ALASKA POLLUTANT DISCHARGE ELIMINATION SYSTEM

PERMIT FACT SHEET – FINAL

Permit Number: **AK0026603**

Beluga Power Plant

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

Public Comment Period Start Date: February 19, 2026
Public Comment Period Expiration Date: March 20, 2026

Alaska Online Public Notice System

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

CHUGACH ELECTRIC ASSOCIATION, INC

For wastewater discharges from

Chugach Electric Association, Inc.
Beluga Power Plant
Beluga-West Side of Cook Inlet
Po Box 196300
Anchorage, AK, 99515

The Alaska Department of Environmental Conservation (the Department or DEC) proposes to reissue an APDES individual permit (AK0026603) to Chugach Electric Association, Inc. The permit authorizes and sets conditions on the discharge of pollutants from this facility to waters of the United States. 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 facility and outlines best management practices to which the facility must adhere.

This fact sheet explains the nature of potential discharges from the Beluga Power Plant 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
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Informal Reviews and Adjudicatory Hearings

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, application, 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, application, and other information are located on the Department's Wastewater Discharge Authorization Program website: https://dec.alaska.gov/water/wastewater/.

- 555 Cordova Street; **Anchorage**, AK 99501; (907) 269-6285
- **Mail**: P.O. Box 111800;
  In Person: 410 Willoughby Avenue, Suite 303; **Juneau**, AK 99811-1800; (907) 465-5180
- 610 University Avenue; **Fairbanks**, AK 99709; (907) 451-2183

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1.0 INTRODUCTION

1.1 Applicant

This fact sheet provides information on the APDES permit for the following entity:

Permittee:	Chugach Electric Association, Inc. (CEA)
Facility:	Beluga Power Plant
APDES Permit Number:	AK0026603
Facility Location:	Beluga-West Side of Cook Inlet
Mailing Address:	PO Box 196300, Anchorage, AK 99519
Facility Contact:	Mr. Eric Boyette, SR Manager EHS

1.2 Authority

Section 301(a) of the Clean Water Act (CWA) and Alaska Administrative Code (AAC) 18 AAC 83.015 provide that the discharge of pollutants to water of the U.S. is unlawful except in accordance with an APDES permit. The individual permit reissuance is being developed per 18 AAC 83. A violation of a condition contained in the Permit constitutes a violation of the CWA and subjects the permittee of the facility with the permitted discharge to the penalties specified in Alaska Statutes (AS) 46.03.760 and AS 46.03.761.

1.3 Permit History

State of Alaska wastewater disposal permits have been issued to Chugach Electric Association, Inc (CEA) for the Beluga Power Plant Facility since 1986 to authorize the discharge of wastewater associated with electrical power generation. The permits generally authorized the discharge of boiler blowdown, filter backwash, and water softener regeneration and demineralization. CEA submitted a NPDES permit application to the Environmental Protection Agency (EPA) on January 11, 1979 and again on January 31, 1986. EPA assigned NPDES permit number AK0026603 to the application and responded to CEA's applications on August 26, 1986 with a letter indicating that EPA determined that the pollutant discharges from the Facility were minor in nature and therefore assigned a low priority for permit issuance. EPA ultimately did not issue an NPDES permit prior to authority to administer the NPDES Program transferred to DEC.

CEA submitted an APDES permit application to the Department on February 11, 2013. DEC issued the CEA APDES permit on 1/15/2016, with an effective date of 3/1/2016 and expiration of 02/28/2021. Much of the plant was decommissioned or taken offline during the previous permit cycle, but CEA requested continued coverage under the AK0026603, as it is considered a back up facility to the Municipality of Anchorage, should it ever be necessary. The DEC administratively extended the permit and reissued it on April 28, 2021, which became effective on June 1, 2021, for a five-year term. Under the Administrative Procedures Act and state regulations at 18 AAC 83.155(c), an APDES permit may be administratively extended provided that the permittee submit a timely and complete application for a new permit prior to the expiration of the current permit. A timely and complete application for a new permit was submitted by the CEA Beluga Power Plant on November 26, 2025; therefore, the 2021 permit may be administratively extended until such time a new permit is reissued.

