ALASKA POLLUTANT DISCHARGE ELIMINATION SYSTEM

PERMIT FACT SHEET – FINAL

Permit Number: AKG380000

Wastewater Discharges from Drinking Water Treatment Facilities

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Wastewater Discharge Authorization Program
555 Cordova Street
Anchorage, AK 99501

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Technical Contact: Amber Bennett
Alaska Department of Environmental Conservation
Division of Water
Wastewater Discharge Authorization Program
610 University Avenue
Fairbanks, AK 99709
Phone: (907) 451-2190
Fax: (907) 451-2187
amber.bennett@alaska.gov

Proposed reissuance of an Alaska Pollutant Discharge Elimination System (APDES) permit to

Wastewater Discharges from Drinking Water Treatment Facilities

For wastewater discharges from

Statewide Drinking Water Treatment Facilities.

The Alaska Department of Environmental Conservation (the Department or DEC) proposes to reissue Alaska Pollutant Discharge Elimination (APDES) general permit to drinking water treatment facilities discharging to surface waters of the United States (U.S.). The general permit places conditions on the discharge of pollutants from authorized facilities to waters of the U.S. In order to ensure protection of water quality and human health, the permit places limits on the types and amounts of pollutants that can be discharged from the authorized facilities and outlines best management practices to which they must adhere.

This fact sheet explains the nature of potential discharges from drinking water treatment facilities and the development of the permit including:

- information on public comment, public hearing, and appeal procedures
- a listing of proposed effluent limitations and other conditions
- technical material supporting the conditions in the permit
- proposed monitoring requirements in the permit

Informal Review and Adjudicatory Hearing

A person authorized under a provision of 18 AAC 15 may request an informal review of a contested decision by the Division Director in accordance with 18 AAC 15.185 and/or an adjudicatory hearing in accordance with 18 AAC 15.195 – 18 AAC 15.340. See DEC's "Appeal a DEC Decision" web page https://dec.alaska.gov/commish/review-guidance/ for access to the required forms and guidance on the appeal process. Please provide a courtesy copy of the adjudicatory hearing request in an electronic format to the parties required to be served under 18 AAC 15.200. Requests must be submitted no later than the deadline specified in 18 AAC 15.

Documents are Available

The permit, fact sheet and related documents can be obtained by visiting or contacting DEC between 8:00 a.m. and 4:30 p.m. Monday through Friday at the addresses below. The permit, fact sheet and other information are also located on the Department's Wastewater Discharge Authorization Program website: http://dec.alaska.gov/water/wastewater/.

Alaska Department of Environmental Conservation Division of Water Wastewater Discharge Authorization Program 555 Cordova Street **Anchorage**, AK 99501 (907) 269-6285	Alaska Department of Environmental Conservation Division of Water Wastewater Discharge Authorization Program Mailing Address: P.O. Box 1118800 **Juneau**, Alaska 99811 Location: 333 Willoughby Avenue, 8th Floor, Ste 800, State Office Building, **Juneau** (907) 465-5180

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1.0 INTRODUCTION

1.1 Basis for Issuance of a General Permit

Section 301(a) of the Clean Water Act (CWA) and Title 18 Alaska Administrative Code (AAC) Chapter 83.015 provides that the discharge of pollutants is unlawful except in accordance with an Alaska Pollutant Discharge Elimination System (APDES) permit. Although such permits can be issued to individual dischargers, Alaska Department of Environmental Conservation (DEC or Department) regulations at 18 AAC 83.205 authorizes DEC to issue an APDES general permit to cover one or more categories or subcategories of discharges when a number of point sources:

- are located within the same geographic area and warrant similar pollution control measures;
- are involved in the same or substantially similar types of operations;
- discharge the same types of wastes;
- require the same effluent limits or operating conditions;
- require the same or similar monitoring requirements; and
- in the opinion of the Department, are more appropriately controlled under a general permit than under individual permits.

A violation of a condition contained in a general permit constitutes a violation of the CWA and subjects the owner or operator of the permitted discharge to the penalties specified in Section 309 of the CWA. Regulations at 18 AAC 83.210(a) allow a general permit to be administered according to the individual permit regulations found in 18 AAC 83.115 and 18 AAC 83.120; therefore, the general permit and authorizations under a general permit may be administratively extended past their expiration date if the general permit expires prior to the reissuance of a new general permit. For the authorization to be administratively extended, the permittee must submit a timely and complete application for a new authorization prior to the expiration of the current general permit.

1.2 Permit Issuance History

The general permit AKG380000, Wastewater Discharges from Drinking Water Treatment Facilities, was initially issued by Department of Environmental Conservation (DEC) on May 30, 2014, and became effective July 1, 2014, with an expiration date of June 30, 2019. The permit was modified on July 25, 2014, to correct aluminum and total residual chlorine effluent limits and again on January 1, 2018, to include new electronic reporting requirements. It was then reissued on July 1, 2019, and became effective on August 1, 2019, with an expiration date of July 31, 2024. Since the effective date, ten new authorizations were issued and five were terminated. A total of 18 Drinking Water Treatment facilities are currently authorized to discharge under the general permit. The facilities are listed in Appendix D of the general permit are eligible for reissuance under AKG380000. The Department may administratively extend this permit and subsequent authorizations until the reissuance is complete and in effect.

1.3 Description of Drinking Water Treatment Facilities

The general permit applies to backwash water and/or reject water disposal from drinking water treatment facilities that discharge to surface waters. Backwashing a drinking water treatment system involves reversing and increasing the water's flow to flush out debris and particles that have accumulated in the drinking water treatment facility. Backwashing is vital to the life of the treatment facility and is fundamental to the quality of water produced by the treatment facility. A brief description of standard drinking water treatments is included in this section.

1.3.1 Conventional/Direct Filtration

A conventional treatment system passes raw water through a pre-sedimentation system to remove larger settleable solids, such as sand and large organic matter. After pre-sedimentation, the introduction of a coagulant or flocculent mixes and reacts with the suspended particles forming a densified floc that settles by gravity in a sedimentation basin. The water passes through the sedimentation basin to a filter. The filter subsequently removes solids that did not settle by gravity in the sedimentation basin. At differing stages of the treatment process, activated carbon may be added for taste and odor control. Chlorine or other disinfectants are added to provide residual protection during distribution. Specific processes associated with conventional treatment systems are more fully explained below. Direct filtration is similar to conventional treatment, but does not include a separation process such as sedimentation between the addition of coagulant and filtration.

1.3.1.1 Alum Coagulation Units

Alum coagulation is the addition of aluminum sulfate prior to the raw water entering a settling basin. Sludge is removed by periodically decanting the water from the basin and pumping the sludge to a holding tank. After the sludge has settled, more water is decanted, and the sludge is disposed of in a Department approved manner.

1.3.1.2 Polymer Coagulation/Flocculation Units

Dependent upon the ionic charge of the solids that need to be removed, a wide variety of polymers may be used to remove suspended solids from the raw water. Polymer coagulation/flocculation units are similar in nature to the alum coagulation unit. A polymer is added prior to the raw water entering the settling basin. Sludge is removed by periodically decanting all water from the basin and pumping the sludge to a holding tank. After the sludge has settled, more water is decanted and the sludge is disposed of in a Department approved manner.

1.3.1.3 Granular Media Filters

Granular media filters remove suspended solids by adsorption and straining. Single media beds or multi-media beds may be used. The flow pattern through the bed may be upflow or downflow. Backwash cleaning of the media bed is always upflow. Dual media filters composed of ground anthracite and silica sand is the most common filtration method in Alaska. A three-media filter may also include very fine grain size garnet. During the backwash operation, the filter media will classify according to size with the smallest particles at the top. The dual and triple media filters provide extended filtration capacity by using larger grain size material with lower specific gravity and very small grain size material with higher specific gravity. This causes the larger material to be deposited on the top and the very small material to be deposited on the bottom.

