are the ELGs that control the mining industry. These include regulations for the coal mining industry (40 CFR Part 434), mineral mining (40 CFR Part 436), and ore mining (40 CFR Part 440). One of the primary industries in the state of Montana is the mining industry; approximately 15% of the individual permits issued by the state of Montana are related to this industry.

The objective of the mining ELGs implementation review is (1) to verify whether permits and fact sheets reference the correct ELGs within 40 CFR Subchapter N, (2) to verify whether they correctly identified which control technologies of ELGs should apply (BPT, BCT, BAT, NSPS), and (3) to verify whether the specific ELGs have been implemented correctly. As part of this regional review, EPA chose three permits for review based on the type of mine and the permit issuance date. The reviewed permits—and a brief description of each—are below:

- **Westmoreland Savage Coal Mine (MT0023604):** This is an active open pit coal mine that falls under the western alkaline standards ELGs in 40 CFR Part 434.
- **Black Butte Tintina Copper Mine (MT0031909):** This is a new copper ore mine that falls under the ELGs in 40 CFR Part 440.
- **Mineral Hill Mine Jardine (MT0030252):** This mine was an underground gold and silver ore mine that operated intermittently starting in the late 1800s until it was decommissioned in 1996. The mine is no longer active, and thus the permit covers the remaining 55 acres of reclamation and a water treatment system for only one of the mine's two adits (the additional adit receives no treatment). This mine is regulated under the ELGs found in 40 CFR Part 440.

Program Strengths

Based on the permits and fact sheets reviewed, the state appeared to implement ELGs appropriately. Fact sheets clearly identified major categories and subcategories of ELGs applicable to the particular facility/industry as well as the applicable control technologies (BPT, BAT, BCT, or NSPS). Additionally, the fact sheets identified pollutant-specific ELGs, and compared the resulting TBELs to the WQBELs to determine the more stringent limit. Overall, this section of the fact sheets was very well written and clearly laid out.

For one permit (Mineral Hill Mine, MT0030252), DEQ developed limits based on BPJ, partly because the facility is no longer active and has a perpetual adit discharge to treat. For this permit, the record clearly indicated the basis of the BPJ decision.

Areas for Improvement

The PQR did not identify any areas for improvement in this category for the permits reviewed.

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.

VI. REVIEW OF PROGRESS ON ESSENTIAL ACTION ITEMS FROM LAST PQR

This section provides a summary of the main findings from the last PQR and provides a review of the status of the state's efforts in addressing the action items identified during the last PQR, conducted October 17-19, 2016. As discussed previously, during the 2012-2017 PQR cycle, EPA referred to action items that address deficiencies or noncompliance with respect to federal regulations as "Category 1". EPA is now referring to these action items as Essential.

Table 4. Essential Action Items Identified During Last PQR (2016)

Program Area	Action Item Title	Status Update
TBELs	As required by 40 CFR 124.56, when developing BPJ limits Montana DEQ needs to provide a basis for those limits beyond general statements of achievability.	(In progress) The 2022 PQR reported a similar finding.
TBELs	As required by 40 CFR 124.56, Montana DEQ needs to ensure that limits carried over from previous permits include the justification and/or documentation and calculations for the original effluent limits to show that the limit is still adequate and applicable.	(In progress) The 2022 PQR reported a similar finding.
Monitoring & Reporting	Montana DEQ should develop a procedure to determine if monitoring information submitted with permit applications meets their requirements for conducting RPA and WQBEL development prior to determining that a permit application is complete. The procedure should include processes to request or require supplemental monitoring information from permittees necessary to conduct an RPA and develop WQBELs as needed, in accordance with 40 CFR 122.44(d).	(In progress)
Standard & Special Conditions	Montana DEQ needs to develop a procedure to guide permit writers in making consistent determinations as to whether permit requirements should be placed in special conditions or into a compliance schedule to ensure compliance schedules meet the definition in Part 502 of the CWA [33 U.S.C. 1362(17)].	(In progress) DEQ has developed some internal guidance.

