

**FINAL**

**Region 10  
NPDES Program and Permit Quality Review  
Alaska**

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## Executive Summary

EPA Region 10's National Pollutant Discharge Elimination System (NPDES) Program and Permit Quality Review (PQR) for Alaska found that the Alaska Pollutant Discharge Elimination System (APDES) program is strong. The PQR revealed that permits issued in the state were generally well organized, in line with regulations and statutes, and technically sound. EPA found that certain permits would be strengthened by a clearer discussion of pollutants of concern and associated conducted analyses, and that certain administrative records would be strengthened by more complete documentation of permit development processes and rationales.

The PQR examined 12 individual and 3 general wastewater discharge permits issued by the Alaska Department of Environmental Conservation (ADEC), several ADEC permitting policies, and the statewide permit template. The PQR also focused on three national topic 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, and
- Small Municipal Separate Storm Sewer System (MS4) Permit Requirements

As of July 2019, ADEC administered 99 permits: 70 individual permits and 29 master general permits. At the time of the PQR site visit, 64 percent of Alaska's permits were current.

The PQR recognizes the many state and region-specific challenges faced by the state of Alaska, including tribal engagement procedures; concerns regarding the timeline of Phase II stormwater rule implementation, and associated challenges. In addition, ADEC indicated interest in further discussion of the challenges associated with revisions to the APDES Program Description and regulations. ADEC continues to develop and refine internal permitting protocols, templates, and standard operating procedures for permit writers to support development of quality, defensible permits.

Although the permits reviewed generally conformed to national requirements, EPA identified some concerns, including inconsistent documentation for the basis for certain effluent limitations and water quality assessments (i.e., reasonable potential analyses [RPAs]). Since the noted shortcomings are generally associated with documentation-related rather than technical inadequacies, EPA believes they can be best resolved if ADEC consistently and thoroughly utilizes ADEC-developed checklists throughout all stages of permit development and issuance.

In addition to the items listed above, the report provides an overview of the APDES permitting program and identifies specific areas where EPA and ADEC can work together to continue to strengthen permit language and documentation in state NPDES permits.

The state of Alaska reviewed and provided comments on the draft PQR report on December 27, 2022. The state identified several PQR findings that have been addressed since they were identified during the 2019 review, but did not recommend any edits.

## I. PQR BACKGROUND

The National Pollutant Discharge Elimination System (NPDES) Program and Permit Quality Reviews (PQRs) are an evaluation of a cross section of state-issued 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 and opportunities related to the implementation of a state's NPDES program. The "snapshot" approach of PQRs is complemented by EPA's ongoing, real-time review of state-issued permits. Policies, responsibilities, and procedures for administering the NPDES program in Alaska under a shared state-EPA governance approach are outlined in the *National Pollutant Discharge Elimination System Memorandum of Agreement Between State of Alaska and United States Environmental Protection Agency*. The document is available at:

<https://www.epa.gov/sites/production/files/2013-08/documents/ak-moa-npdes.pdf>.

In the previous PQR cycle for fiscal years (FY) 2012 – 2017, EPA conducted a PQR of the Alaska NPDES permitting program, or Alaska Pollutant Discharge Elimination System (APDES), on July 15 – 17, 2013. The PQR summary report is available at:

[https://www.epa.gov/sites/production/files/2018-05/documents/ak\\_pqr-2016.pdf](https://www.epa.gov/sites/production/files/2018-05/documents/ak_pqr-2016.pdf). The evaluation team proposed certain action items to improve the implementation of the APDES permitting program. As part of the current PQR cycle (FY 2018 – 2022), EPA requested updates from Alaska on the progress on those action items identified in the last PQR. The last PQR identified one action item as being an Essential<sup>1</sup> task; the Alaska Department of Environmental Conservation (ADEC) is still addressing that action item and it continues to be an Essential action item in the current PQR. In addition, EPA identified Recommended action items to improve Alaska's program; ADEC has generally implemented or is in the process of implementing those action items. Sections VI and VII of this report contain 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 APDES permit program. The action items are identified within 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** - "Essential" action items address noncompliance with respect to a federal regulation. EPA has provided the citation for each Essential action item. The permitting authority must address these action items to comply with federal regulations.
- **Recommended Actions** - "Recommended" action items are recommendations to increase the effectiveness of the state's or Region's NPDES permit program.

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<sup>1</sup> During the 2012-2017 PQR cycle, these action items were known as "Category 1" and address deficiencies or noncompliance with respect to federal regulations. EPA is now referring to these action items going forward, 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 Essential actions are used to augment the existing list of “follow up actions” currently tracked by EPA Headquarters on an annual basis and are reviewed during subsequent PQRs.

EPA’s review team, consisting of five EPA Region 10 staff, one EPA Headquarters staff, and one contractor supporting EPA, conducted a review of the APDES program, which included an on-site visit to ADEC in Anchorage on July 15 – 18, 2019.

The Alaska PQR included reviews of core permit components and national topic areas, as well as dialogue between the PQR review team and state staff regarding ADEC’s program status and permit issuance processes. The permit reviews focused on core permit quality: this included a review of administrative records consisting of the permit application, permit, fact sheet, and any other correspondence; reports or documents that provide the basis for the development of the permit conditions; and related administrative processes. The PQR also included conversations between EPA and the state regarding program organization, staffing, and challenges and opportunities.

A total of 15 permits were reviewed as part of the PQR. All permits were reviewed for the core review and 5 of the permits were reviewed for national topic areas. 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 (e.g., PQR Core Review Checklist), and speaking with permit writers and the management team regarding the permit development and issuance process. The core review focused on the *Central Tenets of the NPDES Permitting Program*<sup>2</sup> to evaluate the Alaska NPDES program. Core topic area permit reviews are conducted to evaluate similar issues or types of permits in all states.

### **Topic Area Reviews**

The national topics reviewed in the Alaska NPDES program 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, which target regionally-specific permit types or particular aspects of permits, were optional for this PQR cycle and were not selected for this report.

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

## II. STATE PROGRAM BACKGROUND

### A. Program Structure

Within ADEC, the Division of Water includes four program areas, including the Water Quality Program (WQP). The WQP comprises the Cruise Ship Program; Wastewater Discharge Authorization Program (WDAP); Water Quality Standards, Assessment, and Restoration (WQSAR) Program; and Compliance and Enforcement Program. WDAP issues APDES permits within the state of Alaska.

The main office of the ADEC WDAP program is in Anchorage, and the program also has regional offices in Juneau and Fairbanks. The ADEC Commissioner's and Director's offices are in the Anchorage office, and the Anchorage office is currently the location of all required APDES permit submittals. Policy for APDES-related activities is almost exclusively set from the Anchorage and Juneau offices. In addition to the regional offices in Juneau and Fairbanks, WDAP has field offices in Wasilla and Soldotna that provide engineering support as well as limited compliance assessment and site visits.

In October 2008, EPA approved Alaska's application to implement the NPDES program and transferred program authority to the state in four phases. The initial phase transferred in 2008 and included domestic discharges, log storage and transfer facilities, seafood processing facilities, and hatcheries. Phase II was completed in 2009, which included federal facilities (except for Denali National Park), stormwater, wastewater pretreatment programs, and non-domestic discharges (e.g., utilities). Phase III was completed in 2010 and included mining activities. November 1, 2012 marked the completion of Phase IV authorization, which included wastewater permitting for the oil and gas (O&G) industry, pesticides, munitions, and any other facilities that had not yet been transferred. More information about the history of Alaska's APDES program including the program approval document is available on ADEC's website at <http://dec.alaska.gov/water/apdes-history.htm>. EPA remains the permitting authority for federally owned facilities in Denali National Park, Federal waters, facilities with CWA Section 301(h) waivers, and tribal lands.

WDAP has 20 permit writers, including four section managers who occasionally draft permits. At the time of the PQR, three permit writer positions were vacant. Permit writers receive internal mentoring and a variety of training to support their development. Recent training has included the EPA NPDES Permit Writers' Course, an online Cornell Mixing Zone Expert System (CORMIX) training, and attendance at in-state and out-of-state training courses and professional conferences. ADEC maintains NPDES-related guidance documents online at <https://dec.alaska.gov/water/apdes-history/npdes-related-guidance-documents-administer/>. EPA Region 10 provides technical assistance and feedback on draft permits at ADEC's request or if issues are identified during EPA's real-time review of ADEC permitting actions.

WDAP has two primary and two secondary water quality modelers who provide support to permit writers as needed. As noted above, all staff have participated in CORMIX training recently. WQSAR has three or four TMDL staff who can provide permit writers with support in implementing TMDLs in NPDES permits.

Other staff positions that support APDES permitting include:

- 1 Program Manager for WDAP;
- 12 APDES compliance and enforcement staff including a program manager;
- approximately 7 clerical and contract facilitation staff;
- approximately 4 water quality standards staff;
- approximately 1 information technology specialist assisting with data management and database support, and
- 1 tribal and local government coordinator.

Permits are assigned to permit writers by the respective Section Manager and/or Program Manager based on sector (e.g., oil and gas, mining, seafood, domestic, stormwater, etc.), location, priorities, or other factors. The permit writer is primarily responsible for permit development. WDAP has developed and made available to all permit writers a 24-page *Permitting Process Checklist* that lists the steps in the permitting process, the person responsible, resources (with links), record requirements, data entry requirements, and completion dates. The permit writer collaborates with other subject matter experts as needed, for example, on water quality standards or for permits that include specific elements such as whole effluent toxicity (WET) requirements or mixing zones.

The typical timeframe for developing a new individual permit is approximately 10 to 12 months from the time a complete permit application is received. A permit reissuance can take less time. More complex permits, including those for seafood or oil and gas facilities, sometimes take longer. Each permit writer drafts, on average, one to two permits per year.

*Permitting Tools:* WDAP has developed a set of tools to support APDES permit development and implementation. During the APDES authorization phasing periods, the state developed administrative procedures that address permit development (e.g., how to process permit applications, draft permit writers' guidelines) and some permit-specific guidance (e.g., interim methods for antidegradation implementation). Subsequently, the state developed a permitting checklist, a reasonable potential analysis (RPA) and final effluent limits spreadsheet tool, and associated guidance document. Currently, ADEC is developing mixing zone guidance, implementation methods for RPAs and effluent limits for fecal coliform, and methods to address changes in water quality criteria for human health exposure.