1.3.2 Membrane Filtration Units

Membrane filtration consists of semi-permeable membranes that separate particulates, ions, salts or other substances from water. Water is forced across the membrane with water pressure, leaving particulates behind on the membrane or in solution as a concentrate. The type of substances removed will be dependent on the membrane type, pore size, pressure, and quality of the raw water. The waste concentrate is regularly discharged and the membrane is flushed off with air and water. Periodically, the membrane is chemically washed with various chemical solutions in differing concentrations and orders dependent upon the material to be removed

from the membranes. The chemical solution could include caustic soda, citric acid, chlorine, sodium tripolyphosphate, surfactants, and sodium metabisulfate. Discharges of this concentrate and cleaning wastes that meet the requirements of the general permit may be discharged after treatment.

Some membrane filters are shut down for extended periods of time and the membranes are placed in storage solutions. Disposal of all storage solution must meet the requirements of the general permit and authorization or alternate methods of disposal of the storage solution must occur. Department approval is required before discharging a storage solution to a domestic wastewater treatment system.

Microfilters may use chlorine to control biological growth during extended periods of shutdown. This solution may be re-charged monthly with additional chlorine or a new storage solution is mixed and the old solution disposed in a method approved by the Department.

Nanofilters can use a storage solution that may be generated once and recycled for the entire shutdown period. Sodium metabisulfate is one of the commonly used chemicals to create storage solutions for certain nanofilter systems.

1.3.3 Ion Exchange

Ion exchange is an exchange of ions through a resin such that undesirable or unhealthy ions are exchanged for desirable ions. Demineralizers are ion exchange units that use acids, bases, or salts to regenerate the exchange resins. Sodium or potassium cycle ion exchange units are used to "soften" hard water. Sodium chloride or potassium chloride is used to regenerate the resins from these types of systems. The regeneration waste from these processes may require additional treatment or alternate disposal methods before discharge to receiving water, such as metered disposal to a domestic wastewater treatment system.

The hydrogen-ion exchangers have cation-exchange resins that can be regenerated with sulfuric or hydrochloric acid. The hydroxide-ion exchangers have anion resins that can be regenerated with sodium hydroxide, sodium carbonate, or ammonia. The regeneration waste from these two exchangers may require additional treatment or alternate disposal methods, such as metered disposal to a domestic wastewater treatment system. Additional treatment could include capture in a neutralization tank, where final pH would be adjusted prior to discharge.

2.0 PERMIT COVERAGE

2.1 Drinking Water Treatment Facilities Covered by the Permit

This general permit applies to backwash water or reject water disposal from drinking water treatment facilities that discharge to fresh or marine surface waters. Potable water treatment and conditioning operations eligible for coverage under the general permit include conventional/direct treatment systems (i.e., coagulation/filtration), ion exchange, and systems using membrane filters (i.e., microfiltration, nanofiltration, ultrafiltration, and reverse osmosis). Discharges from other treatment systems not specifically listed in the general permit that are able to meet the requirements of the general permit may also be eligible for coverage under the general permit upon DEC's approval. Facilities with permit coverage under a separate APDES permit for discharges from drinking water treatment facilities are not required to seek coverage under this permit (i.e., dual coverage is not required).

There are 18 drinking water treatment facilities that were authorized to discharge under the existing AKG380000 general permit that are eligible for coverage under the reissued general permit. DEC will review the notice of intent (NOI) submitted by the previously authorized facilities for continued

authorization to discharge and will amend, as necessary, any existing authorization to reflect current operations and general permit requirements. (New facilities are also eligible for coverage under the reissued general permit; See Section 2.3 below.) Upon permit coverage, an authorization letter identifying the APDES authorization number and a copy of the final general permit and fact sheet will be sent to qualified drinking water treatment facilities.

Reauthorization to discharge under the general permit does not begin until the permittee receives a written notice from the Department.

2.2 Automatic Coverage

18 AAC 83.210(h) provides that the Department may notify a discharger that their discharge is covered by a general permit even if the discharger has not submitted a NOI seeking coverage. A discharger so notified may request an individual permit under 18 AAC 83.215(b).

2.3 Applying for Coverage

The Department anticipates that there are additional facilities that are eligible for coverage under the general permit. The procedure for obtaining authorization to discharge under the general permit is as follows:

2.3.1 The eligible facility submits a completed NOI to the Department at least 30 days before the expected start of discharge. See General Permit section 1.4 for specific notification requirements.

2.3.2 The Department reviews the NOI for completeness.

2.3.3 If the NOI is considered complete and the Department determines the facility is eligible for coverage under the general permit, the Department sends the permittee a written notice of authorization. Authorization to discharge does not begin until the permittee receives a written notice of authorization from the Department. If the Department determines that the NOI is incomplete, the Department will request that additional information be submitted. If the Department determines that the facility is not eligible for coverage under the general permit, authorization will be denied and, if appropriate, the applicant will be directed to submit an application for an individual permit.

Pursuant to 18 AAC 83.215(a), DEC may require any permittee applying for, or covered by a general permit, to apply for and obtain an individual permit. In addition, any interested person may petition the Department to take this action. The Department may consider the issuance of an individual permit when: the discharger is not in compliance with conditions of the general permit; a change has occurred in the availability or demonstrated technology or practices; effluent limitations guidelines are promulgated for point sources covered by the general APDES permit; a water quality management plan is approved; circumstances have changed so that the discharger is no longer appropriately controlled under the general permit; the Department determines that the discharge is a significant contributor of pollutants; or a total maximum daily load has been completed for the impaired receiving water.

APDES regulations at 18 AAC 83.215(b) allow any owner or operator authorized by a general permit to request to be excluded from the coverage of the general permit by applying for an individual permit. The responsible party shall submit an individual permit application (Form 2A and Form 2M if requesting a mixing zone) with reasons supporting the request to the Department no later than 90 days after the publication of the general permit. The request shall be processed under the provisions of 18 AAC 83.115 and 18 AAC 83.120. The Department will grant the request by issuing an individual

permit if the reasons cited by the responsible party are determined by the Department to be adequate to support the request.

Pursuant to 18 AAC 83.215(d), a permittee who already has authorization to discharge under an individual permit may request general permit coverage. If the Department approves coverage under a general permit, the individual permit is revoked.

3.0 COMPLIANCE HISTORY

There is a current total of 18 drinking water treatment facilities authorized to discharge under AKG380000. Of the 18 facilities, 14 use membrane filtration and 4 use a conventional/direct treatment system. In order to evaluate the compliance of these drinking water facilities, DEC reviewed the DMR data submitted by each facility through the NetDMR E-reporting system from August 2019 through December 2023 as well as compliance inspection reports.

During the permit cycle, all of the 18 authorized facilities submitted data either by sampling and reporting the results as required by the terms of their permit or using No Data Indicator (NODI) codes. As was done in the last permit cycle, DEC chose to review parameters that had associated effluent limits which included total residual chlorine (TRC), manganese, pH, and arsenic. Of the 14 drinking water facilities that had TRC limits in their authorizations, 4 exceeded the TRC compliance level of 0.1 milligrams per liter (mg/L). Of the 18 drinking water facilities, one was out of compliance with the pH daily minimum limit of 6.5 standard units (s.u) and one was out of compliance with the pH daily maximum limit of 8.5 s.u. The arsenic limit of 10 µg/L (micrograms per liter) was exceeded by 2 facilities discharging to freshwater. For the manganese, the DEC analysis determined that there were 15 out of 18 facilities with effluent limits and 9 of them had exceedances over their permit limit.

Additionally, compliance inspection count reports showed there were approximately 20 inspections conducted over the course of this last permit cycle that included both on and offsite inspections, which resulted in the issuance of both informal and formal enforcement actions due to varying degrees of non-compliance.

It is beyond the scope and intent of this section to provide specific details on each facility's compliance history. For facility-specific discharge monitoring reporting and results, see the Environmental Protection Agency's (EPA) Enforcement and Compliance History Online database at https://echo.epa.gov/.

4.0 EFFLUENT LIMITS

4.1 Basis for Permit Effluent Limits

Per 18 AAC 83.015, the Department prohibits the discharge of pollutants to waters of the U.S. unless the permittee has first obtained a permit issued by the APDES Program that meet the purposes of AS 46.03 and is in accordance with the CWA Section 402. Per these statutory and regulatory provisions, the permit includes effluent limits that require the discharger to (1) meet standards reflecting levels of technological capability, (2) comply with 18 AAC 70 Water Quality Standards (WQS), and (3) comply with other state requirements that may be more stringent.