2.0 BACKGROUND

2.1 Facility Information

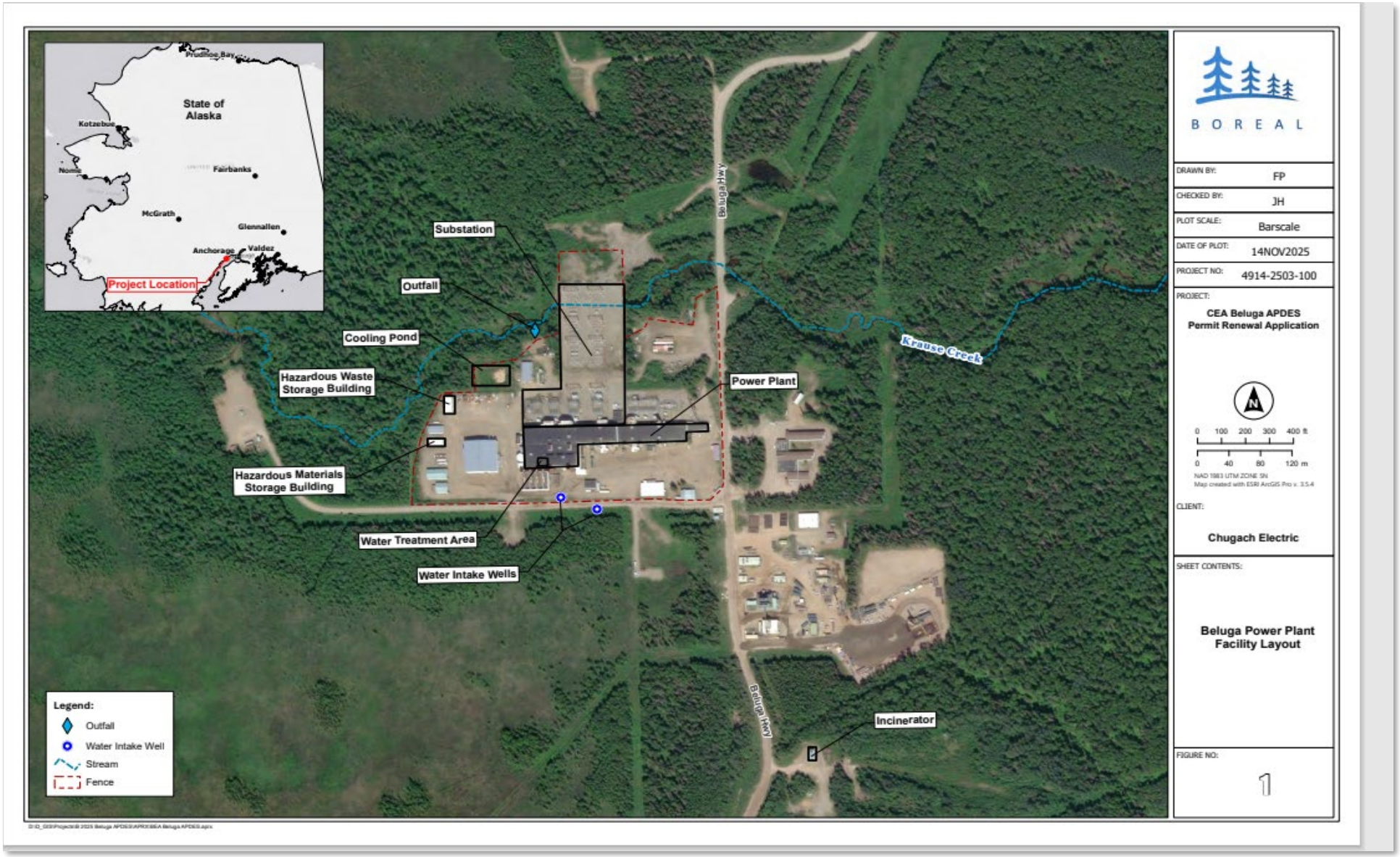
The Beluga Power Plant (Facility) is located 40 miles due west of Anchorage on the Western side of Cook Inlet sited within the Beluga River Gas Field. The Facility is operated by the Chugach Electric Association (CEA),

was placed into operation in 1968 when unit one was commissioned, then began discharging to Krause Creek in 1982. This facility is classified as a minor discharger.

More than half of the Facility's 385 megawatts of power generation originates from four gas turbines (Units 1-3, 5) operating in simple-cycle mode. The simple-cycle turbines generate approximately 173 megawatts using natural gas as their fuel source. Hot gasses produced during the combustion process turn the turbines and generate electricity. An additional 212 megawatts is produced by two combined-cycle units (Units 6 &7). The combined cycle turbines also burn natural gas to power turbines and generate electricity, but they previously captured excess heat during the combustion of natural gas and used the heat to generate steam in a separate steam turbine. The steam turbine, which was known as "Unit 8" was decommissioned in 2015. In addition, the demineralization unit, boiler blowdown system, chemical storage area and batch waste tank were also decommissioned during the 2016 permit cycle. The facility has not discharged during this past permit cycle, however during normal operations, the facility discharges wastewater associated with electrical power generation including filter backwash and wastewater collected in floor drains.

Figure 1 illustrates the layout of Beluga Power Plant.

Figure 1: Beluga Power Plant Vicinity Map



2.2 Wastewater Treatment

Two existing groundwater wells at the Facility provide intake water. The intake water is conveyed to oxidant tanks where potassium permanganate is mixed with the intake water in order to oxidize iron and manganese so they can precipitate out during filtration. Water travels from the oxidant tanks to a greensand filter. The greensand filter is backwashed approximately twice per quarter with an average of 6,412 gallons per day (GPD). Filter backwash travels to an effluent cooling pond prior to discharge, if necessary.

Some wastewater, specifically floor drains in the boiler and turbine areas, is treated with oil and water separator. The oily portion from the separation process is collected and hauled offsite to a DEC-permitted disposal facility. The water portion has a quarterly average of 3885 GPD.