Future plans include development of the following guidance: determination of administrative and technically complete application submittals, seafood zone of deposit, WET, setting monitoring frequencies, and how to implement wasteload allocations (WLA) from TMDLs into APDES permits. In the interim, the state has relied on reference documents including EPA's *Technical Support Document for Water Quality – Based Toxics Control*<sup>3</sup> (TSD) and other guidance documents where state procedures are lacking.

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<sup>3</sup> Environmental Protection Agency, *Technical Support Document for Water Quality-based Toxic Control*, March 1991. < <https://www3.epa.gov/npdes/pubs/owm0264.pdf> >



WDAP has developed both permit and fact sheet templates for individual permits, which provide instruction for inclusion of specific standard and regulatory language to be used if the permit is for a POTW or non-POTW. The templates may also be modified by permit writers developing general permits.

WDAP uses a variety of data systems to support APDES permit development and implementation. These include Microsoft Office, Online Application System (OaSys), Discharge Results and Online Permit System (DROPS), and Integrated Compliance Information System (ICIS), as well as water quality modeling programs such as CORMIX or Plumes. WDAP also uses a database for water quality standards – the Aquatic AQMS. DROPS tracks APDES permit applications, permit development and issuance, and reported data. The state uploads APDES data to ICIS.

The state completes CWA section 401 certifications for NPDES permits issued by EPA, licenses for non-federal hydroelectric dams issued by the Federal Energy Regulatory Commission, and for 404 permits issued by the Army Corps of Engineers, but sometimes waives this opportunity based on established criteria and competing workloads. Certifications are completed by the section manager for the relevant sector of WDAP. ADEC does not use a checklist and does not provide outreach, but notice of ADEC 401 certifications are included with EPA or Army Corps public notice of draft permits.

Permit QA/QC occurs for each permit throughout the issuance process (e.g., review of the preliminary draft, draft, proposed final, and final documents). WDAP has an “internal review” process, where other permit writers, engineering staff, and compliance staff review preliminary draft permits and fact sheets to ensure technical and legal adequacy and accuracy, clarity/readability, and enforceability. The Section Manager and the WDAP Program Manager (who signs the permit) reviews the preliminary draft, draft, proposed final, and final permit, fact sheet, and response to comments document prior to issuing final permits. WDAP employs a permitting checklist that guides permit writers through the steps necessary to develop and issue the permit. The permitting checklist is routinely revised based on lessons learned, but maintains adherence to the permit issuance process described in APDES Regulations Alaska Administrative Code (AAC) 18 AAC 83 and the Program Description. Permit writers are responsible for keeping the checklist current. The permitting checklist used as a guide for permit writers is often reviewed by Section Managers. All permits undergo the same QA/QC process.

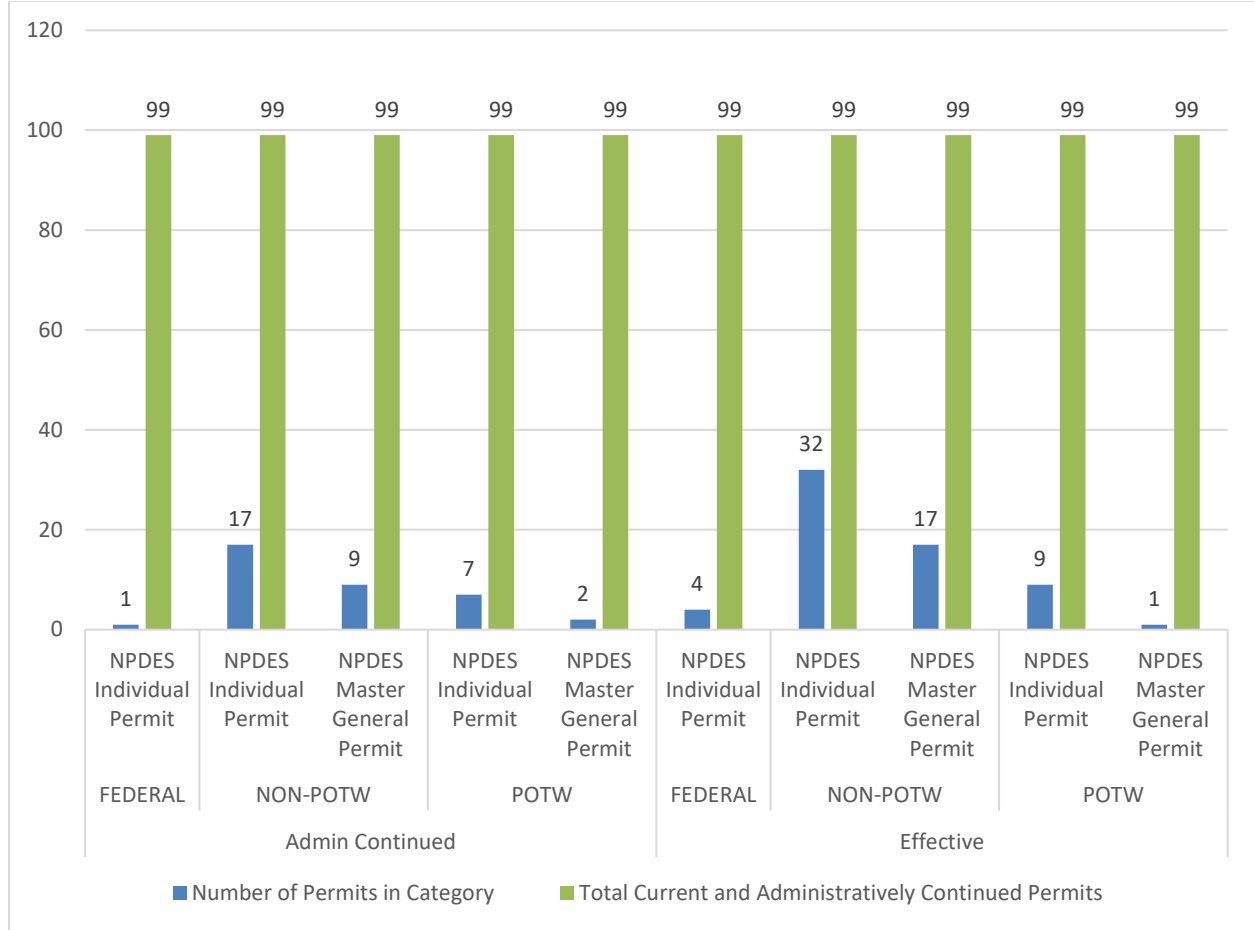
## **B. Universe and Permit Issuance**

As of July 2019 (the time of the PQR site visit), WDAP was responsible for 99 wastewater discharge permits. Seventy of these were individual permits and 29 were master general permits. Sixteen of the individual permits were POTW permits and 54 were non-municipal (see Figure 1). A total of 1,241 facilities were covered by all the master general permits. Coverages under general permits are tracked in DEC’s DROPS, OaSys, and EPA’s ICIS.



As of July 2019, WDAP had a backlog rate, expressed as the percentage of permits that are current, of 64 percent (63/99 permits were current)<sup>4</sup>.

Figure 1: WDAP-Issued Permits by Type and Status



### C. State-Specific Challenges

WDAP indicated that they would like to better understand tribal engagement procedures that are implemented in other Region 10 states. In addition, WDAP is concerned about the timeline of Phase II stormwater rule implementation and associated challenges. WDAP would like EPA to clarify NetDMR functionality in capturing permit conditions in the NetDMR process. In addition, WDAP indicated interest in further discussion of the challenges associated with revisions to the APDES Program Description and regulations. Such topics can be discussed in regularly scheduled ADEC-EPA conference calls, which promote coordination and consistency in NPDES program administration and oversight.

<sup>4</sup> Percent current was calculated using total current and administratively continued permits from EPA’s ICIS. The calculation does not consider authorizations under master general permits.

## D. Current State Initiatives

WDAP indicated that certain initiatives are currently underway that will improve permitting and include the following: development of a mixing zone guidance document for permit writers; implementation methods for RP analysis and for fecal coliform effluent limits; development of methods to address changes in water quality criteria for human health exposure; and a comprehensive process for nominating and designating Outstanding National Resource Waters (Tier 3) under the state's antidegradation policy.

## III. CORE REVIEW FINDINGS

### A. Basic Facility Information and Permit Application

#### 1. Facility Information

##### *Background*

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

##### *Program Strengths*

All permits reviewed contained appropriate facility identification and location information as well as authorization to discharge. In addition, the permits and fact sheets reviewed included detailed information on permit history and facility background. ADEC's permits also contained all other basic permit information including issuance, effective and expiration dates, a description of the activities and services provided by the facilities, and the outfalls from which wastewaters are discharged.

##### *Areas for Improvement*

There were none identified for this PQR component.

##### *Action Items*

There were none identified for this PQR component.

#### 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.

ADEC uses state application forms for individual APDES permits, which are based on and very similar to EPA forms, and state-developed Notice of Intent (NOI) forms for general permits. Permit application forms are accessible online.<sup>5</sup>

Reapplication reminders are not sent out routinely but are used for certain general permits. For general permits, WDAP staff reach out to permittees to remind them of the permit expiration date and application due date. WDAP plans to implement automated reminders for general permits through the DROPS system. In general, individual permittees in Alaska are aware of their permit expiration dates and typically are proactive in working with ADEC on permit renewals. Although permit applications are not always submitted within 180 days before the expiration date, untimely applications or NOIs rarely receive an enforcement response if the application is received before the permit expiration date. Timely submittal of an application can be an issue for small POTWs and WDAP is working to provide more compliance assistance to such facilities.