The CWA requires that the limits for a particular pollutant be the more stringent of either technology-based effluent limits (TBELs) or water quality-based effluent limits (WQBELs). TBELs are set according to the level of treatment that is achievable using available technology. A WQBEL is designed to ensure that the WQS of a waterbody are met and may be more stringent than TBELs. A more detailed legal and technical discussion of the basis for the effluent limits contained in AKG380000 follows.

4.2 Technology-Based Effluent Limits

The CWA requires particular categories of industrial dischargers to meet TBELs established by EPA through effluent limit guideline (ELG) rulemaking. In establishing permit limits, DEC first determines if there are applicable TBELs. 18 AAC 83.430 requires that, if applicable, TBELs and standards subject to the provisions of 40 Code of Federal Regulations (CFR) §122.29(d), adopted by reference in 18 AAC 83.010, must be included in an APDES permit. Where EPA has not yet published guidelines for a particular industry, the permitting authority may determine the development of case-by-case TBELs using best professional judgment (BPJ) procedures (18 AAC 83.425, 18 AAC 83 Article 5, and 18 AAC 83.010). The intent of a TBEL is to require a minimum level of treatment for industrial point sources based on currently available treatment technologies while allowing the discharger to use any available control technique to meet the limits. EPA has not published ELGs for drinking water treatment facilities and the Department has determined that case-by-case TBELs are not warranted to control the discharge.

In the prior permit cycle, the EPA recommended during the draft public notice of AKG380000 that the DEC should include total suspended (TSS) or settleable solids (SS) limits and monitoring for conventional/direct facilities in order to ensure that high turbidity does not occur in the receiving water. EPA cited a model permit that they had commissioned Science Applications International Corporation (SAIC) to draft in 1987 for the water supply industry. After consideration of monitoring data and achievable water plant treatment levels, sedimentation lagoons were considered the model for best conventional pollutant control technology (BCT) as they were used in 76% of the surveyed water treatment plants and existing permits. SAIC, exercised BPJ to propose a TSS average monthly limit of 30 mg/L and a maximum daily limit of 45 mg/L. EPA stated that the BPJ limits proposed by SAIC were used in the State of Idaho's Drinking Water General Permit and that Washington's Department of Ecology has established SS limits for Washington's Water Treatment Plant General Permit that are comparable to the TSS BPJ limits proposed by SAIC. The DEC initially replied that existing technologies, such as sedimentation lagoons upon which SAIC's proposed TSS limits were established, may not be feasible in some Alaskan locations due to extreme winter temperatures, site location, and permafrost, but DEC determined applying monitoring only for the TSS twice annually and evaluating the monitoring results as well as compare technologies to ensure that best available technologically achievable and BCT align and determine whether or not to adopt SAIC's BPJ limits or use BPJ to establish case-by-case effluent limits in order to ensure that the discharge does not cause high turbidity in the receiving water. During this last permit cycle, there were a total of 4 authorized conventional/ direct drinking water facilities with effluent TSS monitoring requirements as well as turbidity. With such a small number of facilities with this requirement , the DEC found the data set analyzed to be less than satisfactory and therefore inconclusive so the DEC has determined to carry forward the TSS monitoring only in this permit cycle in order to gain a more robust data set in the next general permit reissuance.

4.3 Water Quality-Based Effluent Limits

Section 301(b)(1)(C) of the CWA requires the development of limits in permits necessary to meet WQS by July 1, 1977. WQBELs included in APDES permits are derived from EPA-approved 18 AAC 70 WQS. APDES regulation 18 AAC 83.435(a)(1) requires that permits include WQBELs that can "achieve water quality standard established under CWA §303, including state narrative criteria for water quality." The WQS are composed of use classifications, numeric and/or narrative water quality criteria, and an Antidegradation Policy (see Fact Sheet Section 9.0, Antidegradation). The use classification system designates the beneficial uses that each waterbody is expected to achieve. The numeric and/or narrative water quality criteria are the criteria deemed necessary by the

state to support the use classification of each waterbody. The Antidegradation Policy ensures that the existing uses and necessary water quality are maintained.

Waterbodies in Alaska are designated for all uses unless the water has been reclassified under 18 AAC 70.230 as listed under 18 AAC 70.230(e). Some waterbodies in Alaska may also have site–specific water quality criteria per 18 AAC 70.235, such as those listed under 18 AAC 70.236(b).

AKG380000 authorizes drinking water treatment facilities that discharge to both fresh and marine waterbodies. The designated uses for freshwater are water supply for drinking, culinary, and food processing, agriculture, aquaculture, and industrial; contact and secondary recreation; and growth and propagation of fish, shellfish, other aquatic life, and wildlife. The designated uses for marine water are water supply for aquaculture, seafood processing, and industrial; contact and secondary recreation; growth and propagation of fish, shellfish, other aquatic life, and wildlife; and harvesting for consumption of raw mollusks or other raw aquatic life.

Table 1 contains a summary and basis of the WQBELs contained in AKG380000.

Table 1. Water Quality-Based Effluent Limits

Parameter	Water	Chronic	Acute	Units [a]	Basis for Limit
TRC [b, c]	fresh	0.011	0.019	mg/L	18 AAC 70.020(b)(11)
	marine	0.0075	0.013		18 AAC 70.020(b)(23)
TDS	fresh	N/A	500	mg/L	18 AAC 70.020(b)(4)
pH	fresh	may not be less than 6.5 or greater than 8.5		s.u,	18 AAC 70.020(b)(6)
	marine				18 AAC 70.020(b)(18)
Aluminum [d, e, f]	fresh	87	750	µg/L	18 AAC 70.020(b)(23)
Arsenic [e]	fresh	N/A	10	µg/L	18 AAC 70.020(b)(23)
	marine	36	69		
Manganese [e]	fresh	N/A	200	µg/L	18 AAC 70.020(b)(23)
	marine		100		
Sulfates [f]	fresh	N/A	250	mg/L	18 AAC 70.020(b)(4)

Footnote:

a. mg/L = milligrams per liter, s.u. = standard units, µg/L = micrograms per liter
b. Monitoring for TRC is not required if chlorinated water is not used to backwash filters, or if chorine is not used as a disinfectant or cleaning agent.
c. The TRC effluent limits are not quantifiable using EPA-approved analytical methods. DEC will use the minimum level of 0.1 mg/L as the compliance evaluation level for this parameter.
d. Conventional drinking water treatment only.
e. Metal concentrations shall be reported as total recoverable metal.
f. For freshwater discharges only.

4.3.1 Total Residual Chlorine

Alaska WQS at 18 AAC 70.020(b)(11) states that freshwater TRC concentrations for the protection for aquatic life may not exceed either an acute concentration of 0.019 mg/L or a chronic concentration of 0.011 mg/L. Alaska WQS at 18 AAC 70.020(b)(23) states that marine TRC concentrations for the protection of aquatic life may not exceed either an acute concentration of 0.013 mg/L or a chronic concentration of 0.0075 mg/L.

4.3.2 Total Dissolved Solids and Sulfates

Alaska WQS at 18 AAC 70.020(b)(4)(A)(i) states that freshwater TDS for the protection of drinking, culinary, and food processing uses from all sources may not exceed 500 mg/L. Sulfates may not exceed 250 mg/L.

4.3.3 pH

Alaska WQS at 18 AAC 70.020(b)(6) for fresh water uses and 18 AAC 70.020(b)(18)(C) for marine uses provides protection for the growth and propagation of fish, shellfish, other aquatic life, and wildlife. The WQS for both freshwater and marine water pH may not be less than 6.5 s.u. or greater than 8.5 s.u.

4.3.4 Aluminum

Alaska WQS at 18 AAC 70.020(b)(11) states that the concentration of substances in freshwater may not exceed the numeric criteria for drinking water and aquatic organisms shown in the *Alaska Water Quality Criteria Manual*. The acute aquatic life aluminum concentration may not exceed 750 µg/L and the chronic aquatic life aluminum concentration may not exceed 87 µg/L.