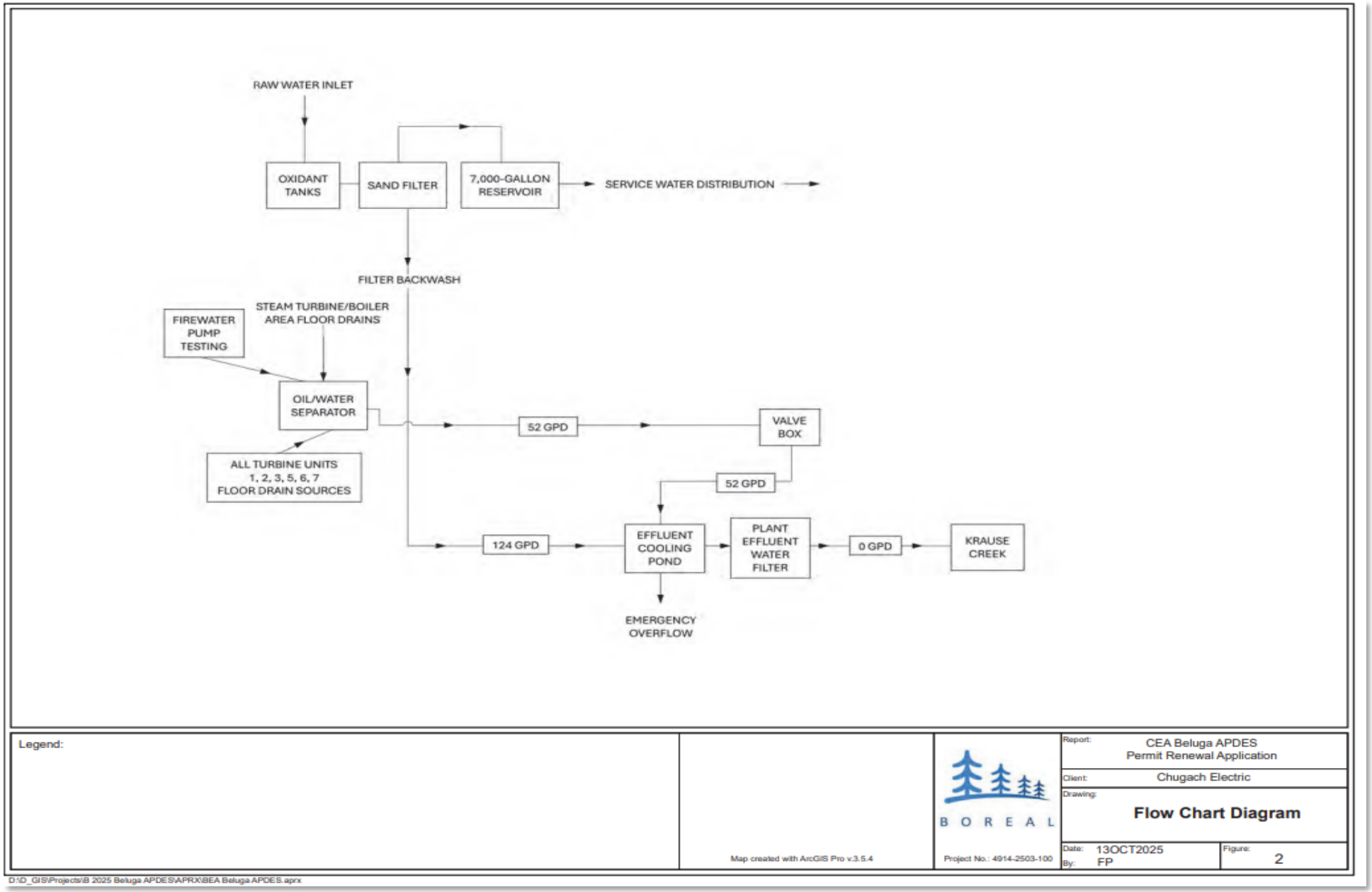
Flow is recorded continuously via flow meters for all waste streams downstream of their respective processes. Meters are read daily to calculate a total discharge to the effluent cooling pond. Discharges from the effluent cooling pond to Krause Creek will be intermittent in nature. A vertical discharge pipe on the East end of the cooling pond only allows discharge to occur to Krause Creek when the water level of the pond is higher than the elevation of the pipe.

When effluent exits the effluent cooling pond, it enters the “plant effluent water filter.” The water filter is located northwest of the cooling pond outside a fenced area. The water filter is an enclosed underground trench sized approximately 55 feet long, 6 feet wide, and 11 feet deep. Cooling pond discharges enter and exit through High Density Polyethylene (HDPE) piping with filter fabric covered grates on both ends. The trench is lined with geotextile filter fabric on all sides and filled with 1–3 inch diameter rock. After exiting the water filter, effluent flows through ten inch diameter HDPE piping at an 18% grade for approximately 50 feet prior to discharge into Krause Creek, located northwest of the Facility. The outfall to Krause Creek that the Facility discharges from is located west of the Beluga Highway in a non-anadromous portion of the stream.

The domestic wastewater generated onsite from Facility personnel goes into an ADEC certified septic tank which is then routed to discharge to the two existing leach fields. The wastewater batch plant was originally routed to these leach fields, but was taken offline to be refurbished, which is now complete, but the facility is choosing to keep the batch plant in reserve in case it is ever needed for a larger population. Accordingly, the domestic wastewater generated onsite is not discharged to surface water and is therefore not authorized by this permit.

Figure 2 illustrates the Beluga Power Plant treatment process.

Figure 2: Beluga Power Plant Process Flow Diagram



2.3 Pollutants of Concern

Beluga Power Plant generates wastewater in the form of filter backwash, ion exchange water treatment system, and various floor drains. Pollutants of concern potentially present in the effluent of the Beluga Power Plant are oil and grease, total suspended solids (TSS), polychlorinated biphenyl compounds (PCBs) and pH that are regulated in the technology-based effluent limits (TBELs). Additional wastewater pollutants that could be in the discharge are whole effluent toxicity (WET), TAH, TAqH, zinc and copper. Additional information on the pollutants of concern can be found in the Fact Sheet Appendix A.