Permit applications are accepted by mail, email, and fax. Completed applications are date-stamped and logged into the state's electronic file folder structure and sent to a manager for assignment based on permitting plan priorities, which are set in the 2-year permit issuance plan. Staff review the application or NOI for completeness within 30 days and request additional information if necessary. Permit writers indicate in the permit checklist that applications are determined to be complete. If a timely and complete application is received, ADEC sends a letter to the applicant(s) indicating such. If the application is incomplete, permit writers engage with applicants to identify and obtain missing information or data.

NOIs submitted by applicants for coverage under general permits are provided to permit writers. If the applicant and discharge are determined to be eligible for coverage, permit writers prepare an authorization to discharge, which is reviewed and signed by the Section Manager. Generally, facilities are "covered" under the general permit once they have received written notification from ADEC that they are authorized to discharge. Alternatively, permit writers may review an NOI for coverage under a general permit and determine that circumstances warrant the development and issuance of an individual permit for the discharge. In such cases, the applicant is notified of any such determination.

Notice of early permit development is provided to identify potentially affected tribes and local governments. A pre-application meeting is offered for facilities seeking an individual permit. For general permits, scoping meetings are typically held internally to understand the previous permit, permit universe, and plan for permit development. Public workshops may be held for general permits of significant interest. Appendix H (Program Description) of ADEC's NPDES Primacy Application<sup>6</sup> discusses the supplemental public process that ADEC may use for additional outreach and involvement.

Since the 2019 review, ADEC has implemented a new data management system known as the Environmental Data Management System (EDMS). EDMS allows applicants to manage their

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<sup>5</sup> APDES Permit Applications <https://dec.alaska.gov/water/wastewater/permit-entry>.

<sup>6</sup> <https://dec.alaska.gov/water/apdes-history/program-description>

permits electronically and provides automated messaging via email and through the application itself. Applicants can receive reminder messages to submit applications, and EDMS provides electronic applications directly to the applicant. In conjunction with implementation of EDMS, the Compliance and Enforcement Program has included application submission timeliness as a recurring part of facility inspections and has documented cases where applicants have not met the submission deadlines in accordance with permit conditions.

### *Program Strengths*

Applications reviewed during the PQR were generally complete and submitted in a timely manner. The new EDMS system should provide for continued improvement in the timeliness and completeness of applications received.

### *Areas for Improvement*

The PQR team's review of available permit records revealed that timeliness and completeness of the permit application were not documented for all the permits reviewed. In some cases, permits were administratively extended when an application was not submitted on time (180 days prior to permit expiration). In one instance, the correct application form was not submitted for a new industrial facility. In addition, at least one application for a POTW was not signed by the appropriate official and for another, incomplete data were provided.

### *Action Items*

#### Essential

- ADEC must ensure that applicants submit the correct application forms as required by 40 CFR 122.21(a)(2).
- ADEC must ensure that applications are signed by the appropriate official in accordance with 40 CFR 122.22.

#### Recommended

- ADEC should include documentation that complete permit applications were received and in accordance with the regulatory deadline.

## **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 biochemical oxygen demand [BOD], total suspended solids [TSS], pH, and percent pollutant removal), and must contain numeric limits for all these parameters (or authorized alternatives) in accordance with the secondary treatment regulations at 40 CFR Part 133. Four individual POTW permits and one general POTW permit were reviewed as part of the PQR.

WDAP's permit writers determine appropriate TBELs based on federal regulations, EPA's Permit Writers' Manual, and the use of best professional judgment (BPJ). POTWs are required to comply with secondary treatment standards. Limits based on equivalent to secondary treatment standards are not generally used.

#### *Program Strengths*

All municipal permits reviewed establish appropriate effluent limitations based on federally required treatment standards. Further, TBELs established in municipal permits are expressed in appropriate units and forms. Fact sheets reviewed for municipal permits include an adequate description of facility and treatment processes. In addition, permits for POTWs include extensive detail regarding best management practices (BMPs) for operation and maintenance requirements.

#### *Areas for Improvement*

There were none identified for this PQR component.

#### *Action Items*

There were none identified for this PQR component.

### *TBELs for Non-POTW Dischargers*

#### *Background and Process*

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

WDAP's permit writers determine appropriate TBELs based on federal regulations, EPA's Permit Writers' Manual, and BPJ. Permit writers determine the applicable ELGs for the relevant industry and the applicable subcategory (this can be complex as Seafood and Oil & Gas ELGs have multiple subcategories). Permit writers then determine the applicable standard (e.g., BAT, NSPS) and apply the concentration and mass limits as appropriate. ELGs may also be expressed

on a production basis for some point source categories (e.g., seafood, mining), and in such cases, production-based limits are included in permits (e.g., pounds of pollutant per 1000 pounds of seafood produced). In the absence of ELGs, BPJ-based limits are developed based in accordance with regulatory requirements and guidance in EPA's *NPDES Permit Writers' Manual*. When developing BPJ-based TBELs, permit writers will evaluate current performance data and establish an effluent limitation based on a 90<sup>th</sup> percentile value. TBEL calculations are generally developed using an Excel spreadsheet.

Non-municipal permits reviewed for this PQR were subject to ELGs for petroleum point sources (40 CFR Part 419) and steam electric power generating point sources (40 CFR Part 423).

### *Program Strengths*

Fact sheets reviewed for industrial facilities included adequate descriptions of the facility operations and wastewater treatment processes. Further, fact sheets included an appropriate discussion of applicable ELGs and standards considered during development of TBELs. Permits reviewed established TBELs in appropriate units and forms.

### *Areas for Improvement*

A permit reviewed for a petroleum refinery included documentation that ELG-based TBELs were calculated but that all final TBELs established in the permit were based on BPJ and carried over from last permit because they were more stringent. However, the original rationale for those BPJ limits was not described in the current permit record. It is possible that rationale was detailed in a fact sheet developed in a previous permit issuance/reissuance. However, if this was the case, such a document was not available for review during the PQR. All fact sheets or statements of basis should be stand-alone documents that detail the basis for, and calculations of, any limitations included in the permit, including those carried over from previous permitting actions.

### *Action Items*

#### Essential

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

#### Recommended

- ADEC should provide a more robust analysis in each fact sheet or administrative record for permits with BPJ-based effluent limits, especially those limitations that are carried forward from a previous permit.

## 2. Reasonable Potential and Water Quality-Based Effluent Limitations

### Background

EPA regulations at 40 CFR 122.44(d)(1)(i) state, “Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level that will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality.” An RPA is used to determine whether a discharge, alone or in combination with other sources of pollutants to a waterbody and under a set of conditions arrived at by making a series of reasonable assumptions, could lead to an excursion above applicable water quality standards, including both numeric and narrative water quality standards. Reasonable potential (RP) may be assessed using data-driven, quantitative (e.g., modeling) and/or qualitative approaches.

The PQR for ADEC assessed the processes employed to implement the above requirements. Specifically, during the PQR, EPA reviewed permits, fact sheets, and other documents in the administrative record to evaluate how permit writers and water quality modelers:

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

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.

EPA promulgated *Enterococcus* as a pathogen criterion in 2004. WDAP has adopted fecal coliform and *E. coli* standards. Where relevant, most existing permits address fecal coliform bacteria and the state requires monitoring for *Enterococcus* for marine dischargers to determine the appropriate indicator bacteria in future permits.

### *Process for Assessing Reasonable Potential*

WDAP permit writers are responsible for conducting RPAs. However, permit writers consult programmatic or technical experts as appropriate to gain support for reasonable potential analyses for certain parameters (e.g., WET); determine if TMDL WLAs apply to the point source being permitted; and/or request modeling to support the analysis.



Information on impaired surface waters and water quality monitoring data are available in a state database called Alaska Monitoring & Assessment Program (AKMAP).<sup>7</sup> Data are also available on EPA's National Aquatic Resource Surveys as well as the national database for TMDLs.<sup>8</sup> Permit writers use the most recently approved Integrated Report and discussion with the TMDL staff to identify any relevant TMDLs. Permits implement relevant WLAs and other conditions to address impairments.

In addition to AKMAP, ambient data are also collected from other credible sources (e.g., United States Geologic Survey Reports). Some APDES permits require the collection of ambient data for use in reissuance of a permit; ambient data may also be provided by permittees during the preapplication process. In cases where ambient data are not available, WDAP may assume the concentration to be 15% of the water quality criterion (this creates an incentive for the applicant to obtain and provide data).

ADEC developed the *Reasonable Potential Analysis and Water Quality-Based Effluent Limits Calculation Tool* to establish a framework for permit development and assist staff, contractors, and others involved in writing, reviewing, and issuing APDES permits. The Tool and associated guidance help to ensure that APDES permits satisfy Alaska's regulatory requirements and that final permit effluent limits are protective of water quality. ADEC intends to revise the spreadsheet and guidance document to guide the permit writer from determination of RP through the selection of final numeric effluent limits, and more clearly define when dilution, if available, should be introduced into the spreadsheet's calculations. The revised guidance document would more completely explain the reasonable potential and limit derivation process, complete with calculations and examples presented in appendices.

As a first stage in evaluating reasonable potential, permit writers identify pollutants of concern (POCs). A pollutant is a POC if it has a technology-based limit, an assigned WLA in a TMDL, an effluent limit in the previous permit, is expected given the nature of the activity yielding the discharge, and/or is detected through facility effluent monitoring or special studies.

ADEC's guidance does not specify a minimum number of effluent samples needed to conduct an RPA. However, to represent the most current conditions when conducting an RPA, ADEC guidance recommends that permit writers use 3 to 5 years of current monitoring data. Historic data may also be used as appropriate, though only if there have not been major changes that would render such data no longer representative, such as treatment system upgrades/expansions, changes to the service area, or the introduction of new pollutants into a treatment system from industrial sources. For oil and gas permits, data are used from a period sufficient to account for all parameters above the detection limit for the period of record. Per the guidance, values below the detection limit are removed from analyses. Statistical anomalies may be removed from analyses; however, this is done on a case-by-case basis. In cases where data are limited (i.e., fewer than 10 effluent samples are available), the guidance specifies that permit writers may still conduct an RPA using default statistics and the approach in Appendix E

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<sup>7</sup> <https://dec.alaska.gov/water/water-quality/integrated-report/>

<sup>8</sup> <https://www.epa.gov/tmdl/resources-tools-and-databases-about-impaired-waters-and-tmdls>

of the TSD. However, the ADEC guidance also notes that permit writers may use BPJ to determine that an RPA cannot be conducted based on limited available data. In such cases, the guidance specifies that permit writers must either include monitoring requirements to generate additional data over a permit term or request that data are generated outside of a permit. In certain circumstances, a qualitative assessment may be used in an RPA, following procedures in the TSD. Permit writers include a summary of the RPA in the appendix and fact sheet and the full RPA spreadsheet is maintained in the administrative record for the permit.