4.3.5 Arsenic

Alaska WQS at 18 AAC 70.020(b)(11) for freshwater states that the concentration of substances in freshwater may not exceed the numeric criteria for drinking water and aquatic organisms shown in the *Alaska Water Quality Criteria Manual*. The drinking water arsenic concentration may not exceed 10 µg/L. Alaska WQS at 18 AAC 70.020(b)(23) for marine water states that the concentration of substances in water may not exceed the numeric criteria for aquatic life for marine water shown in the *Alaska Water Quality Criteria Manual*. The acute aquatic life arsenic concentration may not exceed 69 µg/L and the chronic aquatic life concentration may not exceed 36 µg/L.

4.3.6 Manganese

In accordance with Alaska WQS 18 AAC 70.020, 18 AAC 70.040 and 18 AAC 70.050**,** all waters are protected for all uses and if a waterbody is protected for more than one use class the most stringent water quality criteria for all the included use classes will apply**.** Alaska WQS at 18 AAC 70.020(b)(11) lists the water quality standard criteria for Toxic and Other Deleterious Organic and Inorganic Substances for Fresh Water Uses and references the *Alaska Water Quality Criteria Manual.* The most recent amendment included a repeal of the human health criterion of 50 µg/L for drinking water and consumption of aquatic organisms and replaced it with a drinking water criterion of 300 µg/L. Therefore, the most stringent, not to be exceeded freshwater criterion for manganese is the irrigation value of 200 µg/L. Alaska WQS at 18 AAC 70.020(b)(23) for marine water states that the concentration of substances in water may not exceed the numeric criteria for aquatic life for marine water shown in the *Alaska Water Quality Criteria Manual*. The human health for consumption of aquatic organisms concentration may not exceed 100 µg/L.

5.0 MONITORING REQUIRMENTS

5.1 Basis for Effluent and Receiving Waterbody Monitoring

In accordance with Alaska Statutes (AS) 46.03.110(d) and 18 AAC 83.430, the Department may specify in a permit the terms and conditions under which waste material may be disposed. Monitoring in permits is required to determine compliance with effluent limits and to determine if additional effluent limits are required. Monitoring may also be required to gather effluent and surface water data to determine if additional effluent limits are required and/or to monitor effluent impact on receiving waterbody quality. Monitoring may be required in individual authorizations for site-specific evaluations related, but not limited to receiving waterbody impairments, issues associated with threatened or endangered species, verification of mixing zone sizes, or application requirements.

In the last permit cycle, the general permit established biannual receiving waterbody monitoring for hardness (freshwater discharges only), salinity (marine discharges only), pH, and temperature. Hardness was required in order to calculate appropriate water quality criteria for hardness dependent metals. Salinity, pH, and temperature were required to determine appropriate ammonia water quality criteria. The DEC has determined after further analysis that the receiving water monitoring requirements will not be carried forward in this permit.

Tables 2, 3, and 4 below, contain effluent monitoring requirements. Monitoring requirements in an individual authorization to discharge may vary from the requirements in the tables below due to site-specific circumstances.

Monitoring frequencies are based on the nature and effect of a pollutant as well as a minimum sampling frequency that DEC has determined necessary to adequately monitor a facility's discharge and compliance with effluent limits. Permittees may submit a written request that monitoring frequencies be reduced or eliminated for parameters that do not have associated effluent limits after two years of monitoring and reporting if results indicate no detections above applicable water quality criteria. Monitoring reductions may only occur with DEC's written approval.

The permittee is responsible for monitoring and reporting results electronically to the Department via NetDMR (See Fact Sheet Section 12.1).

Table 2. Facilities Using Conventional/Direct Drinking Water Treatment

Parameter	Effluent Limits				Monitoring Requirements	
	Units [a]	Daily Minimum	Monthly Average	Daily Maximum	Sample Frequency	Sample Type
Total Residual Chlorine (TRC) [b, c]	mg/L	N/A	0.011 (fresh) 0.0075 (marine)	0.019 (fresh) 0.013 (marine)	1/Month	Grab
Total Dissolved Solids (TDS) [d]	mg/L	N/A	N/A	500 (fresh)	1/Month	Grab
pH	s.u.	6.5	N/A	8.5	1/Month	Grab
Aluminum [d, e]	µg/L	N/A	87	750	1/Month	Grab
Arsenic [e]	µg/L	N/A	36 (marine)	10 (fresh) 69 (marine)	1/Month [f]	Grab
Chloride, Total [d]	mg/L	N/A	N/A	Report	2/Year [g]	Grab
Copper [e]	µg/L	N/A	N/A	Report	2/Year [g]	Grab
Dissolved Oxygen	mg/L	N/A	N/A	Report	1/Month	Grab
Fluoride [h]	mg/L	N/A	N/A	Report	2/Year [g]	Grab
Iron [d, e]	µg/L	N/A	N/A	Report	2/Year [g]	Grab
Lead [e]	µg/L	N/A	N/A	Report	2/Year [g]	Grab
Manganese [e]	µg/L	N/A	N/A	200 (fresh) 100 (marine)	2/Year [g]	Grab
Potassium permanganate ($KMnO_4$) [i]	mg/L	N/A	N/A	Report	2/Year [g]	Grab
Salinity [j]	ppth	N/A	N/A	Report	2/Year [g]	Grab
Sulfates [d]	mg/L	N/A	N/A	250	2/Year [g]	Grab
Temperature	° C	N/A	N/A	Report	1/Month	Grab
Total Ammonia, as N	mg/L	N/A	N/A	Report	1/Month	Grab
Total Discharge Flow	gpd	N/A	N/A	Report	Continuous	Measured or Estimated [k]
Trihalomethanes [l]	mg/L	N/A	N/A	Report	2/Year [g]	Grab
Turbidity	NTU	N/A	N/A	Report	2/Year [g]	Grab
Zinc [e]	µg/L	N/A	N/A	Report	2/Year [g]	Grab
Total Suspended Solids (TSS)	mg/L	N/A	N/A	Report	2/Year [g]	

Footnotes:

a. ° C = degrees Celsius, gpd = gallons per day, mg/L = milligrams per liter, NTU = Nephelometric Turbidity Units, ppth = parts per thousand, s.u. = standard units, µg/L = micrograms per liter

b. Monitoring for TRC is not required if chlorinated water is not used to backwash filters, or if chorine is not used as a disinfectant or cleaning agent.

c. The TRC effluent limits are not quantifiable using EPA-approved analytical methods. DEC will use the minimum level of 0.1 mg/L as the compliance evaluation level for this parameter.

d. For freshwater discharges only.

e. Metal concentrations shall be reported as total recoverable metal.

f. Arsenic must only be monitored at a frequency of monthly if it is believed present in the wastestream from source water (i.e., groundwater); otherwise, arsenic must be monitored 2/year.

g. Twice per year means two time periods during the calendar year: October through April and May through September.

h. Fluoride monitoring is required only if the facility backwashes with fluoridated, finished water.

i. $KMnO_4$ monitoring is only required for discharges from iron filters where $KMnO_4$ is used and if the facility backwashes with finished water.

j. For marine discharges only.

k. Estimated only upon Department approval.

l. Trihalomethanes monitoring is only required if the facility chlorinates and backwashes with finished water.