The parameters monitored in the previous APDES permit cycle were carried over and remain as pollutants of concern for both the TBEL's and water quality based effluent limits (WQBELS).

2.4 Compliance History

DEC reviewed Discharge Monitoring Reports (DMRs) from June 2021 to December 2025 to determine the facility's compliance with the permit effluent limits. The Beluga Power Plant reported no discharge for the entire permit cycle and therefore has remained in compliance with their permit with no recorded effluent violations. There were no inspections performed during this permit cycle, with the last comprehensive routine inspection performed on December 13, 2019, with no deficiencies noted at that time. Additional compliance information for this facility, including compliance with other environmental statutes, is available on Enforcement and Compliance History Online (ECHO) at https://echo.epa.gov/.

3.0 EFFLUENT LIMITS AND MONITORING REQUIREMENTS

3.1 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 –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 water quality standards of a waterbody are met. WQBELs may be more stringent than TBELs.

The permit contains both TBELs and WQBELs. The applicable TBELs are based on EPA Effluent Limit Guideline (ELG) found at 40 Code of Federal Regulations (CFR) Part 423, the Steam Electric Power Generating Point Source Category.

A detailed discussion of the basis for the effluent limits contained in the permit is provided in Appendix A.

3.2 Basis for Effluent and Receiving Water Monitoring

In accordance with AS 46.03.110(d), the Department may specify in a permit the terms and conditions under which waste material may be disposed. Monitoring a permit is required to determine compliance with effluent limits. Monitoring may also be required to gather effluent and receiving water data to determine if additional effluent limits are required and/or to monitor effluent impact on the receiving waterbody quality. The permittee is responsible for conducting the monitoring and for reporting results in NetDMR or with the application for reissuance, as appropriate, to the Department.

3.3 Effluent Limits and Monitoring Requirements

The permit contains a combination of both TBELs and WQBELs. Monitoring is required to determine compliance with effluent limitations and/or for use in future reasonable potential analyses (RPA). The permit requires monitoring of effluent discharge through Outfall 001A for flow, oil and grease, oily sheen, PCB's, TSS, pH, temperature, TAH, TAqH, copper and zinc. Flow, oil and grease, TSS, pH, and temperature all have associated limits. Effluent limits for Beluga Power Plant must be met at the end of the pipe.

Monitoring frequencies are based on the nature and effect of the pollutant, as well as a determination of the minimum sampling necessary to adequately monitor the facility's performance. The permittee has the option of taking more frequent samples than required under the permit. These additional samples must be used for averaging (for pollutants results reported on a monthly or weekly average) if they are conducted using the Department – approved test methods (found in 18 AAC 70 and 40 CFR Part 136, adopted by reference in 18 AAC 83.010).

3.4 Whole Effluent Toxicity Monitoring

Alaska WQS at 18 AAC 70.030 require that an effluent discharged to a water may not impart chronic toxicity to aquatic organisms, expressed as 1.0 chronic toxic unit (TUc), at the point of discharge, or if the Department authorizes a mixing zone in a permit, approval, or certification, at or beyond the mixing zone boundary, based on the minimum effluent dilution achieved in the mixing zone. A mixing zone is not authorized for Beluga Power Plant; therefore, the permittee must meet the whole effluent toxicity (WET)water quality criteria of 1.0 TUc at the end of the pipe.

WET tests are laboratory tests that measure total toxic effect of an effluent on living organisms. WET tests use small vertebrate and invertebrate species and/or plants to measure the aggregate toxicity of an effluent. The two different durations of toxicity tests are acute and chronic. Acute toxicity tests measure survival over a 96-hour exposure. Chronic toxicity tests measure reductions in survival, growth, and reproduction over a 7-day exposure. The parameters that will be measured in the WET tests are survival and reproduction of the water flea (*Ceriodaphnia dubia*) and survival and growth of the fathead minnow (*Pimephales promelas*).

18 AAC 83.435 requires that a permit contain limitations on WET when a discharge has reasonable potential to cause or contribute to exceedances of WQS. The permit does not establish WET effluent limits because no effluent monitoring data is currently available for a determination of reasonable potential to cause or contribute to an exceedance of the chronic WET numeric water quality criterion of 1.0 chronic toxic units (TU_c) found in 18 AAC 70.030. The permit requires WET testing once per year during discharge, alternating between performing the tests during the summer months and the winter months. The permit implements a WET trigger of 1.0 TU_c. If WET tests exceed the toxicity trigger, the permittee is required to perform accelerated testing. WET results from this permit issuance will be used when the permittee applies for reissuance of the permit to ensure the applicable criteria of 18 AAC 70.030 are met.

4.0 RECEIVING WATERBODY

4.1 Description of Receiving Waterbody

Effluent from the Beluga Power Plant discharges into Krause Creek, located northwest of the facility. Krause Creek originates in a bog approximately two miles northwest of the Facility and flows into Cook inlet approximately 4.1 miles east of the Facility. The Alaska Department of Fish and Game, Anadromous Waters Catalog describes Krause Creek as an anadromous fish stream east of the Beluga Highway.

4.2 Outfall Location

The Beluga Power Plant Outfall 001A is located at 61.186663 North latitude and 151.038724 West longitude. The facility discharge is intermittent, but if they do discharge, their effluent water must go to the effluent cooling pond then through the plant effluent water filter. The effluent then flows through the 10" High Density Polyethylene (HDPE) piping at an 18% grade for approximately 50 feet prior to discharge into Krause Creek.