### *Process for Developing WQBELs*

WDAP permit writers are responsible for developing WQBELs, consulting with subject matter experts as needed. If an analysis indicates that a pollutant causes, has the reasonable potential to cause, or contributes to an excursion of state water quality standards, permit writers develop WQBELs using the *Reasonable Potential Analysis and Water Quality-Based Effluent Limits Calculation Tool*, while also referencing *Alaska Pollutant Discharge Elimination System (APDES) Permits Reasonable Potential Analysis and Effluent Limits Development Guide*.

Most of the information used to develop the permit comes from the permit application. Permit applications require applicants to submit facility information, line diagrams, and pollutant data. Permit writers also use data from ICIS and Discharge Monitoring Reports (DMRs) to supplement permit application data in assessing reasonable potential and developing limits. Available WLAs from EPA-approved TMDLs are also used in permits, however, there are very few final TMDLs in Alaska (99.9 percent of state waters are considered pristine). The most recent EPA-approved 303(d) Integrated Report is for 2014/2016 and is used to assess the status of waters for permitting purposes. In May 2017, ADEC solicited water quality information for developing the 2018 Integrated Report, and in January 2020, ADEC made the *2018 Draft Integrated Water Quality Monitoring and Assessment Report* available for public comment. Permit writers may also conduct facility site visits and/or use compliance inspection reports and enforcement action information to obtain information used in permit development.

State mixing zone requirements are specified in Alaska's 2003 version of their water quality standards (18 AAC 70.240); these regulations are used by permit writers as EPA has yet to approve revisions to the mixing zone regulation section since the 2003 version. Permittees must request a mixing zone and submit data and typically model the mixing zone in support of their request. The state's Form 2M mixing zone request provides input for the CORMIX model.

Alaska's regulations at 18 AAC 70.240 establish size constraints for flowing fresh waters, bays, and estuaries. Mixing zones are based on limiting conditions in the receiving water and the most limiting pollutant (i.e., the pollutant requiring the most dilution). Permit writers are responsible for making sure an authorized mixing zone is consistent with regulations. As needed, WDAP uses water quality models to support permit development. The state largely relies on CORMIX to simulate mixing zones and maintains a subscription to the proprietary software for all permit writers. The state also accepts other water quality models, such as Plumes.

Use of a mixing zone is documented in the relevant fact sheet and a regulatory mixing zone checklist is included as an appendix to individual permits' fact sheets. WQBEL development that incorporates any dilution available from a mixing zone is also documented in the fact sheet. A permittee's request for a mixing zone is documented with the permit in the administrative record.

WDAP intends to develop a mixing zone guidance document for permit staff using contractor assistance as funding is available. Alternatively, WDAP staff may form an internal work group, review other delegated EPA Region 10 NPDES states mixing zone documents, and generate its own mixing zone guidance document based on the most recent EPA-approved ADEC mixing zone regulations.

WDAP is developing a seafood zone of deposit (ZOD) guidance document. Development of a seafood ZOD guidance is a two-phase project: phase 1 is an evaluation of available modeling software to select a final model, and phase 2 is use of the model to evaluate discharges from seafood facilities. Phase 1 has been completed and a model has been selected. Phase 2 will be implemented as discharges are authorized and further information is gathered.

Alaska's antidegradation policy is contained in their water quality standards (18 AAC 70.015). The Antidegradation Implementation Methods Regulations are under the 18 AAC 70.016 which were filed on March 7, 2018, with an effective date of April 6, 2018, and approved by EPA on July 26, 2018. The 2018 regulations include implementation methods for permitted discharges to Tier 3 Outstanding National Resource Waters, but do not address nomination and designation procedures for Tier 3 waters. The Division separated the Tier 3 nomination and designation process to obtain additional stakeholder input and to continue to work on a comprehensive Tier 3 nomination and designation process. Currently, Tier 3 waters must be nominated and designated through legislation. The Division issued guidance<sup>9</sup>, effective November 21, 2018, on the nomination and designation of Tier 3 waters. An antidegradation analysis is conducted for new and expanded discharges; the analysis is documented in the fact sheet.

APDES anti-backsliding regulations at 18 AAC 83.480 require permit limits/standards/conditions in reissued permits to be at least as stringent as those in previous permits, and requires that reissued permits may not contain effluent limitations less stringent than required by ELGs in effect at the time of reissuance. For this reason, effluent limits in reissued permits are generally maintained or strengthened, unless relaxation is justified under state and federal laws/regulations. For example, permit limits may be relaxed if technical errors were made in previous limit development, or if there have been substantial changes in the nature of the discharge. WDAP's evaluation for backsliding is documented in the fact sheet.

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<sup>9</sup> <https://dec.alaska.gov/media/14389/final-tier-3-guidance-11-21-2018.pdf>

### *Program Strengths*

#### Reasonable Potential

Generally, ADEC's permit writers appropriately conducted RPAs for parameters identified as POCs to determine the need for WQBELs. Fact sheets adequately identified the receiving water, designated uses, and applicable water quality criteria. Fact sheets generally included sufficient discussion of the RPA process and resulting determination of necessary WQBELs. Most of the fact sheets reviewed provided a useful summary of the RPA; administrative records included sufficient documentation of the water quality assessment and RPA.

#### WQBEL Development

ADEC's permits consistently implemented appropriate WQBELs and provided documentation for the development of WQBELs.

### *Areas for Improvement*

#### Reasonable Potential

In one of the major WWTP permits reviewed, a pollutant was identified as a POC based on expanded effluent testing results. However, an RPA was not conducted due to a limited dataset and variability within the set. Having a limited or highly variable data set is not valid justification to not conduct RPA unless the data are determined to be unrepresentative of the permitted discharge. Permit writers may conduct RPA with limited (or no) data and default statistics in accordance with ADEC guidance and the TSD. Where representative data are available, ADEC must conduct RPA or provide adequate justification in the fact sheet explaining why the data is not representative of the permitted discharge. In the same permit, pollutants that were detected in the effluent for which no numeric water quality criteria existed were not evaluated further.

In the other major WWTP permit reviewed, the fact sheet did not contain a discussion of pollutants detected in expanded effluent testing, and a complete set of expanded effluent results was not included in the administrative record.

In one of the municipal permits reviewed, the previous permit required WET testing; however, the fact sheet for the subsequent permit lacked discussion of an RPA for WET. In addition, one of the industrial permits reviewed lacked documentation of an RPA in the administrative record. Where WET testing is required, RPA must be conducted using the available data unless it is determined and documented that the data is not representative of the discharge.

#### WQBEL Development

There were none identified for this PQR component.

*Action Items*

## Essential

- **Reasonable Potential**

- Where representative data are available, ADEC must conduct RPAs, even with limited data. Insufficient or small data sets (<10) are not a valid justification to not perform RPAs. Even with no data, RPAs must be conducted to ensure the protection of Alaska WQS per 40 CFR 122.44(d)(1).
- ADEC must conduct RPAs for all identified pollutants of concern, including WET (when WET testing is required), considering both numeric and narrative water quality criteria.
- When conducting RPAs for WET, ADEC must comply with the requirements at 40 CFR 122.44(d)(1)(ii) and (iv).

- **QBEL Development**

- If RP is determined, an effluent limitation must be included in the permit per 40 CFR 122.44(d)(1).

## Recommended

- **Reasonable Potential**

- ADEC should include a robust discussion in the fact sheet why a detected parameter is not considered to be a POC.
- ADEC should ensure the administrative records consistently include sufficient discussion and documentation of the RPA process.
- ADEC should provide adequate justification in the fact sheet why monitoring data are excluded from analyses for any reason.

**3. Final Effluent Limitations and Documentation***Background and Process*

Permits must reflect all applicable statutory and regulatory requirements and must include effluent limitations that ensure that all applicable CWA water quality standards are met. The permitting authority must identify the most stringent applicable effluent limitations and establish them as final effluent limitations in the permit. In the case of 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, the permitting authority must ensure that the state's antidegradation policy within its water quality standards is appropriately implemented in NPDES permits. This ensures the permit is written to maintain existing high quality of surface waters, or if appropriate, allow for some degradation. The NPDES regulations at 40 CFR 131.12 outline the common elements of the antidegradation review process.

In addition, permit records for POTWs and industrial facilities should contain comprehensive documentation of the development of all effluent limitations. Technology-based effluent limits should include assessment of applicable water quality standards, data used in developing effluent limitations, and actual calculations and methods used to develop effluent limitations. The procedures implemented to determine the need for WQBELs as well as the procedures explaining 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.

ADEC's fact sheets discuss facility and wastewater treatment processes, how POCs are identified, applicability of federal secondary treatment standards and ELGs, and the selection of final TBELs.

In addition, fact sheets and associated appendices include a discussion of the water quality assessment, including identification of receiving waters and applicable water quality standards, and WQBELs developed based on the RPA.

The Excel spreadsheet used to calculate TBELs and the spreadsheets used to conduct reasonable potential analyses and develop WQBELs are included in the administrative record for each permit. RPA rationales and determinations, including decisions not to conduct a reasonable potential analysis based on insufficient data, are generally documented in the fact sheet. In addition, fact sheets include discussions of anti-backsliding and antidegradation appropriate to the discharge scenario and final effluent limitations.

The fact sheet and administrative record identify and discuss guidance that supports the development of final effluent limitations.