Table 3. Facilities Using Membrane Filtration Drinking Water Treatment

Parameter	Effluent Limits				Monitoring Requirements	
	Units [a]	Daily Minimum	Monthly Average	Daily Maximum	Sample Frequency	Sample Type
Total Residual Chlorine (TRC) [b, c]	mg/L	N/A	0.011 (fresh) 0.0075 (marine)	0.019 (fresh) 0.013 (marine)	1/Month	Grab
Total Dissolved Solids (TDS) [d]	mg/L	N/A	N/A	500	2/Year [e]	Grab
pH	s.u.	6.5	N/A	8.5	1/Month	Grab
Arsenic [f]	µg/L	N/A	36 (marine)	10 (fresh) 69 (marine)	1/Month [g]	Grab
Chloride, Total [d]	mg/L	N/A	N/A	Report	2/Year [e]	Grab
Copper [f]	µg/L	N/A	N/A	Report	2/Year [e]	Grab
Dissolved Oxygen	mg/L	N/A	N/A	Report	1/Month	Grab
Fluoride [h]	µg/L	N/A	N/A	Report	2/Year [e]	Grab
Iron [d, f]	µg/L	N/A	N/A	Report	2/Year [e]	Grab
Lead [f]	µg/L	N/A	N/A	Report	2/Year [e]	Grab
Manganese [f]	µg/L	N/A	N/A	200 (fresh) 100 (marine)	2/Year [e]	Grab
Salinity [i]	ppth	N/A	N/A	Report	2/Year [e]	Grab
Sulfates [d]	mg/L	N/A	N/A	250	2/Year [e]	Grab
Temperature	˚ C	N/A	N/A	Report	1/Month	Grab
Total Ammonia, as N	mg/L	N/A	N/A	Report	1/Month	Grab
Total Discharge Flow	gpd	N/A	N/A	Report	Continuous	Measured or Estimated [j]
Zinc [f]	µg/L	N/A	N/A	Report	2/Year [e]	Grab

Footnotes:

a. ˚ C = degrees Celsius, gpd = gallons per day, mg/L = milligrams per liter, ppth = parts per thousand, s.u. = standard units, µg/L = micrograms per liter

b. Monitoring for TRC is not required if chlorinated water is not used to backwash filters, or if chorine is not used as a disinfectant or cleaning agent.

c. Compliance with the receiving water limits for total residual chlorine cannot be determined using EPA-approved analytical methods. DEC will use the 0.1 mg/L as the compliance limit for this parameter.

d. For freshwater discharges only.

e. Twice per year means two time periods during the calendar year: October through April and May through September.

f. Metal concentrations shall be reported as total recoverable metal.

g. Arsenic must only be monitored at a frequency of monthly if it is believed present in the wastestream from source water (i.e., groundwater); otherwise, arsenic must be monitored 2/year.

h. Fluoride monitoring only if the facility backwashes with fluoridated, finished water.

i. For marine discharges only.

j. Estimated only upon Department approval.

Table 4. Facilities Using Ion Exchange Drinking Water Treatment

Parameter	Effluent Limits				Monitoring Requirements	
	Units [a]	Daily Minimum	Monthly Average	Daily Maximum	Sample Frequency	Sample Type
Total Residual Chlorine (TRC) [b, c]	mg/L	N/A	0.011 (fresh) 0.0075 (marine)	0.019 (fresh) 0.013 (marine)	1/Month	Grab
Total Dissolved Solids (TDS) [d]	mg/L	N/A	N/A	500	2/Year [e]	Grab
pH	s.u.	6.5	N/A	8.5	1/Month	Grab
Arsenic [f]	µg/L	N/A	36 (marine)	10 (fresh) 69 (marine)	1/Month [g]	Grab
Chloride, Total [d]	mg/L	N/A	N/A	Report	2/Year [e]	Grab
Conductivity	µmho/cm	N/A	N/A	Report	2/Year [e]	Grab
Copper [f]	µg/L	N/A	N/A	Report	2/Year [e]	Grab
Dissolved Oxygen	mg/L	N/A	N/A	Report	1/Month	Grab
Fluoride [h]	µg/L	N/A	N/A	Report	2/Year [e]	Grab
Iron [d, f]	µg/L	N/A	N/A	Report	2/Year [e]	Grab
Lead [f]	µg/L	N/A	N/A	Report	2/Year [e]	Grab
Manganese [f]	µg/L	N/A	N/A	200 (fresh) 100 (marine)	2/Year [e]	Grab
Salinity [i]	ppth	N/A	N/A	Report	2/Year [e]	Grab
Sulfates [d]	mg/L	N/A	N/A	250	2/Year [e]	Grab
Temperature	˚ C	N/A	N/A	Report	1/Month	Grab
Total Ammonia, as N	mg/L	N/A	N/A	Report	1/Month	Grab
Total Discharge Flow	gpd	N/A	N/A	Report	Continuous	Measured or Estimated [j]
Zinc [f]	µg/L	N/A	N/A	Report	2/Year [e]	Grab

Footnotes:

a. ˚ C = degrees Celsius, gpd = gallons per day, mg/L = milligrams per liter, ppth = parts per thousand, s.u. = standard units, µg/L = micrograms per liter, µmho/cm = micromhos per centimeter

b. Monitoring for TRC is not required if chlorinated water is not used to backwash filters, or if chorine is not used as a disinfectant or cleaning agent.

c. Compliance with the receiving water limits for total residual chlorine cannot be determined using EPA-approved analytical methods. DEC will use the 0.1 mg/L as the compliance limit for this parameter.

d. For freshwater discharges only.

e. Twice per year means two time periods during the calendar year: October through April and May through September.

f. Metals concentrations shall be reported as total recoverable metal.

g. Arsenic must only be monitored at a frequency of monthly if it is believed present in the wastestream from source water (i.e., groundwater); otherwise, arsenic must be monitored twice per year.

h. Fluoride monitoring only if the facility backwashes with fluoridated, finished water.

i. For marine discharges only.

j. Estimated only upon Department approval.

6.0 MIXING ZONES

Mixing zones are DEC authorized areas where an effluent undergoes initial dilution. A mixing zone is an allocated impact zone in the receiving waterbody where water quality criteria can be exceeded as long as toxic conditions are prevented and the designated use of the water as a whole are not impaired as a result of the mixing zone. All water quality criteria must be met at the boundary of the mixing zone.

In accordance with 18 AAC 70.240, the Department may authorize a mixing zone in a permit upon receipt of a complete application. A NOI serves as the mixing zone application under the general permit. The NOI provides information required by 18 AAC 70.240 (application requirements), including the information and available evidence necessary to demonstrate consistency with 18 AAC 70.240. Permittees may request modification to effluent limits pursuant to 18 AAC 70.240. If a new mixing zone is requested, Form 2M must also be submitted with the NOI. Form 2M may be located through the link in Permit Section 1.4.1 of the general permit. Per 18 AAC 70.240, the burden of proof for justifying a mixing zone rests with the applicant. Note the Department has determined that existing lagoons listed in Appendix D of the permit (that requested a mixing zone) have satisfied the requirement. The Department will consider mixing zone requests on a case-by-case basis, and the Department will, in its discretion, only authorize a mixing zone if it finds that available evidence reasonably demonstrates that the requirements of 18 AAC 70 will be met.

Appendix A outlines criteria that must be met prior to the Department authorizing a mixing zone. These criteria include an analysis by the Department of the size of the mixing zone, treatment technology, existing uses of the waterbody, human consumption, spawning areas, human health, aquatic life, and endangered species in the area of the proposed mixing zone. All criteria must be met in order to authorize a mixing zone. If criteria are not met, then a mixing zone is prohibited, and effluent limits must be met at the end of the outfall line prior to discharge to the receiving waterbody.

In the prior permit cycles, the Department historically assigned established limits and monitoring requirements at the boundary for authorized mixing zones on a case-by-case basis in the receiving waterbody. The limits were based on the limits and requirements of 18 AAC 70 that included pH, temperature, salinity, and hardness. After further analysis, it was determined that the sampling requirement at the boundary of the mixing zone was inconclusive and will not be carried over in this permit cycle. When a permittee is compliant with their effluent limits, the edge or mixing zone boundary is protected both through their limit as well as demonstrated through the required mixing zone size modeling. Therefore, the mixing zones for each of the facilities previously authorized under AKG380000 shall be reviewed and reauthorized as needed. If facility conditions change (e.g., increase flow volume) requiring the permittee to provide updated mixing information, DEC will evaluate the submitted information to determine if modification of the existing mixing zone authorization is warranted.

New or modified mixing zones that the Department has not previously public noticed will be public noticed in accordance with 18 AAC 83.120.

7.0 COMPLIANCE SCHEDULES

Per 18 AAC 70.910, the Department has authority to include compliance schedules as conditions of a permit, certification, or approval.