4.3 Water Quality Standards

Section 301(b)(1)(C) of the CWA required the development of limits in permits necessary to meet water quality standards by July 1, 1977. Per 18 AAC 83.435, APDES permits must include conditions to ensure compliance with WQS. Additionally, regulations in 18 AAC 70 require that the conditions in permits ensure compliance with the WQS. The State's WQS are composed of waterbody use classifications, numeric and/or narrative water quality criteria, and an Antidegradation Policy. The use classification system identifies the designated 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 designated use classification of each waterbody. The antidegradation policy ensures that the existing uses and the level of water quality necessary to protect the uses are maintained and protected.

Water bodies 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 can also have site–specific water quality criterion per 18 AAC 70.235, such as those listed under18 AAC 70.236(b). The receiving water for this discharge, Krause Creek, has not been reclassified, nor have site-specific water quality criteria been established. Therefore, existing uses and designated uses are the same and Krause Creek must be protected for all freshwater designated uses. These freshwater designated use classes consist of the following: water supply for drinking, culinary, and food processing; water supply for agriculture, including irrigation and stock watering; water supply for aquaculture and industry; contact and secondary recreation, and growth and propagation of fish, shellfish, other aquatic life, and wildlife.

4.4 Water Quality Status of Receiving Water

Any part of a waterbody for which the water quality does not or is not expected to meet applicable WQS is defined as a "water quality limited segment" and placed on the State's impaired waterbody list. For an impaired waterbody, Section 303(d) of the CWA requires states to develop a Total Maximum Daily Load (TMDL) management plan. The TMDL documents the amount of a pollutant a waterbody can assimilate without violating a state's WQS and allocates that load to known point sources and nonpoint sources. Krause Creek is not included in *The State of Alaska 2024 Final Integrated Water Quality Monitoring and Assessment Report, February 6, 2025.*

5.0 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."

Effluent limitations may be relaxed as allowed under 18 AAC 83.480, CWA §402(o) and CWA §303(d)(4). 18 AAC 83.480(b) allows relaxed limitations in renewed, reissued, or modified permits when there have been

material and substantial alterations or additions to the permitted facility that justify the relaxation, or, if the Department determines that technical mistakes were made. EPA's Interim Guidance for Performance-Based Reduction of NPDES Monitoring Frequencies (EPA, 1996), states that monitoring requirements are not considered effluent limitations under the CWA, and therefore Antibacksliding prohibitions would not be triggered by reductions in monitoring frequencies.

The effluent limitations in this permit reissuance are consistent with 18 AAC 83.480. Therefore, the permit effluent limitations, standards, and conditions in AK0026603 are as stringent as in the previously issued permit. Accordingly, no further backsliding analysis is required for this permit reissuance.

6.0 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 waterbody's designated uses, WQBELs may be revised if the revision is consistent with the State's Antidegradation policy. The State's Antidegradation policy is found in the 18 AAC 70 Water Quality Standards (WQS) regulations at 18 AAC 70.015. The Department's approach to implementing the Antidegradation policy is found in 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).

Krause Creek is not listed as impaired (Category 4 or 5) in *Alaska's 2024 Integrated Water Quality Monitoring and Assessment Report*; therefore, 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)(7)(A-F), and 18 AAC 70.016(d) are met. 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* (DEC 2008) 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 water quality 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. No water quality variance in the form of a mixing zone is authorized and all water quality criteria will be met at the end of pipe prior to discharge.

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 APDES permit cycle, DEC conservatively assumed that the discharge from the Beluga Power Plant into Krause Creek was a discharge to a Tier 2 waterbody and accordingly conducted a Tier 2 antidegradation analysis at that time. DEC determined that the Beluga Power Plant 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 70.016(c)(2)(A) states that when evaluating development of a license or general or individual permit for a discharge, the department will conduct a Tier 2 antidegradation analysis for a proposed new or expanded discharge. 18 AAC 70.990(75) states that new or expanded with respect to discharges means discharges that are regulated for the first time or discharges that 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. Discharge is further defined in 18 AAC 83.990(22) as a discharge of a pollutant.

All pollutants regulated under the permit were also regulated under the prior permit, therefore, not considered a new discharge. The discharge covered under AK0026603 is not expanded from the previous permit and had no discharge during the prior permit cycle, therefore, there will not be an increase in a permitted parameter load, concentration, or other change in discharge characteristics that could lower water quality or have other adverse environmental impacts.

18 AAC 70.016(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.

7.0 OTHER PERMIT CONDITIONS

7.1 Quality Assurance Project Plan

The permittee is required to update, implement, and maintain the Quality Assurance Project Plan (QAPP). 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, including method detection/reporting limits; and quality assurance/quality control criteria. The permittee is required to amend the QAPP whenever any procedure addressed by the QAPP is modified. The plan shall be retained either electronically or physically at the facility's office of record and made available to the Department upon request.

7.2 Best Management Practices Plan

In accordance with AS 46.03.110 (d), the Department may specify in a permit the terms and conditions under which waste material may be disposed. This permit requires the permittee to review their current BMP Plan, update as necessary, and implement the updated BMP Plan in order to prevent or minimize the potential for the release of pollutants to waters and lands of the State of Alaska through plant site runoff, spillage or leaks, or erosion. The permit contains certain BMP conditions that must be included in the BMP Plan. The BMP Plan shall be retained electronically or physically at the facility's office of record and made available to the Department upon request.