### *Program Strengths*

Applicable limits were clearly identified in tables in the permits reviewed for the PQR. Generally, WDAP's administrative records adequately characterized the facility, processes/activities, and the nature of permitted discharge(s); described the data/information used to develop final permit conditions; and cited regulations, laws, policies, methodologies, and guidance considered in limit development. ADEC has developed standardized workbooks, tools, and checklists that, if properly and routinely utilized, should promote consistency across WDAP's multiple program areas and permit writers.

### *Areas for Improvement*

While the administrative record generally met minimum requirements to document the rationale for permit conditions, the record, and ideally the fact sheet/statement of basis, should contain additional details so that an interested party (e.g., member of the public, permit

reviewer) can readily understand underlying decisions and re-create analyses. In particular, the record should justify why permit limits are not developed (or included) for all POCs.

### *Action Items*

#### Essential

- Adequate documentation of the basis for final effluent limitations must be included in the record, including in instances when effluent limits are not developed (or otherwise included) for identified POCs per 40 CFR 124.8.

#### Recommended

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

## 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 routine or episodic self-monitoring of permitted discharges and where applicable, internal processes, and report the analytical results to the permitting authority with information necessary to evaluate discharge characteristics and compliance status.

Specifically, 40 CFR 122.44(i) requires NPDES permits to establish, at minimum, annual reporting of monitoring for all limited parameters sufficient to assure compliance with permit limitations, including specific requirements for the types of information to be provided and the methods for the collection and analysis of such samples. In addition, 40 CFR 122.48 requires that permits specify the type, intervals, and frequency of monitoring sufficient to yield data which are representative of the monitored activity. The regulations at 40 CFR 122.44(i) also require reporting of monitoring results with a frequency dependent on the nature and effect of the discharge. 40 CFR Part 127 requires NPDES-regulated entities to submit certain data electronically, including discharge monitoring reports and various program-specific reports, as applicable.

NPDES permits should specify appropriate monitoring locations to ensure compliance with the permit limitations and provide the necessary data to determine the effects of the effluent on the receiving water. A complete fact sheet will include a description and justification for all monitoring locations required by the permit. States may have policy or guidance documents to support determination of appropriate monitoring frequencies; documentation should 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 method.

Monitoring requirements are developed to track compliance with permit conditions and are based on state regulations with respect to the type of discharge and receiving water. ADEC has not developed minimum monitoring requirements for discharges based on facility type, size, or other criteria. ADEC's RP guidance includes basic guidelines on the use of monitoring data. ADEC establishes monitoring requirements for all pollutants with effluent limits; monitoring requirements may also be established to assess RP for reissued permits.

Data collected during the previous permit cycle may support decisions to adjust monitoring and/or reporting frequencies and requirements, as appropriate. Permit writers decrease monitoring frequencies, where appropriate, using EPA's *Interim Guidance for Performance-based Reductions of NPDES Permit Monitoring Frequencies*.<sup>10</sup>

Permits require use of methods authorized in 40 CFR Part 136 and that are sufficiently sensitive to document compliance with limits. The permit standard conditions define "sufficiently sensitive." A Quality Assurance Project Plan (QAPP) is required in almost all permits to ensure quality data.

Permits generally require that monitoring results are reported on DMRs and often require submission of annual reports that summarize production, discharge, and other data. ADEC uses a template for reporting requirements and requires all monitoring data to be submitted electronically through NetDMR. Permits may also require submittal of BMP or QAPP certifications or special studies and require submittal of non-compliance reports.

### *Program Strengths*

The reviewed permits consistently identified appropriate monitoring locations, frequencies, and type based on the facility and discharge type, and corresponding limit bases. In addition, permits reviewed appropriately required the electronic submittal of DMRs starting no later than December 21, 2016. In addition, permits required the use of sufficiently sensitive EPA-approved analytical methods.

### *Areas for Improvement*

There were none identified for this PQR component.

### *Action Items*

There were none identified for this PQR component.

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<sup>10</sup> <https://www.epa.gov/sites/default/files/2014-08/documents/interim-guidance-for-performance-memo-1996.pdf>

## D. Standard and Special Conditions

### *Background and Process*

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

Permits may also contain additional requirements that are unique to a particular discharger. These case-specific requirements are generally referred to as “special conditions.” Special conditions might include requirements such as additional monitoring or special studies such as a mercury minimization plan; best management practices (see 40 CFR 122.44(k)), or permit compliance schedules (see 40 CFR 122.47)]. Where a permit contains special conditions, such conditions must be consistent with applicable regulations.

Appendix A of APDES permits include standard conditions specified in 18 ACC 83.405, which follow the federal regulations. WDAP uses a noneditable PDF to include standard conditions in permits. APDES permits often include special conditions for QAPPs, BMPs, facility planning, and Operation and Maintenance Plans. Permits include narrative conditions, such as whole effluent toxicity requirements, characterization reports, and industrial user surveys. Where relevant, fact sheets include biosolids language.

### *Program Strengths*

Generally, permits reviewed for this PQR included standard and special conditions consistent with federal regulations. The reviewed POTW permits included detailed best management practice and operation and maintenance requirements. Permits reviewed that included compliance schedules contained adequate information on when and how milestones would be achieved.

### *Areas for Improvement*

One of the permits reviewed did not include Appendix A (permit standard conditions) in either the electronic or hard copy files. In addition, one of the permits reviewed did not include language addressing electronic reporting requirements.

*Action Items***Essential**

- ADEC must ensure that permits include all standard conditions consistent with the federal standard provisions established in 40 CFR 122.41 and 122.42.

**Recommended**

- ADEC should consider including the standard conditions as a standard appendix to all permits.
- ADEC should review the current standard conditions to ensure consistency with each permit (e.g., electronic reporting requirements).

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

Once the preliminary draft permit has been developed, WDAP provides a 10-day applicant review of the preliminary draft permit for the applicant and state and federal service agencies. Comments can be provided, but WDAP provides no formal response to these comments.

A minimum 30-day public notice of the draft permit is provided (45 days if a hearing is to be conducted). Comments received are addressed in a formal response-to-comment document that is provided to EPA Region 10 and everyone who provided comments. WDAP revises the permit and fact sheet documents as appropriate based on public comments. Significant comments are received on almost all O&G and hard rock mining permits, as well as on seafood general permits. WDAP does not normally provide public notice more than once, except in cases where changes to the permit documents are not a logical outgrowth of the comments received. Public hearings are held during the public notice period if there is anticipated or actual significant public interest in the permit; testimony is recorded and transcribed. WDAP conducts extensive outreach with local government and tribes and has a Local Government Tribal Coordinator (LGTC) who serves as the point of contact.

Following the public comment process and any revisions, WDAP provides a 5-day proposed final review for the applicant and state and federal agencies. Following this, the permit, fact sheet, and response to comment documents are finalized and the permit is issued. Permits are

effective 30 days after issuance, generally on the first of a month. Once issued, permits, fact sheets, and response to comments documents are accessible online.<sup>11</sup>

Within the first 20 days after permit issuance, a request may be made for an informal review; informal reviews are heard by the Director of the Division of Water. Within 30 days post-issuance, an administrative appeal via an adjudicatory hearing request can be sent to ADEC's Commissioner's office. The Commissioner can also refer permit appeals to an administrative law judge in the Office of Administrative Hearings within the state's Department of Administration. Appeals made more than 30 days after permit issuance must be made in district court; such appeals are occasionally made with high profile mining and O&G permits. The beginning part of each fact sheet explains the administrative appeals process.

Following permit issuance, permittee workshops or teleconferences for both individual and general permits may be used to explain permit conditions and compliance considerations.

In certain circumstances, it may be necessary to modify a permit prior to its expiration date. In a permit modification, only the conditions subject to change are reconsidered while all other permit conditions remain in effect. Most NPDES permit modifications require the state to conduct the public notice and participation activities of 40 CFR Part 124, similar to the issuance or reissuance of the permit; however, only those specific conditions being modified are open to review and comment. ADEC may process certain minor modifications (with the consent of the permittee), described in 40 CFR 122.63 and 18 AAC 83.145(a)(6), that are not subject to the procedures for public notice in Part 124.

### *Program Strengths*

The review revealed that ADEC is implementing appropriate public notice procedures. The administrative records reviewed contained sufficient documentation of public notice procedures, and adequately documented the extent to which provided comments influenced or did not influence final permit conditions.

### *Areas for Improvement*

There were none identified for this PQR component.

### *Action Items*

There were none identified for this PQR component.

## **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

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<sup>11</sup> The Permit Search webpage provide access to permit documents.  
<http://dec.alaska.gov/Applications/Water/WaterPermitSearch/Search.aspx>.

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;<sup>12</sup> 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 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.

WDAP develops detailed fact sheets for all permits, including minor permits. In general, fact sheets include information addressing the following: Applicant, Facility Information and Background, Compliance History, Effluent Limits, Receiving Water Body, Reissued Permits (i.e., backsliding), Antidegradation, Monitoring Requirements, Other Permit Conditions, Other Legal Requirements, References, as well as Tables, Appendices (including but not limited to: Basis for Effluent Limitations, Reasonable Potential Determination, Effluent Limit Calculation, Mixing Zone Analysis Checklist), and Figures.

WDAP permit writers use a checklist to guide permit development; the checklist is included in the administrative record for each permit. The final administrative record is printed and filed; paper copies are maintained in the appropriate office location. Electronic files are archived with a consistent folder structure for all permits. Paper copies of permit development documentation are in Anchorage, and for mining permits in Fairbanks. Further, records are maintained in the office where the lead permit writer is located.

### *Program Strengths*

ADEC's records were well-organized and the use of the straightforward naming convention for electronic documents facilitated locating and reviewing records. Permit writers' use of the permit checklist and inclusion in the administrative record also facilitated permit review. The permits and fact sheets reviewed were easy to follow based on the permit structure, format, table of contents, and use of tables to summarize effluent limitations.

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<sup>12</sup> Per 40 CFR 124.8(a), every EPA and state-issued permit must be accompanied by a fact sheet if the permit: Incorporates a variance or requires an explanation under 124.56(b); is an NPDES general permit; is subject to widespread public interest; is a Class I sludge management facility; or includes a sewage sludge land application plan.