8.0 ANTIBACKSLIDING

18 AAC 83.480 requires that “interim effluent limitations, standards, or conditions must be at least as stringent as the final effluent limitations, standards, or conditions in the previous permit, unless the circumstances on which the previous permit was based have materially and substantially changed since the permit was issued, and the change in circumstances would cause for permit modification or revocation and reissuance under 18 AAC 83.135.” 18 AAC 83.480(c) also states that a permit may not be reissued

"to contain an effluent limitation that is less stringent than required by effluent guidelines in effect at the time the permit is renewed or reissued."

18 AAC 83.480(b) provides exceptions whereby a renewed, reissued, or modified permit may contain a less stringent effluent limitation than in the previous permit. These exceptions include technical mistakes or mistaken interpretation of law that were made in issuing the permit.

Except as specified below, the remaining permit effluent limitations, standards, and conditions are as stringent as in the previously issued permit. Table 3, below, summarizes corrections made to the reissued permit. Accordingly, no further backsliding analysis is required for this permit reissuance.

8.1 Manganese

Alaska WQS at 18 AAC 70.020(b)(11)(A), amended as of November 2022, for fresh water, states that the concentration of substances in water may not exceed the numeric criteria for drinking water and human health for consumption of water and aquatic organisms shown in the *Alaska Water Quality Criteria Manual*, amended as of September 2022. The amendment was done to repeal the human health criterion of 50 µg/L for drinking water and consumption of aquatic organisms and replace it with a drinking water criterion of 300 µg/L. The most stringent freshwater criterion manganese is the irrigation value of 200 ug/L, therefore the human health for consumption of water and aquatic organism concentration may not exceed 200 µg/L.

Alaska WQS at 18 AAC 70.020(b)(23) for marine water states that the concentration of substances in water may not exceed the numeric criteria for aquatic life for marine water shown in the *Alaska Water Quality Criteria Manual*. The human health for consumption of aquatic organisms only concentration may not exceed 100 µg/L.

There are currently five authorizations that discharge to fresh water under the AKG380000 general permit with the effluent limit of 50 µg/L MDL. DEC will carry their MDL of 50 µg/L forward into their reissued authorizations to avoid any back sliding and retain the most stringent limit.

Table 5. Basis for Changes to 2024 Permit Requirements

Parameter	2019 Permit Requirement	2024 Permit Requirement	Basis for Less Stringent Requirement
Manganese	50 µg/L (fresh)	200 µg/L (fresh)	18 AAC 70.020(b)(11)(A)
Units: mg/L = milligrams per liter, µg/L = micrograms per liter			

9.0 ANTIDEGRADATION

Section 303(d)(4) of the CWA states that, for water bodies where the water quality meets or exceeds the level necessary to support the water body's designated uses, WQBELs may be revised as long as the revision is consistent with the State's Antidegradation policy. The State's Antidegradation policy is found in 8 AAC 70 Water Quality Standards (WQS) regulations at 18 AAC 70.015. The Department's approach to implementing the Antidegradation policy is found at 18 AAC 70.016 Antidegradation implementation methods for discharges authorized under the federal Clean Water Act. Both the Antidegradation policy and the implementation methods are consistent with 40 CFR 131.12 and approved by EPA. This section analyzes and provides rationale for the Department's decisions in the permit issuance with respect to the Antidegradation policy and implementation methods.

Using the policy and corresponding implementation methods, the Department determines a Tier 1 or Tier 2 classification and protection level on a parameter by parameter basis. A Tier 3 protection level applies to a designated water. At this time, no Tier 3 waters have been designated in Alaska.

18 AAC 70.015(a)(1) states that the existing water uses and the level of water quality necessary to protect existing uses must be maintained and protected (Tier 1 protection level).

There are currently two drinking water treatment facilities that discharge to a waterbody listed as impaired (Category 4 or 5) in DEC's most recent *Alaska's Final 2022 Integrated Water Quality Monitoring and Assessment Report*; the first being Trident Seafoods Akutan Shore Plant with a discharge to Akutan Harbor, however, Akutan Harbor is not impaired for any of the POC listed in AKG380000. Akutan Harbor is listed as a Category 4a impaired waterbody with a final/approved TMDL for 5-day biochemical oxygen demand and settleable solid residues. The pollutant source is seafood processing and waste. The second facility is Eielson AFB Drinking Water Treatment Plant with a discharge to Garrison Slough. Garrison Slough is not impaired for any of the POC listed in AKG380000 but is a Category 4a impaired waterbody with a final /approved TMDL for Polychlorinated Biphenyls (PCBs). The PCBs are listed as a non-point source discharge with an origin of the EAFB civil engineering building. The main site of the PCB contamination near Garrison Slough is a trench located adjacent to the slough that has soils from the trench that are transported into Garrison Slough through surface water runoff.

No other drinking water facilities authorized under the current permit discharge to receiving waterbodies listed as impaired in the 2022 Integrated Water Quality Monitoring and Assessment Report; therefore, no parameters have been identified where only the Tier 1 protection level applies. Accordingly, this antidegradation analysis conservatively assumes that the Tier 2 protection level applies to all parameters, consistent with 18 AAC 70.016(c)(1).

18 AAC 70.015(a)(2) states that if the quality of water exceeds levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality must be maintained and protected, unless the Department authorizes a reduction in water quality (Tier 2 protection level).

The Department may allow a reduction of water quality only after the specific analysis and requirements under 18 AAC 70.016(b)(5)(A-C), 18 AAC 70.016(c), 18 AAC 70.016(c)(7)(A-F), and 18 AAC 70.016(d) are met. The Department's findings are as follows:

The State's Antidegradation Policy in 18 AAC 70.015(a)(2) states that if the quality of water exceeds levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water (i.e. Tier 2 waters), that quality must be maintained and protected. The Department may allow a reduction of water quality only after finding that five specific requirements of the Antidegradation Policy at 18 AAC 70.015(a)(2)(A)-(E) are met. 18 AAC 70.015(a)(2)(A)-(E) and the Department's findings are as follows

18 AAC 70.016(b)(5)

(A) *existing uses and the water quality necessary for protection of existing uses have been identified based on available evidence, including water quality and use related data, information submitted by the applicant, and water quality and use related data and information received during public comment;*

(B) *existing uses will be maintained and protected; and*

(C) *the discharge will not cause water quality to be lowered further where the department finds that the parameter already exceeds applicable criteria in 18 AAC 70.020(b), 18 AAC 70.030, or 18 AAC 70.236(b).*

18 AAC 70.020 and 18 AAC 70.050 specify the protected water use classes for the State; therefore, the most stringent water quality criteria found in 18 AAC 70.020 and in the *Alaska Water Quality Criteria Manual for Toxic and Other Deleterious Organic and Inorganic Substances* (September 2022) apply

and were evaluated. This will ensure existing uses and the water quality necessary for protection of existing uses of the receiving waterbody are fully maintained and protected.

The permit places limits and conditions on the discharge of pollutants. The limits and conditions are established after comparing TBELs and WQBELs and applying the more restrictive of these limits. The WQ criteria, upon which the permit effluent limits are based, serve the specific purpose of protecting the existing and designated uses of the receiving water. WQBELs are set equal to the most stringent water quality criteria available for any of the protected water use classes. This also ensures that the resulting water quality at and beyond the boundary of any authorized mixing zone will fully protect all existing and designated uses of the receiving waterbody as a whole. The permit also requires receiving waterbody monitoring to establish facility-specific WQBELs for ammonia and hardness dependent metals, if appropriate, that shall protect existing uses.

The Department concludes the terms and conditions of the permit will be adequate to fully protect and maintain the existing uses of the water and that the findings under 18 AAC 70.016(b)(5) are met.

18 AAC 70.016(c)

(c) ***Tier 2 analysis for the lowering or potential lowering of water quality not exceeding applicable criteria.*** *Tier 2 applies when the water quality for a parameter in a water of the United States within this state does not exceed the applicable criteria under 18 AAC 70.020(b), 18 AAC 70.030, or 18 AAC 70.236(b) and receives the protection under 18 AAC 70.015(a)(2).*

(3) *the department will not conduct a Tier 2 antidegradation analysis for*

(A) *reissuance of a license or general or individual permit for a discharge that the applicant is not proposing to expand;*

In the prior permit cycle, DEC conservatively assumed that all discharges under AKG380000 were Tier 2 waters, and accordingly conducted a Tier 2 antidegradation analysis. DEC determined the AKG380000 general permit would meet the Antidegradation Policy and the Department's July 14, 2010, *Policy and Procedure Guidance for Interim Antidegradation Implementation Methods* requirements. The *Interim Guidance* has been superseded by the 18 AAC 70.016 regulations.