7.3 Electronic Discharge Monitoring Report

The permittee must submit DMR data electronically through NetDMR per Phase I of the E-Reporting Rule (40 CFR 127) upon the effective date of the permit. Authorized persons may access permit information by logging into the NetDMR Portal (https://cdx.epa.gov/). DMRs submitted in compliance with the E-Reporting Rule are not required to be submitted as described in permit APPENDIX A – Standard Conditions unless requested or approved by the Department. Any DMR data required by the Permit that cannot be reported in a NetDMR field (e.g. mixing zone receiving water data, etc.), shall be included as an attachment to the NetDMR submittal. DEC has established an e-Reporting Information website at https://dec.alaska.gov/water/compliance/electronic-reporting-rule that contains general information about this new reporting format. Training materials and webinars for NetDMR can be found at usepa.servicenowservices.com/oeca_icis?id=netdmr_homepage.

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). All wastewater permit required submissions (e.g., Notices of Intent (NOI's), Notice of Terminations (NOT), Annual Reports, Noncompliance Notification, and Corrective Action reports are to be submitted electronically through DEC's Environmental Data Management System (EDMS, accessible via https://dec.alaska.gov/water/edms, unless prior approval has been obtained from DEC for an alternative means.

7.4 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.

8.0 OTHER LEGAL REQUIREMENTS

8.1 Endangered Species Act

The Endangered Species Act (ESA) requires federal agencies to consult with the USFWS and NMFS to determine whether their authorized actions could beneficially or adversely affect any threatened and endangered species or 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 these federal agencies regarding permitting actions; however, DEC may voluntarily contact the agencies to notify them of the proposed permit issuance and to obtain listings of threatened and endangered species near the discharge.

DEC reviewed IPaC: Home for information on endangered or threatened species that may be present near the vicinity of the Beluga Power Plant outfall that are under the jurisdiction of USFWS. There are no threatened or endangered species or designated critical units in the project area, and therefore no effects to listed resources are likely to occur as a result of this permit reissuance.

This fact sheet and the permit will be provided 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.

8.2 Essential Fish Habitat

Essential fish habitat (EFH) includes the waters and substrate (sediments, etc.) necessary for fish from commercially-fished species to spawn, breed, feed, or grow to maturity. The Magnuson-Stevens Fishery Conservation and Management Act (January 21, 1999) requires federal agencies to consult with National Atmospheric Administration (NOAA) Fisheries (NMFS) when a proposed discharge has the potential to adversely affect (reduce quality and/or quantity of) EFH. As a State agency, DEC is not required to consult with NMFS regarding permitting actions but voluntarily contacts NMFS to notify them of the proposed permit issuance.

DEC accessed NOAA Fisheries Alaska EFH https Mapper at https://www.fisheries.noaa.gov/national/habitat-conservation/essential-fish-habitat#essential-fish-habitat-mapper and the Alaska Department of Fish and Game's Fish Anadromous Water Catalog at https://www.adfg.alaska.gov/sf/SARR/AWC/index.cfm?ADFG=maps.AWCData and determined that there does not appear to be fish rearing or spawning near the outfall discharging into Krause Creek that would be adversely affected.

DEC will provide NMFS with copies of the permit and fact sheet during the public notice period. Any comments received from NMFS regarding EFH will be considered prior to issuance of the permit.

8.3 Permit Expiration

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

9.0 References

- Alaska Department of Environmental Conservation, (ADEC). https://dec.alaska.gov/water/water-quality/integrated-report , accessed January 6, 2026
- ADEC, 2025. 18 AAC 83, Alaska Pollutant Discharge Elimination System, as amended through August 13, 2025.
- ADEC, 2022. 18 AAC 70, Water Quality Standards, as amended through November 13, 2023.
- ADEC, 2022. Alaska Water Quality Criteria Manual for Toxic and Other Deleterious Organic and Inorganic Substances, as amended through September 8, 2022.
- NOAA, https://www.fisheries.noaa.gov/national/habitat-conservation/essential-fish-habitat#essential-fish-habitat-mapper , accessed January 7, 2026
- U.S. Fish and Wildlife Service iPac Information for Planning and Consultation https://ipac.ecosphere.fws.gov/ . Accessed January 7, 2026
- U.S. Environmental Protection Agency, 2024. *Steam Electric Power Generating Point Source Category*, U.S. Environmental Protection Agency, 40 CFR Part 423 Steam Electric Power Generating Effluent Guidelines | Effluent Guidelines | US EPA
- U.S. Environmental Protection Agency, 2010. *National Pollution Discharge Elimination System (NPDES) Permit Writers' Manual*. Office of Wastewater Management, Water Permits Division State and Regional Branch Office of Water Regulations and Standards. Washington DC, September 2010. EPA-833-K-10-00
- U.S. Environmental Protection Agency. 1991. *Technical Support Document for Water Quality-based Toxics Control*. Office of Water Enforcement and Permits, Office of Water Regulations and Standards. Washington DC, March 1991. EPA/505/2-90-001.

Appendix A BASIS FOR EFFLUENT LIMITATIONS

The Clean Water Act (CWA) requires steam electric power generation facilities to meet effluent limits based on available wastewater treatment technology, specifically, technology-based effluent limits (TBELs). TBELs are national in scope and establish performance standards for all facilities within an industrial category or subcategory. The Department may find, by analyzing the effect of an effluent discharge on the receiving water body, that TBELs are not sufficiently stringent to meet state water quality standards (WQS). In such cases, the Department is required to develop more stringent water quality-based effluent limits (WQBELs), which are designed to ensure that the WQS of the receiving water body are met.