*Areas for Improvement*

The review revealed that the permit checklists were not consistently completed, lacking identification of certain important dates (e.g., date application deemed complete). Additionally, for one industrial permit, the fact sheet lacked discussion of the basis of BPJ-based TBELs that were carried over from the previous permit. The fact sheet would be strengthened by a discussion of the original basis for the BPJ-based effluent limitations that are continued in the permit.

*Action Items***Essential**

- ADEC must provide adequate justification in the fact sheet where monitoring data are excluded from analyses for any reason per 40 CFR 124.56.

**Recommended**

- ADEC should ensure that permit checklists are consistently completed and maintained in the permit administrative record.
- ADEC should ensure fact sheets include a discussion of the basis for BPJ-based effluent limitations, especially those limitations that are carried forward from a previous permit.

**IV. NATIONAL TOPIC AREA FINDINGS**

National topic areas are aspects of the NPDES permit program that warrant review based on the specific requirements applicable to the selected topic areas. These topic areas have been determined to be important on a national scale. National topic areas are reviewed for all state PQRs. The national topics areas are: Permit Controls for Nutrients in Non-TMDL Waters, Effectiveness of POTW NPDES Permits with Food Processor Contributions, and Small Municipal Separate Storm Sewer System (MS4) Permit Requirements.

**A. Permit Controls for Nutrients in Non-TMDL Waters***Background and Process*

Nutrient pollution is an ongoing environmental challenge. However, permits across the nation often lack nutrient limits. It is vital that permitting authorities actively consider nutrient pollution in their permitting decisions. Nitrogen and phosphorus pollution have consistently ranked as one of the top causes of degradation of surface waters in the U.S. Since 1998, EPA has worked to reduce the impacts of nutrient pollution. A key part in this effort has been the support EPA has provided to states to encourage the development, adoption and implementation of numeric nutrient criteria as part of their water quality standards (see EPA's *National Strategy for the Development of Regional Nutrient Criteria*). In a 2011 memo to EPA regions titled *Working in Partnerships with States to Address Nitrogen and Phosphorus Pollution through use of a Framework for State Nutrient Reductions*, the Agency announced a framework

for managing nitrogen and phosphorus pollution that, in part, relies on the use of NPDES permits to reduce nutrient loading in targeted or priority watersheds.

Relatively few NPDES permits across the nation include numeric nutrient limitations, and in those that do, limits are often derived from TMDL WLAs.

Parameters that may be found in permits include causal parameters such as orthophosphate, total phosphorus, nitrate-nitrite, total Kjeldahl nitrogen and ammonia<sup>13</sup>, as well as response parameters such as Chlorophyll-a and dissolved oxygen. There are no national technology-based nutrient standards for POTWs, and relatively few industrial categories include ELGs with nutrient requirements. Many states have only narrative nutrient criteria on which to base permit effluent limits. Some states have also adopted performance standards for nutrients that apply to certain classes of facilities, for example POTWs.

### *PQR Review*

To assess how nutrients are addressed in the APDES program, EPA Region 10 reviewed four permits as well as the state's 303(d) Integrated Report to assess any impairments related to nutrients or associated response parameters. EPA Region 10 also considered Alaska waters that are potentially sensitive to nutrient pollution because of their biogeochemical makeup or location with respect to nutrient sources.

Alaska's water quality standards at 18 AAC 70 do not contain numeric nutrient criteria. The state's ability to limit nutrients in permitting actions relies upon general narrative criteria for marine and freshwaters, which do not specifically name "nutrients" as a pollutant category. For example, the residues criterion for the protection of freshwater aquatic life states:

*Residues are not allowed in surface waters of the state, in concentrations or amounts that have the following effects:*

- may impair designated uses;
- cause nuisance or objectionable conditions; or
- result in undesirable or nuisance species.

The state's water quality standards also include narrative criteria for dissolved oxygen, a nutrient response variable. The state has not developed a methodology to derive WQBELs for DO based on effluent and receiving water data, but rather, relies on applicable TBELs to limit pollutants that deplete DO such as BOD. The state has not developed policies or implementation guidance for permitting the discharge of nutrients, and no nutrient performance standards are established.

At the time of review, there were no ADEC-issued permits in Alaska that contained WQBELs for nutrients. Alaska's Final 2014–2016 Integrated Report identifies just one waterbody, Lake

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<sup>13</sup> For the purposes of this program area, ammonia is considered a toxic pollutant rather than a nutrient.



Lucille, with a history of impairments directly tied to nutrients (total phosphorus causing excessive weed growth), which has since been subject to an EPA-approved TMDL.

In the two POTW permits reviewed for this PQR, nutrients were not identified as POCs and RP was not assessed for nutrients (or response variables) against narrative criteria. Further, in one permit reviewed, while total Kjeldahl nitrogen, nitrate-nitrite, and total phosphorus were detected by a facility in effluent tests, the fact sheet indicated that RP was not assessed given that the state's water quality standards do not include numeric marine water quality criteria. In the two stormwater permits reviewed for this national topic area, nutrients (e.g., nitrogen and phosphorus) were generically listed as post-construction runoff pollutants subject to a control measure.

### *Program Strengths*

Alaska's nutrient issues are seemingly few and localized, probably due to the state's low population density, the relatively low intensity of nutrient-contributing activities (e.g., agriculture), the rarity of multiple discharges into the same receiving water, and the assimilative capacity of the environment. Given this context, the state's consideration of nutrients in development of permits authorizing discharges into non-TMDL waters was appropriate.

### *Areas for Improvement*

Given the status of permitting and lack of nutrient concerns in the state, EPA recommends that the permitting program consider developing guidance for permit writers to evaluate nutrient concerns in NPDES permit actions and develop implementation procedures to address or prevent nutrient impairments, and as needed, establish nutrient limits or other permit conditions (e.g., studies, BMPs). This may be done in conjunction with the state's nonpoint source pollution efforts. Finally, in cases where nutrients are detected by applicants/permittees, RP should be considered with respect to relevant narrative criteria, as appropriate.

### *Action Items*

Essential	<ul style="list-style-type: none"> <li>•The PQR did not identify any essential action items for this PQR component.</li> </ul>
Recommended	<ul style="list-style-type: none"> <li>•ADEC should consider developing guidance to evaluate nutrient concerns in NPDES permit actions and develop implementation procedures to prevent nutrient impairments.</li> </ul>

## B. Effectiveness of POTW NPDES Permits with Food Processor Contributions

### *Background and Process*

The pretreatment regulations (40 CFR Part 403) establish responsibilities for federal, state, and local governments, industries, and the public to implement controls on pollutants from nondomestic sources (industrial users or IUs) into POTWs. The objectives of pretreatment programs are to:

- prevent the introduction of pollutants into a POTW that will interfere with its operation, including interference with its use or disposal of municipal sludge;
- prevent the introduction of pollutants into a POTW that will pass through the treatment works or otherwise be incompatible with it; and
- improve opportunities to recycle and reclaim municipal and industrial wastewaters and sludges.

Indirect discharges of food processors can be a significant contributor to noncompliance at recipient POTWs, due to potentially high strength conventional pollutant concentrations. Food processing discharges may also contribute to nutrient pollution (e.g., nitrogen, phosphorus, ammonia) in 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 Alaska 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 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).

EPA authorized ADEC to implement the pretreatment program in 2009. Therefore, ADEC is the pretreatment “approval authority.” The approval authority must include conditions outlining pretreatment implementation requirements in NPDES permits issued to POTWs. During the life cycle of a POTW’s NPDES permit, the approval authority must require all POTWs to submit specific information for review by both NPDES permit writing and pretreatment staff. For example, ADEC requires all POTWs to list all Significant Industrial Users (SIUs) on their NPDES application forms. A POTW with an approved local pretreatment program is called the “control authority” and is responsible for administering and enforcing pretreatment standards and requirements. In cases where a POTW is not required to develop an approved local pretreatment program, ADEC assumes responsibility as the control authority over industrial users discharging to the POTW (40 CFR 403.10).

In Alaska, pretreatment programs have been approved for POTWs in the cities of Anchorage, Fairbanks, and North Pole. However, because the City of Anchorage Wastewater Treatment Plant (WWTP) has a modified discharge under Section 301(h) of the CWA, EPA rather than ADEC is the approval authority (40 CFR 403.3(c)). Anchorage Water and Wastewater Utility (AWWU) is the control authority. Since EPA is the approval authority for the City of Anchorage, that permit was not reviewed for this PQR.

*Table 1: POTWs in Alaska with Approved Pretreatment Programs*

Permittee	Permit No.	Approved Pretreatment Program?	Design Flow Average (MGD)	No. of SIUs <sup>1</sup>	No. of Food Processors <sup>1</sup>	Controls on Conventional Pollutants or Nutrients in SUO?
City of Fairbanks	AK0023451	Yes	8	6	0	---
City of North Pole	AK0021393	Yes	0.5	3	0	---

<sup>1</sup>Based on the information provided in the permit application.

A total of nine SIUs, including three categorical industrial users (CIUs), are overseen by approved POTW pretreatment programs. ADEC is responsible for determining if and when a POTW must develop a pretreatment program. There are no general permits in Alaska issued by approved pretreatment programs.

ADEC’s pretreatment coordinator is a permit writer in WDAP’s permitting program. ADEC also has staff (not in WDAP) responsible for ensuring compliance with enforcement of approved pretreatment programs, standards, and requirements.

To be able to adequately identify SIUs in service areas contributing to POTWs without approved pretreatment programs, ADEC committed to conducting a statewide industrial user survey when it sought approval for NPDES authorization in 2008. The survey was undertaken in 2014. Further, ADEC incorporates standard conditions in permits, in accordance with 40 CFR

122.42(b), that require all POTWs to notify ADEC if new pollutants are introduced into treatment works by indirect dischargers, or if the volume or character of pollutants changes.