Program Area	Action Item Title	Status Update
Standard & Special Conditions	Montana DEQ needs to ensure permits with compliance schedules contain appropriate and defensible interim milestones for those compliance schedules as required by 40 CFR 122.47(a).	(In progress) The 2022 PQR reported a similar finding.
Documentation	As required by 40 CFR 124.56, Montana DEQ needs to ensure justification and explanation for permit decisions is contained in the Fact Sheets, which are part of the administrative record, when changes to permits are made from the draft to the final versions.	(Resolved) DEQ has improved their response to comments to clearly document changes from draft to final versions. The Response to Comments is now attached to the fact sheet as part of the administrative record.
Reasonable Potential Analysis	Montana DEQ needs to develop a procedure to ensure their permits contain monitoring requirements sufficient to yield data which are representative of the monitoring activity [40 CFR 122.48] so that permittees meet the monitoring requirements of the permit and permit writers have representative, defensible data to conduct RPAs and develop WQBELs when writing permits.	(In progress) DEQ has developed some internal guidance. They continue to work on refinements that will help improve documentation.
Reasonable Potential Analysis	Montana DEQ needs to develop required effluent limitations for all pollutants or pollutant parameters "which are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard." [40 CFR 122.44(d)].	(In progress) DEQ has developed some internal guidance. They continue to work on refinements that will help improve documentation.
Reasonable Potential Analysis	Montana DEQ needs to develop a procedure to ensure permit writers adequately document the RPA and any subsequent WQBEL development in the permit fact sheet. Montana needs to ensure the procedure requires any subsequent changes to the RPA or WQBELs also be explained and justified in the fact sheet [40 CFR 122.44(d) and 124.8].	(In progress) DEQ has developed some internal guidance. They continue to work on refinements that will help improve documentation.

VII. RECOMMENDED ACTION ITEMS FROM LAST PQR

This section provides a summary of the recommendations from the last PQR, conducted October 17-19, 2016, and notes any state efforts to act on those recommendations. As discussed previously, during the 2012-2017 PQR cycle, EPA referred to action items that are recommendations to strengthen the state's program as either "Category 2" or "Category 3" action items. EPA is consolidating these two categories of action items into a single category: Recommended.

Table 5. Recommended Action Items Identified During Last PQR (2016)

Program Area	Action Item Title	Status
Basic Facility Information and Permit Application	Consider reviewing its rules and policies related to administrative extension of permits to ensure current practices are in agreement with its rules.	(In progress)
Basic Facility Information and Permit Application	Develop and use consistent standards, procedures, and terminology concerning permit application and completeness requirements in order to be transparent and consistent about when a permit application is complete and when a permit is allowed to be administratively continued.	(In progress)
TBELs	Consider including review of ELG-based effluent limit calculations as part of their peer review process if that is not currently being done.	(In progress)
WQBELs	Refine the pollutant of concern (POC) template language to indicate that permit writers need to explain the rationale of how they selected POCs, develop a consistent base list of POCs for POTWs and ensure a complete list of POCs is provided in the fact sheet.	(Resolved) DEQ has improved their analysis of pollutants of concern.
Monitoring & Reporting	Coordinate with enforcement to take action when permittees do not collect ample, required data for DEQ to perform RPA and other analyses.	(In progress)
Administrative Process	Ensure complete copies of all documents are included in the public access room files and available when requested.	(Resolved) DEQ no longer has a public access room, but their electronic records are complete and easy to access.
Administrative Process	Improve the organization of the administrative record to make it easier to locate documentation of permit decisions and permit correspondence.	(Resolved) See above.

Program Area	Action Item Title	Status
Pretreatment	Revise the permit reopener clause for nonapproved POTW program NPDES permits to ensure that the permits could be reopened to require a pretreatment program if deemed necessary.	(In progress)
Pretreatment	Discuss in the fact sheet for all POTWs with approved pretreatment programs whether the RPA conducted to develop WQBELs included analysis of all pollutants common for the types of industries discharging to the POTW.	(In progress)
Stormwater	Ensure permits requiring specific actions at specific times, such as stormwater control measure inspections, by the permittee contain specific language describing the times or time intervals required.	(In progress)
Reasonable Potential Analysis	If the analytical services available to permittees cannot consistently analyze effluent samples to the level required by DEQ's RRVs due to technology limitations, then DEQ should consider revising the RRVs to levels which are reasonably attainable by the analytical laboratories available to permittees.	(In progress)
Mixing Zones	Ensure mixing zone development is adequately documented in the permit fact sheet to include calculations and/or reasoning for the mixing zone decisions, past, or present, and if a specific mixing zone size is set, whether the mixing is complete within the mixing zone boundary.	(In progress)
Mixing Zones	Consider procedures or guidance to assist permit writers in following Montana's promulgated [mixing zone] requirements.	(In progress)

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 Montana's 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. The permitting authority is expected to address these action items in order to come into compliance 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 6 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 7 below.