TBELs for steam electric power generation facilities do not limit every parameter that may be present in the effluent. TBELs have only been developed for total suspended solids (TSS), oil and grease, pH, and Polychlorinated Biphenyls (PCBs). Depending on where the Beluga Power Plant (Facility) draws its water and how it handles its water for their purposes, their effluent might contain metals and other potentially toxic pollutants.

If a pollutant may cause or contribute to an exceedance of a WQS, a WQBEL for the pollutant must be established in the permit. Since there was no discharge in this last permit cycle, reasonable potential for pollutants of concern could not be determined due to a lack of available effluent monitoring data. Beluga Power Plant will be required to conduct additional monitoring of these pollutants during the term of the permit, during a discharge, so that reasonable potential analysis can be determined during the next permit reissuance.

A.1 Technology Based Effluent Limits

A.1.1 Mass Based Limitations

The regulation at 18 AAC 83.540 requires that effluent limits be expressed in terms of mass, if possible. As there currently is not a record of the monthly design flow of the Facility, the Department used the highest recorded daily flow influent rate from the average daily flows recorded over the past five years. The value selected (10,000 GPD) is representative of the actual flow likely to occur during the term of the permit. The mass-based limits are expressed in pounds per day (lbs/day) and are calculated as follows:

Mass-based limit (lbs/day) = concentration limit (milligrams per liter (mg/L)) × design flow (Million Gallons per Day (mgd)) × 8.34[1]

A.1.1 Effluent Limitation Guidelines

Effluent Limit Guidelines (ELGs) for the Steam Electric Power Generating Point Source Category can be found at 40 Code of Federal Regulations (CFR) Part 423 (amended April 24, 2024). The steam electric power plant ELG regulates discharges from the operation of generation units by establishments primarily engaged in the generation of electricity for distribution and sale, which results primarily from utilizing fossil fuel in conjunction with a thermal cycle employing the steam water system as the

[1] 8.34 is a conversion factor with units (lb x L) / (mg x gallon x 10^6)

thermodynamic medium. The Facility generates wastewater in the form of filter backwash, ion exchange water treatment system, and various floor drains. These wastestreams qualify as low volume waste sources as defined in the Steam Electric Power Generating ELG at 40 CFR 423.11(b).

The steam electric ELG contains limits for New Source Performance Standards (NSPS), Best Practicable Control Technology (BPT), Best Available Technology Economically Achievable (BAT), Pretreatment Standards for Existing Sources (PSES), and Pretreatment Standards for New Sources (PSNS). Because the steam electric power plant ELG was promulgated on September 30, 2015, a new source would be any steam electric power generating Facility that discharges pollutants, the construction of which started after September 30, 2015. The Facility commenced construction of the steam turbine referred to as Unit No. 8 in the early 1980s, and Unit No. 8 began discharging to Krause Creek in September of 1982. The Facility is therefore still considered an existing rather than a new source for regulation per the ELG. Additionally, the most recent promulgation to 40 CFR 423 that was finalized on April 24, 2024, was a revision to waste stream requirements for flue gas desulfurization (FGD) wastewater, bottom ash (BA) transport water, combustion residual leachate, and legacy wastewater. None of which is applicable to Beluga Power Plant processes. As with the last permit cycle, the Facility continues to be an intermittent point source discharge directly to Krause Creek, not an indirect discharge to a Publicly Owned Treatment Works (POTW), therefore it is not regulated under PSES or PSNS.

As an existing source, the Facility is regulated under BAT and BPT. As in the prior permit cycle, DEC compared the existing source performance standards, BAT and BPT, to each other and applied the more stringent technology level of control for each pollutant. The BAT effluent limits in the steam electric power plant ELG prohibit the discharge of PCBs, but do not otherwise regulate wastestreams that the Facility discharges. BPT effluent limits also prohibit the discharge of PCBs, but contain limits for low volume waste sources, which are the Facility's primary wastestream. Table B-1 describes the BPT TBELs in detail.

Table 9-1: Technology-Based Effluent Limits
(40 CFR §423.12, Best Practicable Control Technology Currently Available-BPT)

Parameter	Average Monthly Limit	Maximum Daily Limit	Range
Oil and grease	15 mg/L	20 mg/L	N/A
TSS	30 mg/L	100 mg/L	N/A
pH	N/A	N/A	6.0 – 9.0 Standard Units (SU)
PCBs	No discharge	No discharge	No discharge

A.2 Water Quality – Based Effluent Limitations

A.2.1 Statutory and Regulatory Basis

18 AAC 70.010 prohibits conduct that causes or contributes to a violation of the WQS.
18 AAC 15.090 requires that permits include terms and conditions to ensure criteria are met, including operating, monitoring, and reporting requirements.

The regulations require the permitting authority to make this evaluation using procedures that account for existing controls on point and nonpoint sources of pollution, the variability of the pollutant in the effluent, species sensitivity (for toxicity), and where appropriate, dilution in the receiving water body.

The limits must be stringent enough to ensure that WQS are met and must be consistent with any available wasteload allocation (WLA).