### *Permit Review*

ADEC identified just one facility that receives food processing waste discharges from a significant industrial user: the Mendenhall Wastewater Treatment Facility (WWTF) in the City and Borough of Juneau, a POTW that receives food processing wastes from a brewery. The Mendenhall WWTF has a design flow of 4.9 million gallons per day (mgd) and is the largest of three wastewater treatment facilities in the Juneau area. The plant services a residential population of approximately 20,000 and supports commercial businesses. The brewery discharges approximately 31,500 gallons per day intermittently into Mendenhall’s collection system. According to ADEC, the brewery indicated in the NPDES permit reissuance application that it has not caused or contributed to any problems at the plant in the 3 years prior to application submittal. The POTW fact sheet lacks more specific information regarding the effluent from the brewery. The City and Bureau of Juneau does not have an approved pretreatment program. Therefore, ADEC is the control authority. For this PQR, EPA reviewed the permit reissued to Mendenhall by ADEC in 2014,<sup>14</sup> the fact sheet for the permit, a “Notification of Pretreatment Obligations” (i.e., control mechanism) issued to the Alaskan Brewing Company by ADEC in 2016, and an “Industrial User Survey Pretreatment Program Determination” letter sent to the Alaskan Brewing Company by ADEC in 2019.

*Table 2: Permit Reviewed for Pretreatment National Topic Area*

Facility Name	Permit Number	Receiving POTW	Type of Food Processor	Classification by POTW	Average Process Wastewater Discharge (gallons per day [gpd])	Monitored Pollutants
Alaskan Brewing Company	AK0022951 <sup>1</sup>	The City and Borough of Juneau, Mendenhall WWTP	Brewery (beer production)	SIU	31,500 <sup>2</sup>	Not specified

<sup>1</sup> Permit number issued to Mendenhall by ADEC, not permit issued to indirect discharger.

<sup>2</sup> Based on information included in the Mendenhall fact sheet.

### *Program Strengths*

In the fact sheet for the Mendenhall facility, ADEC clearly identified the SIU contributing to the treatment works and indicated the contributing flow rate. While there are relatively few industrial users contributing to treatment works without approved treatment programs in the state, ADEC committed to identifying significant industrial users through a survey.

<sup>14</sup> Generally, for the PQR, EPA reviews permits that have been issued 2 - 4 years from the date of the PQR. However, Mendenhall was the only permit identified that addresses the National Topic Area.

### *Areas for Improvement*

In the case of the Mendenhall facility, this review found that the *Notification of Pretreatment Obligations* issued to the indirect discharger by ADEC (the control authority) did not meet the minimum requirements specified in 40 CFR Part 403. Specifically, the control mechanism lacked the following provisions, as specified in 40 CFR 403.8(f)(1)(iii)(B)(1)-(6) and 403.12:

- A statement of duration (i.e., how long the control mechanism applies, in no case more than 5 years);
- Statement of non-transferability;
- Effluent limitations, including BMPs based on 40 CFR Part 403, categorical pretreatment standards, local limits, and state/local law;
- Monitoring/self-monitoring, sampling, reporting, notification, and recordkeeping requirements;
- Statement of penalties for violation; and
- Requirement to control slug discharges.

Also, EPA found that the APDES permit reissued to Mendenhall by ADEC suggested that the City and Borough of Juneau, rather than ADEC, is the control authority. As noted, the City and Borough does not have an approved pretreatment program, which provides legal authority to implement the pretreatment program. For example, the City and Borough of Juneau does not have the legal authority or procedures to issue indirect discharge permits in accordance with 40 CFR 403.8. ADEC, rather than the City and Borough, is the control authority; therefore, ADEC is responsible for ensuring applicable pretreatment requirements at 40 CFR 403.8 are met.

Any APDES permits issued to POTWs by ADEC should make it clear whether the POTW or ADEC is the control authority. In cases where ADEC has not approved a municipality to implement the pretreatment program in its jurisdiction, any control mechanism issued to an indirect discharger by ADEC as the pretreatment control authority must meet the minimum requirements in 40 CFR 403.8.

### *Action Items*

#### Essential

- Any control mechanism issued to an indirect discharger by ADEC as the pretreatment control authority must meet the minimum requirements in 40 CFR 403.8.

#### Recommended

- Any APDES permits issued to POTWs by ADEC should make it clear whether the POTW or ADEC is the control authority.

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

### *Background and Process*

EPA recently updated the small MS4 permitting regulations to clarify: (1) the procedures to be used when coverage is by general permits (see 40 CFR 122.28(d)); (2) the requirement that the permit establish the terms and conditions necessary to meet the MS4 permit standard (i.e., “to reduce the discharge of pollutants from the MS4 to the maximum extent practicable (MEP), to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act”), including conditions to address the minimum control measures, reporting, and, as appropriate, water quality requirements (see 40 CFR 122.34(a) and (b)); and (3) the requirement that permit terms must be established in a “clear, specific, and measurable” manner (see 40 CFR 122.34(a)).

As of November 2009, ADEC is authorized to issue stormwater permits under the APDES program. Anchorage and Fairbanks are the only Bureau of the Census-recognized urbanized areas in Alaska. Regulated small MS4 operators in Alaska may be covered by an individual permit, a general permit, or a modification of an existing Phase I MS4's individual permit. In accordance with 40 CFR 122.33 and 122.34, all operators of regulated MS4s in Alaska are: 1) required to obtain an APDES permit and 2) develop a stormwater management program (SWMP) designed to prevent harmful pollutants from entering MS4s and from being discharged from MS4s into waterbodies.

ADEC-issued small MS4 permits must include terms and conditions that implement each element required in 40 CFR 122.34 and state in clear, specific, and measurable terms what requirements must be met to: reduce the discharge of pollutants to the maximum extent practicable (MEP); protect water quality; satisfy the appropriate water quality requirements of the CWA; and allow ADEC to assess compliance. The SWMP should include measures to identify major outfalls and pollutant loadings; detect and eliminate non-storm water discharges to the system; reduce pollutants in runoff from industrial, commercial, and residential areas; and control stormwater discharges from new development and redevelopment areas.

### *PQR Review*

As part of this PQR, EPA reviewed two small, individual MS4 permits for consistency with the Phase II stormwater permit regulations. At the time of this PQR review, there were four small MS4 permits issued by ADEC in effect for: Joint Base Elmendorf-Richardson (AKS053651); City of Fairbanks (AKS053406); Fairbanks North Star Borough (AKS053414); and Fort Wainwright (AKS055859). All four permits are individual permits issued to either single or co-permittees. EPA reviewed the permits for the City of Fairbanks (reissuance) and Fort Wainwright (first issuance) to determine their consistency with the Phase II stormwater rule, as modified by the MS4 General Permit Remand Rule<sup>15</sup> (referred to as the “Remand Rule”), promulgated December 9, 2016, and effective January 9, 2017 (81 FR 89320). As noted in the 2016 Alaska

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<sup>15</sup> <https://www.gpo.gov/fdsys/pkg/FR-2016-12-09/pdf/2016-28426.pdf>

PQR, in 2010 EPA provided ADEC with comments on a preliminary draft permit for the City of Fairbanks small MS4 permit, which included a specific comment related to ADEC's obligation to address known impairments in receiving waters and/or to implement applicable TMDLs within the permit area. EPA noted that where a TMDL has been approved, NPDES permits must contain effluent limits and conditions consistent with the requirements and assumptions of the WLAs in the TMDL, and that other pollutants for which impairments have been identified must be considered in light of required activities under the permittees' SWMP. This PQR review found that these concerns were addressed in the 2018 reissuance. Specifically, the permit clearly identifies impaired waters in the permit area (including those with approved TMDLs for which WLAs have been assigned) and contains a detailed discussion of how permit conditions relate to TMDL implementation.

#### *Program Strengths*

The review indicated that permit conditions for small MS4s are consistent with the requirements of the Remand Rule and are adequate to meet the clear, specific, and measurable requirement. Specifically, it was found that ADEC had established permit terms and conditions that: meet the MS4 regulatory standard of 40 CFR 122.34; delineate the requirements for implementing the six minimum control measures, protect water quality and the requirements of the CWA, and allow for assessment of permittee compliance.

#### *Areas for Improvement*

There were none identified for this PQR component.

#### *Action Items*

There were none identified for this PQR component.

## **V. REGIONAL TOPIC AREA FINDINGS**

EPA Region 10 has elected not to include the optional Regional Topics in this review.



## 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 July 15–17, 2013. 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 going forward, as Essential. In addition, previous PQR reports identified 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 3. Essential Action Items Identified During Last PQR (2013)**

Program Area	Action Item Title	Status Update
Basic Facility Information and Permit Application	ADEC must ensure that permit applications include all required data and that all supplemental application information and data are available in permit files, in accordance with 40 CFR 124.9.	<b>( Resolved )</b> The current PQR did not detect applications with missing data and/or supplemental application information. The new EDMS system should ensure continued and sustained improvements in the completeness of applications.