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

Table 6. Essential Action Items from FY 2018-2022 PQR Cycle

Topic	Action(s)
Permit Application Requirements	<ul style="list-style-type: none"> • Ensure that POTW applications include complete monitoring data (40 CFR 122.21(j)(4)) and non-POTW applications include WET data, if applicable (40 CFR 122.21(g)(11)). • Ensure that all applicants identify the analytical methods and reporting limits used for analysis of chemical parameters to determine whether sufficiently sensitive analytical methods were used, consistent with 40 CFR 122.21(j)(4)(ix).
TBELs for Non-POTW Dischargers	<ul style="list-style-type: none"> • Ensure that fact sheets contain a clear discussion of the 40 CFR 125.3(d) factors appropriate for the application of BPJ-based TBELs for non-municipal permits, including explanation of the reasons that such conditions are applicable (40 CFR 124.56(b)(1)(iv)). • Ensure that fact sheets discuss the basis for effluent limitations, especially those that are carried over from the previous permit, including any calculations or other necessary explanation of the derivation of the limitations and reasons why the limitations are applicable (40 CFR 124.56(a)).
Reasonable Potential Analysis	<ul style="list-style-type: none"> • Ensure that fact sheets provide sufficiently detailed discussion of how pollutants of concern were identified (40 CFR 124.56(a)). • Ensure that fact sheets include discussion and results for each pollutant analyzed for reasonable potential (40 CFR 124.56(a)).
Final Effluent Limitations and Documentation	<ul style="list-style-type: none"> • Conduct (40 CFR 122.44(l)) and document (40 CFR 124.56(a) and 124.8(b)(4)) anti-backsliding evaluations in the fact sheet when reissued permits contain effluent limitations less stringent than those in the previous permit.

Standard and Special Conditions	<ul style="list-style-type: none"> • Ensure that permits with compliance schedules contain appropriate and defensible interim milestones for those compliance schedules as required by 40 CFR 122.47. • Ensure that the permit standard conditions contain and are consistent with all federal standard conditions in 40 CFR 122.41. • Ensure that federal standard conditions contained in 40 CFR 122.42(a) for non-POTWs and 122.42(b) for POTWs are included in all applicable NPDES permits.
Administrative Process	<ul style="list-style-type: none"> • Ensure that all public notices contain the public notice contents required by 40 CFR 124.10(d).
Administrative Record and Fact Sheet	<ul style="list-style-type: none"> • Ensure that fact sheets document the rationale for the removal of effluent limitations and evaluation of anti-backsliding, consistent with 40 CFR 124.56(a) and 124.8(b)(4).
Nutrients	<ul style="list-style-type: none"> • Ensure that all applicable CWA effective (i.e., EPA-approved) WQS, including for nutrients, are considered when developing permit conditions (40 CFR 122.44(d)).

Table 7. Recommended Action Items from FY 2018-2022 PQR Cycle

Topic	Action(s)
WQBELs Development	<ul style="list-style-type: none"> • Fact sheets should describe in greater detail how the mixing zone size was determined.
Standard and Special Conditions	<ul style="list-style-type: none"> • Provide rationale for special conditions in permit fact sheets.
Administrative Record and Fact Sheet	<ul style="list-style-type: none"> • Develop and implement a standardized template for MPDES fact sheets to ensure consistency in content and organization. • Fact sheets should consistently identify the DEQ staff person who prepared the permit. • Conduct adequate QA/QC reviews of draft MPDES permits and fact sheets to ensure requirements are consistent between permits and fact sheets.
Pretreatment: Food Processing Sector	<ul style="list-style-type: none"> • Consider revising the permit reopener clause for non-approved POTW program NPDES permits to ensure that permits could be reopened to require a pretreatment program if necessary. • Ensure that fact sheets state why a pretreatment program was required to be developed and the basis for the requirements of the permit. • Fact sheets should specify whether the POTW accepts hauled waste and whether hauled waste contributions were included in the RPAs.

	<ul style="list-style-type: none"> • Ensure that fact sheets for POTWs with pretreatment programs describe IUs in detail, and specify whether the RPAs included analysis of pollutants common for the types of industries discharging to the POTW.
Municipal Separate Storm Sewer Systems (MS4s)	<ul style="list-style-type: none"> • Require a percentage of construction universe be inspected annually rather than just one (1) inspection per year. • Add language as to how DEQ will utilize the semi-annual data collected from MS4 permittees, such as in the determination/effectiveness of BMPs, monitoring and assessments, or TMDL development.