18 AAC 70.16(c)(3)(A) states that the Department will not conduct a Tier 2 antidegradation analysis for reissuance of a license or general or individual permit for a discharge that the applicant is not proposing to expand. 18 AAC 70.990(75) states that an expanded discharge is one in which discharges are expanded such that they could result in an increase in a permitted parameter load or concentration or other changes in discharge characteristics that could lower water quality or have other adverse environmental impacts. The discharges covered under AKG380000 are not expanded from the prior issuance of the general permit in 2019. There will not be an increase in a permitted parameter load, concentration, or other change in discharge characteristics that could lower water quality of have other adverse environmental impacts.

18 AAC 70.16(c)(3)(A), states that the Department will not conduct a Tier 2 antidegradation analysis for reissuance of a license or general or individual permit for a discharge that the applicant is not proposing to expand. Therefore, consistent with 18 AAC 70.016(c)(2)(A) and 18 AAC 70.16(c)(3)(A), DEC is not conducting a Tier 2 antidegradation analysis for this permit reissuance.

10.0 SPECIAL CONDITIONS

10.1 Quality Assurance Project Plan (QAPP)

The permittee is required to develop, implement, and maintain a Quality Assurance Project Plan (QAPP). The QAPP must be designed to assist in planning for the collection and analysis of effluent and receiving

water samples in support of the permit. The QAPP shall consist of standard operating procedures the permittee must follow for collecting, handling, storing and shipping samples; laboratory analysis; precision and accuracy requirements; data reporting; and quality assurance/quality control criteria. The QAPP will help ensure the accuracy of monitoring data and potentially explain anomalies if they occur. The QAPP must be developed and implemented within 180 days of receiving authorization under this general permit. Any existing QAPP for the facility may be modified to meet the requirements of Permit Section 3.1. The QAPP is required to be retained onsite and made available to DEC upon request.

10.2 Best Management Practices (BMP) Plan

Permit Section 3.2 requires the permittee to develop and implement a BMP Plan within 180 days of the effective date of receiving authorization to discharge. The objective of the BMP Plan is to prevent or minimize the generation and potential for the release of pollutants from the drinking water treatment facility to receiving waters through normal and ancillary activities. Any existing BMP Plan for the facility may be modified to meet the requirements of Permit Section 3.2. The BMP Plan is required to be retained onsite and made available to DEC upon request.

10.3 Standard Conditions

Appendix A of the permit contains standard regulatory language that must be included in all APDES permits. These requirements are based on the regulations and cannot be challenged in the context of an individual APDES permit action. The standard regulatory language covers requirements such as monitoring, recording, reporting requirements, compliance responsibilities, and other general requirements.

10.4 Electronic Reporting (E-Reporting) Rule

10.4.1 E-Reporting Rule for DMRs (Phase I)

The permittee must submit DMR data electronically through Network Discharge Monitoring Report (NetDMR) per Phase I of the E-Reporting Rule (40 CFR Part 127) upon the effective date of this permit. Authorized persons may access permit information by logging into the NetDMR Portal (https://cdxnodengn.epa.gov/oeca-netdmr-web/action/login). Permittees submitting DMRs in compliance with the E-Reporting Rule are not required to submit as described in permit Appendix A – Standard Conditions unless requested or approved by DEC. Permittees shall include any DMR data required by the permit that cannot be reported in a NetDMR field (e.g., mixing zone receiving water data, etc.) as an attachment to the NetDMR submittal. DEC has established an E-Reporting website at http://dec.alaska.gov/water/Compliance/EReportingRule.htm that contains general information about this new reporting format. Training materials and webinars for NetDMR can be found at https://netdmr.zendesk.com/home.

10.4.2 E-reporting Rule for Other Reports (Phase II)

Phase II of the E-Reporting rule will integrate electronic reporting for all other reports required by the Permit (e.g., Annual Reports and Certifications) and implementation is expected to begin December 2025. Permittees should monitor DEC's E-Reporting Information website located at https://dec.alaska.gov/water/compliance/electronic-reporting-rule for updates on Phase II of the E-Reporting Rule and will be notified when they must begin submitting all other reports electronically. Until such time, other reports required by the Permit may be submitted in accordance with Appendix A – Standard Conditions.

11.0 Other Legal Requirements

11.1 Endangered Species Act

The Endangered Species Act (ESA) requires federal agencies to consult with the National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (USFWS) if their actions could beneficially or adversely affect any threatened or endangered species or their habitats. NMFS is responsible for administration of the ESA for listed cetaceans, seals, sea lions, sea turtles, anadromous fish, marine fish, marine plants, and corals. All other species (including polar bears, walrus, and sea otters) are administered by the USFWS. As a state agency, DEC is not required to consult with USFWS or NMFS regarding permitting actions; however, DEC interacts voluntarily with these federal agencies to obtain listings of threatened and endangered species and critical habitat.

This fact sheet and the permit will be submitted to the agencies for review during the public notice period, and any comments received from these agencies will be considered prior to issuance of the permit.

For a listing of threatened and endangered species, DEC also consulted the NMFS site at https://www.fisheries.noaa.gov/topic/endangered-species-conservation . The Department reviewed the listing for updates since the last reissuance. Species of concern that inhabit or that have inhabited Alaskan waters at least at one time and that are listed as threatened, endangered or as a candidate for listing are included in Table 6.

Table 6. Threatened and Endangered Species

Species Name	Scientific Name	Listing Status
Albatross, short-tailed	*Phoebastria albatrus*	Endangered
Bear, polar	*Ursus maritimus*	Threatened
Eider, spectacled	*Somateria fischeri*	Threatened
Eider, Stellar's	*Polysticta stelleri*	Threatened
Eskimo curlew	*Numenius borealis*	Endangered
Herring, Pacific Southeast Alaska distinct population segment	*Clupea pallasi*	Candidate for listing
Loon, yellow-billed	*Gavia adamsii*	Candidate for listing
Otter, northern sea Southwest Alaska distinct population segment	*Enhydra lutris kenyoni*	Threatened
Seal, bearded Beringia distinct population segment	*Erignathus barbatus nauticus*	Threatened
Seal, ringed, Arctic subspecies	*Phoca hispida hispida*	Threatened
Seal, Ringed	*Phoca (pusa)hispida*	Endangered
Seal, Guadalupe Fur	*Arctocephalus townsendi*	Endangered
Sea turtle, loggerhead*	*Caretta caretta*	Threatened
Sea turtle, Olive Ridley*	*Lepidochelys olivacea*	Threatened
Sea-lion, Stellar western population (west of 144º longitude)	*Eumetopias jubatus*	Endangered
Whale, blue*	*Balaenoptera musculus*	Endangered
Whale, bowhead	*Balaena mysticetus*	Endangered
Whale, Cook Inlet beluga	*Delphinapterus leucas*	Endangered
Whale, fin	*Balaenoptera physalus*	Endangered
Whale, humpback	*Megaptera novaeangliae*	Endangered
Whale, gray* western North Pacific distinct population segment	*Eschrichtius robustus*	Endangered
Whale, North Pacific right*	*Eubalaena japonica*	Endangered
Whale, sei*	*Balaenoptera borealis*	Endangered
Whale, sperm	*Physeter macrocephalus*	Endangered
*Occurs rarely in Alaska		

11.2 Essential Fish Habitat (EFH)

The Magnuson-Stevens Fishery Conservation and Management Act (January 21, 1999) designates EFH in waters used by anadromous salmon and various life stages of marine fish under NMFS jurisdiction. EFH refers to those waters and associated river bottom substrates necessary for fish spawning, breeding, feeding, or growth to maturity—including aquatic areas and their associated physical, chemical, and biological properties that are used by fish and may include aquatic areas historically used by fish. Spawning, breeding, feeding, or growth to maturity covers a species' full life cycle necessary for fish from commercially-fished species to spawn, breed, feed, or grow to maturity.