## VII. RECOMMENDED ACTION ITEMS FROM LAST PQR

This section provides a summary of the recommendations from the last PQR, conducted July 15 – 17, 2013, 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 4. Recommended Action Items Identified During 2013 PQR**

Program Area	Action Item Title	Status
Basic Facility Information and Permit Application	<ul style="list-style-type: none"> <li>Ensure that permit application information is sufficiently recent as to be representative of conditions at the facility at the time a permit will become effective.</li> </ul>	<b>( In progress )</b>

Technology-based Effluent Limitations	<ul style="list-style-type: none"> <li>• Include or reference TBEL calculations in the permit file.</li> </ul>	( In progress )
Technology-based Effluent Limitations	<ul style="list-style-type: none"> <li>• Provide a more robust description for basis of BPJ limits.</li> </ul>	( In progress )
Water Quality-Based Effluent Limitations	<ul style="list-style-type: none"> <li>• Include documentation in the fact sheet or permit file that indicates how pollutants of concern (POC) are determined based on data available.</li> </ul>	( In progress )
Water Quality-Based Effluent Limitations	<ul style="list-style-type: none"> <li>• Prioritize ongoing efforts to develop mixing zone guidance to support the regulatory provisions and policies, and ensure that authorized mixing zones are as small as practicable for each discharger.</li> </ul>	( In progress )
Monitoring and Reporting	<ul style="list-style-type: none"> <li>• Clearly identify the location for influent monitoring in all relevant permits.</li> </ul>	( In progress )
Monitoring and Reporting	<ul style="list-style-type: none"> <li>• Develop monitoring guidance to promote effective and consistent implementation of monitoring requirements in APDES permits.</li> </ul>	( In progress )
Administrative Process (including public notice)	<ul style="list-style-type: none"> <li>• Ensure that documentation of the published permit notices are maintained in the respective permit files.</li> </ul>	( Resolved )
Documentation (including fact sheet)	<ul style="list-style-type: none"> <li>• In cases where the receiving water is impaired, indicate in the fact sheet the TMDL status of the receiving water even where no final TMDL is applicable.</li> </ul>	( In progress )
National Topic Area (Nutrients)	<ul style="list-style-type: none"> <li>• EPA recommends that the permitting program, at a minimum, develop guidance to evaluate nutrient concerns in NPDES permitting and develop implementation procedures to address or prevent nutrient impairments, and as needed, establish nutrient limits or other permit conditions (e.g., studies, BMPs).</li> </ul>	( Not pursuing )
National Topic Area (Pretreatment)	<ul style="list-style-type: none"> <li>• ADEC must complete development and implementation of SOPs to implement its pretreatment program in accordance with Program Description commitments. These SOPs must include the inspection and sampling plan for POTW audits/PCIs and IU inspections.</li> </ul>	( Not started )
National Topic Area (Pretreatment)	<ul style="list-style-type: none"> <li>• EPA recommends that the permit template incorporate requirements for POTWs to conduct an industrial user survey at least once each permit cycle in accordance with 122.44(j)(1). The regulations at 40 CFR 122.44(j)(1) require POTWs to (1) Identify, in terms of character and volume of pollutants, any Significant Industrial Users discharging into the POTW subject to Pretreatment Standards under section 307(b) of CWA and 40 CFR Part 403.</li> </ul>	( Not started )

National Topic Area (Stormwater)	<ul style="list-style-type: none"> <li>Ensure that future issuance of stormwater permits take into consideration new and more stringent requirements to protect water quality including TMDLs and revised water quality standards.</li> </ul>	( Resolved )
National Topic Area (Stormwater)	<ul style="list-style-type: none"> <li>EPA recommends that implementation of any identified program improvements become effective upon the effective date or as soon as possible.</li> </ul>	( Resolved )
National Topic Area (Stormwater)	<ul style="list-style-type: none"> <li>Ensure the Multi-Sector Stormwater General Permit (MSGP) discusses the availability of records and SWPPP to the public.</li> </ul>	( In progress )
National Topic Area (Stormwater)	<ul style="list-style-type: none"> <li>Ensure the permit (MSGP) explicitly requires submittal of record/information requested by the permitting authority.</li> </ul>	( In progress )
National Topic Area (Stormwater)	<ul style="list-style-type: none"> <li>Ensure the Construction General Permit (CGP) discusses the availability of records and SWPPP to the public.</li> </ul>	( In progress )
National Topic Area (Stormwater)	<ul style="list-style-type: none"> <li>Ensure the permit (CGP) explicitly requires submittal of record/information requested by the permitting authority.</li> </ul>	( In progress )
National Topic Area (Stormwater)	<ul style="list-style-type: none"> <li>Ensure provisions in the CGP about minimizing soil compaction and, unless infeasible, preserving topsoil as required in (40 CFR 450.21(a)(7) are included in the CGP.</li> </ul>	( In progress )
National Topic Area (Stormwater)	<ul style="list-style-type: none"> <li>Ensure provisions for completion time frame for stabilization, as required in (40 CFR 450.21(b)) are included in the CGP.</li> </ul>	( In progress )
National Topic Area (Stormwater)	<ul style="list-style-type: none"> <li>Provide clarification whether problems requiring corrective action are considered a permit violation are included in the CGP.</li> </ul>	( In progress )
Regional Topic Area (Seafood)	<ul style="list-style-type: none"> <li>ADEC should evaluate its substantive sectors to anticipate impending potential new or uncovered discharges that need APDES permit coverage.</li> </ul>	( In progress )
Regional Topic Area (Seafood)	<ul style="list-style-type: none"> <li>ADEC should prioritize and expedite permit issuance rates, especially of the near shore/shore-based seafood general permit, to ensure applicable dischargers obtain appropriate APDES permit coverage.</li> </ul>	( 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 Alaska’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. EPA has provided the citation for each Essential action item. The permitting authority is expected to address these action items to comply with federal regulations. As discussed earlier in the report, prior PQR reports identified these action items as Category 1. Essential actions are listed in Table 3 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 4 below.

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

**Table 5. Essential Action Items from FY 2018-2022 PQR Cycle**

Topic	Action(s)
Permit Application Requirements	<ul style="list-style-type: none"> <li>• ADEC must ensure that applicants submit the correct application forms as required by 40 CFR 122.21(a)(2).</li> <li>• ADEC must ensure that applications are signed by the appropriate official in accordance with 40 CFR 122.22.</li> </ul>
Reasonable Potential and Water Quality-based Effluent Limitations	<ul style="list-style-type: none"> <li>• Where representative data are available, ADEC must conduct RPAs, even with limited data. Insufficient or small data sets (&lt;10) are not a valid justification to not perform RPAs. Even with no data, RPAs must be conducted to ensure the protection of Alaska WQS per 40 CFR 122.44(d)(1).</li> <li>• ADEC must conduct RPAs for all identified pollutants of concern, including WET (when WET testing is required), considering both numeric and narrative water quality criteria per 40 CFR 122.44(d)(1)(i).</li> <li>• When conducting RPAs for WET, ADEC must comply with the requirements at 40 CFR 122.44(d)(1)(ii) and (iv).</li> <li>• If RP is determined, an effluent limitation must be included in the permit per 40 CFR 122.44(d)(1).</li> </ul>

Final Effluent Limitations and Documentation	<ul style="list-style-type: none"> <li>Adequate documentation of the basis for final effluent limitations must be included in the record, including in instances when effluent limits are not developed (or otherwise included) for identified POCs per 40 CFR 124.8.</li> </ul>
Standard and Special Conditions	<ul style="list-style-type: none"> <li>ADEC must ensure that permits include all standard conditions consistent with the federal standard provisions established in 40 CFR 122.41 and 122.42.</li> </ul>
Administrative Record and Fact Sheet	<ul style="list-style-type: none"> <li>ADEC must provide adequate justification in the fact sheet where monitoring data are excluded from analyses for any reason per 40 CFR 124.56.</li> </ul>
Pretreatment: Food Processing Sector	<ul style="list-style-type: none"> <li>Any control mechanism issued to an indirect discharger by ADEC as the pretreatment control authority must meet the minimum requirements in 40 CFR 403.8.</li> </ul>

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

Topic	Action(s)
Permit Application Requirements	<ul style="list-style-type: none"> <li>ADEC should include documentation that complete permit applications were received and in accordance with the regulatory deadline.</li> </ul>
TBELs for Non-POTW Dischargers	<ul style="list-style-type: none"> <li>ADEC should provide a more robust analysis in each fact sheet or administrative record for permits with BPJ-based effluent limits, especially those limitations that are carried forward from a previous permit.</li> </ul>
Reasonable Potential	<ul style="list-style-type: none"> <li>ADEC should include a robust discussion in the record why a detected parameter is not considered to be a POC.</li> <li>ADEC should ensure the administrative records consistently include sufficient discussion and documentation of the RPA process.</li> <li>ADEC should provide adequate justification in the fact sheet where monitoring data are excluded from analyses for any reason.</li> </ul>
Standard and Special Conditions	<ul style="list-style-type: none"> <li>ADEC should consider including the standard conditions as a standard appendix to all permits.</li> <li>ADEC should review the current standard conditions to ensure consistency with each permit (e.g., electronic reporting requirements).</li> </ul>
Administrative Record and Fact Sheet	<ul style="list-style-type: none"> <li>ADEC should ensure that permit checklists are consistently completed and maintained in the permit administrative record.</li> </ul>

	<ul style="list-style-type: none"> <li>ADEC should ensure fact sheets include a discussion of the basis for BPJ-based effluent limitations, especially those limitations that are carried forward from a previous permit.</li> </ul>
Permit Controls for Nutrients in Non-TMDL Waters	<ul style="list-style-type: none"> <li>ADEC should consider developing guidance to evaluate nutrient concerns in NPDES permit actions and develop implementation procedures to prevent nutrient impairments.</li> </ul>
Pretreatment: Food Processing Sector	<ul style="list-style-type: none"> <li>Any APDES permits issued to POTWs by ADEC should make it clear whether the POTW or ADEC is the control authority.</li> </ul>

## Appendix A. Table of NPDES Permit Reviewed

NPDES No.	Permit Name (URL to Facility Summary)	POTW	Non-POTW	Major	Minor	Nutrients in Non TMDL	Pre-treatment Food Processors	Small MS4
AK0021555	KODIAK WW TREATMENT FACILITY	X		X		X	X	
AK0023451	City of Fairbanks and Golden Heart Utilities Inc WWTF	X		X		X	X	
AK0021547	CORDOVA WW TREATMENT FACILITY	X			X			
AK0021890	SEWARD WW TREATMENT FACILITY	X			X			
AK0000841	Tesoro Alaska Petroleum Company LLC - Kenai Refinery		X	X				
AK0026603	BELUGA POWER PLANT -CHUGACH ELECTRIC-		X		X			
AK0053333	AURORA ENERGY CHENA POWER PLANT		X		X			
AKS053406	City of Fairbanks Stormwater NPDES		X			X		X
AKS055859	Fort Wainwright MS4		X			X		X
AK0038652	Red Dog Mine		X	X				
AK0053690	Sabre Oil and Gas Exploration Project		X	X				
AKG572000	Small Mechanical POTW General Permit	X			X			
AKG374000	Norton Sound Large Dredge Placer Miners General Permit		X					
AKG332000	North Slope General Permit (Oil and Gas)		X					
AK0022951	MENDENHALL WW TREATMENT FACILITY						X	