In the prior permit cycles, the Department was able to determine pollutants of concern using the monitoring results from their effluent data submitted with CEA's initial APDES application. Since there was no discharge and therefore no effluent monitoring in the last five years, the Department has chosen to require Beluga Power Plant to conduct further monitoring of pollutants of concern, but at an allowed, reduced monitoring frequency for any possible future discharges. This will still allow the Department to conduct an accurate, statistically robust reasonable potential analysis during the next permit reissuance in the event Beluga Power Plant discharges. The historical dataset of eleven Total Aromatic and Total Aqueous Hydrocarbons (TAH and TAqH) effluent sampling results also exist and illustrated that these pollutants have not been detected in the effluent when sampling has occurred. End of pipe water quality criteria limits, which are WQBELs, have been assigned for pH, oil and grease, and temperature. TAH and TAqH will continue to be monitored once per year during a discharge event to ensure there is no reasonable potential to exceed numeric WQS.

A.2.2 Specific Water Quality-Based Effluent Limits

A.2.2.1 pH

The criteria for water supply (aquaculture), water recreation (contact and secondary), and growth and propagation of fish, shellfish, other aquatic life, and wildlife found in 18 AAC 70.020(b)(6) are the most stringent WQS for pH. These standards state that fresh waters, "May not be less than 6.5 or greater than 8.5 pH units."

A.2.2.2 Oil and Grease

18 AAC 70.020(a)(5) specifies the WQS numeric criteria for "petroleum hydrocarbons, oils and grease" for fresh water uses. The criteria for water supply (aquaculture) and growth and propagation of fish, shellfish, other aquatic life, and wildlife are the most stringent WQS for oil and grease. These standards state that "Total aqueous hydrocarbons (TAqH) in the water column may not exceed 15 micrograms per liter (µg/l). Total aromatic hydrocarbons (TAH) in the water column may not exceed 10 µg/l. There may be no concentrations of petroleum hydrocarbons, animal fats, or vegetable oils in shoreline or bottom sediments that cause deleterious effects to aquatic life. Surface waters and adjoining shorelines must be virtually free from floating oil, film, sheen, or discoloration."

The WQS contains numeric criteria for TAH and TAqH. TAqH is defined as "collective dissolved and water-accommodated monoaromatic and polynuclear aromatic petroleum hydrocarbons that are persistent in the water column; does not include floating surface oil and grease". TAH is defined as "…the sum of the following volatile monoaromatic hydrocarbon compounds: benzene, ethylbenzene, toluene, and the xylene isomers, commonly called BTEX."

A.2.2.3 Temperature

18 AAC 70.020(a)(10) contains numeric temperature criteria to protect water supply uses (aquaculture) that may impact both spawning areas as well as egg and fry incubation. The criteria state that temperature "May not exceed 13°C." The Department applied the criteria directly as a limit in the permit

A.2.3 Selection of Most Stringent Limitations

A.2.3.1 pH

The current pH limit between 6.5 SU and 8.5 SU are identical to the more stringent water quality-based effluent limitations and shall apply at the end-of-pipe.

Table 9-2: Selection of pH Permit Limits

	Minimum Daily (SU)	Maximum Daily (SU)
Technology Based Limits	6.0	9.0
Water Quality-Based Limits	6.5	8.5
Selected Limits	6.5	8.5

A.2.3.2 Oil and Grease

The steam electric power plant ELG contains numeric limits for the discharge of oil and grease. The TBEL for oil and grease limits hexane extractable material, which includes relatively nonvolatile hydrocarbons, vegetable oils, animal fats, waxes, soaps, greases and related matter. The WQS for "petroleum hydrocarbons, oils and grease, for fresh water uses" contain numeric criteria for TAH and TAqH, as well as a narrative criteria that states "There may be no concentrations of petroleum hydrocarbons, animal fats, or vegetable oils in shoreline or bottom sediments that cause deleterious effects to aquatic life. Surface waters and adjoining shorelines must be virtually free from floating oil, film, sheen, or discoloration."

This WQS does not specify a numeric limit for oil and grease as limited by the steam electric power plant ELG, although it does contain a narrative criteria. The WQS limits additional hydrocarbon pollutants (TAH and TAqH) in a more stringent fashion than the TBEL. Because the Department is required to compare WQBELs to TBELs and select the most stringent effluent limits, the permit implements TBELs for oil and grease, but requires continued monitoring for TAH and TAqH to ensure the more stringent WQS numeric criteria continue to be protected. TAH and TAqH effluent limits were not implemented in the prior permit, because a robust historical dataset existed that illustrated these pollutants are not present in detectable amounts in the effluent, therefore continued monitoring with no limit will be carried over to the reissued permit.

Table 9-3: Selection of Oil and Grease Permit Limits

Limit Type	Average Monthly Limit	Maximum Daily Limit	Pollutant	Units
Technology-Based Effluent Limits	15	20	Oil and Grease	mg/L
WQS Numeric Criteria	N/A	10	TAH	µg/L
		15	TAqH	µg/L
WQS Narrative Criteria	There may be no concentrations of petroleum hydrocarbons, animal fats, or vegetable oils in shoreline or bottom sediments that cause deleterious effects to aquatic life. Surface waters and adjoining shorelines must be virtually free from floating oil, film, sheen, or discoloration.			
Selected Limits	15	20	Oil and Grease	mg/L
	9.11	12.14		lbs/day
	There may be no concentrations of petroleum hydrocarbons, animal fats, or vegetable oils in shoreline or bottom sediments that cause deleterious effects to aquatic life. Surface waters and adjoining shorelines must be virtually free from floating oil, film, sheen, or discoloration.			