The EFH regulations define an adverse effect as any impact which reduces quality and/or quantity of EFH and may include direct (e.g. contamination or physical disruption), indirect (e.g. loss of prey, reduction in species' fecundity), site-specific, or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

Section 305(b) of the Magnuson-Stevens Act 916 USC 1855(b)) requires federal agencies to consult NMFS when any activity proposed to be permitted, funded, or undertaken by a federal agency may have an adverse effect on designated EFH as defined by the Act. As a State agency, DEC is not required to consult with NMFS regarding permitting actions, but interacts voluntarily with NMFS to identify EFH.

This fact sheet and the permit will be submitted to the agencies for review during the public notice period, and any comments received from these agencies will be considered prior to issuance of the permit.

11.3 Ocean Discharge Criteria Evaluation (ODCE)

Section 403(a) of the CWA, Ocean Discharge Criteria, prohibits the issuance of a permit under Section 402 of the CWA for a discharge into the territorial sea, the water of the contiguous zone, or the oceans except in compliance with Section 403. Permits for discharges seaward of the baseline on the territorial seas must comply with the requirements of Section 403, which include development of an ODCE.

Interactive nautical charts depicting Alaska's baseline plus additional boundary lines are available at http://www.charts.noaa.gov/OnLineViewer/AlaskaViewerTable.shtml and interactive maps at https://alaskafisheries.noaa.gov/mapping/arcgis/rest/services/NOAA_Baseline/MapServer.

The charts and maps are provided for informational purposes only. The U.S. Baseline committee makes the official determinations on baseline. Ocean Discharge Criteria are not applicable for marine discharges to areas located landward of the baseline of the territorial sea.

The general permit requires compliance with State WQS. Consistent with 40 CFR §125.122(b), adopted by reference at 18 AAC 83.010(C)(8), discharges in compliance with State WQS shall be presumed not to cause unreasonable degradation of the marine environment. EPA made the connection between the similar protections provided by ODCE requirements and WQS when promulgating ocean discharge criteria rules in 1980, as stated, "the similarity between the objectives and requirements of [State WQS] and those of CWA Section 403 warrants a presumption that discharges in compliance with these [standards] also satisfy CWA Section 403." (Ocean Discharge Criteria, 45 Federal Register 65943.) As such, given the permit requires compliance with State WQS, unreasonable degradation to the marine environment is not expected and further analysis under 40 CFR §125.122 is not warranted for this permitting action.

11.4 Permit Expiration

The permit will expire five years from the effective date of the permit.

12.0 REFERENCES

ADEC (Alaska Department of Environmental Conservation). 2022. 18 AAC 70 Water Quality Standards, as amended through November 13, 2022.

ADEC. 2022. Alaska water quality criteria manual for toxics and other deleterious organic and inorganic substances, as amended through September 8, 2022.

ADEC. 2022. Alaska's final 2022 integrated water quality monitoring and assessment report, September 15, 2022.

ADEC, 2010. "Interim antidegradation implementation methods," Policy and Procedure 05.03.103, July 14, 2010.

ADEC 2017. 18 AAC 83 Alaska Pollutant Discharge Elimination System, as amended through November 7, 2017.

USEPA. 1991. Technical Support Document for Water Quality-based Toxics Control, EPA/505/2-90-001, USEPA Office of Water, Washington D.C., March 1991.

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Appendix A: Mixing Zone Analysis Checklist.

The purpose of the Mixing Zone Checklist is to guide the permit writer through the mixing zone regulatory requirements to determine if all the mixing zone criteria at 18 AAC 70.240 are satisfied, as well as provide justification to authorize a mixing zone in an Alaska Pollutant Discharge Elimination System permit.

Criteria	Description	Resources	Regulation
Size	Is the mixing zone as small as practicable? **If yes, mixing zone may be approved as proposed or authorized with conditions.**	EPA Permit Writers' Manual	**18 AAC 70.240 (k)**
Technology	Were the most effective technological and economical methods used to disperse, treat, remove, and reduce pollutants? **If yes, mixing zone may be approved as proposed or authorized with conditions.**		**18 AAC 70.24(c)(1)**
Low Flow Design	**For river, streams, and other flowing freshwaters.** - Determine low flow calculations or documentation for the applicable parameters.		**18 AAC 70.240(I)**
Existing use	Does the mixing zone… (1) maintain and protect designated and existing uses of the waterbody as a whole? **If yes, mixing zone may be approved as proposed or authorized with conditions.**		**18 AAC 70.240(c)(2)**
	(2) impair overall biological integrity of the waterbody? **If yes, mixing zone may be approved as proposed or authorized with conditions.**		**18 AAC 70.240(c)(3)**
	(3) create a public health hazard that would preclude or limit existing uses of the waterbody for water supply or contact recreation? **If yes, mixing zone may be approved as proposed or authorized with conditions.**		**18 AAC 70.240(c)(4)(B)**

Criteria	Description	Resources	Regulation
	(4) preclude or limit established processing activities or established commercial, sport, personal use, or subsistence fish and shellfish harvesting? **If yes, mixing zone may be approved as proposed or authorized with conditions.**		**18 AAC 70.240(c)(4)(C)**
Human consumption	Does the mixing zone… (1) produce objectionable color, taste, or odor in aquatic resources harvested for human consumption? **If yes, mixing zone may not be approved**		**18 AAC 70.240(d)(6)**
Spawning Areas	Does the mixing zone… (1) discharge in a spawning area for anadromous fish or Arctic grayling, northern pike, rainbow trout, lake trout, brook trout, cutthroat trout, whitefish, sheefish, Arctic char (Dolly Varden), burbot, and landlocked coho, king, and sockeye salmon? **If yes, mixing zone prohibited may not be approved.**		**18 AAC 70.240(f)**
Human Health	Does the mixing zone… (1) contain bioaccumulating, bioconcentrating, or persistent chemical above natural or significantly adverse levels? **If yes, mixing zone may not be approved.**		**18 AAC 70.240(d)(1)**
	(2) contain chemicals expected to cause carcinogenic, mutagenic, tetragenic, or otherwise harmful effects to human health? **If yes, mixing zone may not be approved.**		**18 AAC 70.240(d)(2)**
	(3) occur in a location where the department determines that a public health hazard reasonably could be expected? **If yes, mixing zone may be approved as proposed or authorized with conditions**		**18 AAC 70.240(k)(4)**
Aquatic Life	Does the mixing zone… (1)cause a toxic effect in the water column, sediments, or biota outside the boundaries of the mixing zone?		**18 AAC 70.240(c)(4)(A)**

Criteria	Description	Resources	Regulation
	If yes, mixing zone may be approved as proposed or authorized with conditions		
	(2) result in a reduction in fish and shellfish population levels? **If yes, mixing zone may be approved as proposed or authorized with conditions.**		**18 AAC 70.240(c)(4)(D)**
	(3) result in permanent or irreparable displacement of indigenous organisms? **If yes, mixing zone may be approved as proposed or authorized with conditions.**		**18 AAC 70.240(c)(4)(E**
	(4) form a barrier to migratory species or fish passage? **If yes, mixing zone may be approved as proposed or authorized with conditions**.		**18 AAC 70.240(c)(4)(G)**
	(5) result in undesirable or nuisance aquatic life? **If yes, mixing zone may not be approved**		**18 AAC 70.240(d)(5)**
	(6) prevent lethality to passing organisms; or exceed acute aquatic life criteria at and beyond the boundaries of a smaller initial mixing zone surrounding the outfall, the size of which shall be determined using methods approved by the Department? **If yes, mixing zone may not be approved**		**18 AAC 70.240(d)(7)** **18 AAC 70.240(d)(8)**
Endangered Species	Are there threatened or endangered species (T/E spp) at the location of the mixing zone? If yes, are there likely to be adverse effects to T/E spp based on comments received from USFWS or NOAA? If yes, will conservation measures be included in the permit to avoid adverse effects? **If yes, mixing zone may be approved as proposed or authorized with conditions**		**18 AAC 70.240(c)(4)(F)**