



**ALASKA POLLUTANT DISCHARGE ELIMINATION  
SYSTEM INDIVIDUAL PERMIT – PROPOSED FINAL**

Permit Number: AK0023451

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

In compliance with the provisions of the Clean Water Act (CWA), 33 U.S.C. §1251 et seq., as amended by the Water Quality Act of 1987, P.L. 100-4, this permit is issued under provisions of Alaska Statutes (AS) 46.03; the Alaska Administrative Code (AAC) as amended; and other applicable State laws and regulations. The

**CITY OF FAIRBANKS AND GOLDEN HEART UTILITIES, INC.**

is authorized to discharge from the City of Fairbanks and Golden Heart Utilities, Inc. Wastewater Treatment Facility (COF and GHU WWTF) at the following location:

<b>Outfall</b>	<b>Receiving Waterbody</b>	<b>Latitude</b>	<b>Longitude</b>
001A	Tanana River	64° 47' 54.78" North	147° 46' 44.07" West

In accordance with the discharge point(s) effluent limitations, monitoring requirements, and other conditions set forth herein:

This permit and authorization shall become effective **DRAFT**

This permit and the authorization to discharge shall expire at midnight, **DRAFT**

The permittee shall reapply for a permit reissuance on or before **DRAFT**, 180 days before the expiration of this permit if the permittee intends to continue operations and discharge(s) at the facility beyond the term of this permit.

The permittee shall post or maintain a copy of this permit to discharge at the facility and make it available to the public, employees, and subcontractors at the facility.

**DRAFT**

\_\_\_\_\_  
Signature

**DRAFT**

\_\_\_\_\_  
Date

**DRAFT**

\_\_\_\_\_  
Printed Name

**DRAFT**

\_\_\_\_\_  
Program Manager  
Title

## TABLES OF CONTENTS

SCHEDULE OF SUBMISSIONS .....	3
1.0 LIMITATIONS AND MONITORING REQUIREMENTS .....	4
1.1 Discharge Authorization .....	4
1.2 Effluent Limits and Monitoring .....	4
1.3 Whole Effluent Toxicity Testing Requirements (WET).....	8
1.4 Mixing Zone.....	10
1.5 Receiving Waterbody Monitoring .....	11
1.6 Additional Monitoring .....	11
2.0 SPECIAL CONDITIONS.....	11
2.1 Pretreatment Requirements.....	11
2.2 Quality Assurance Project Plan (QAPP).....	18
2.3 Operation and Maintenance Plan (O&M Plan).....	18
3.0 GENERAL PROVISIONS .....	19
3.1 Electronic Reporting (E-Reporting) Rule .....	19
3.2 Identification Sign.....	20
3.3 Removed Substances .....	20

## TABLES

Table 1- Schedule of Submissions.....	3
Table 2- Outfall 001A Effluent Limits and Monitoring Requirements .....	6
Table 3- Pretreatment Monitoring-Sample Types and Frequency.....	15
Table 4- Method Detection Limits.....	15

## APPENDICES

Appendix A. Standard Conditions

Appendix B. Acronyms

Appendix C. Definitions

## SCHEDULE OF SUBMISSIONS

The Schedule of Submissions summarizes some of the required submissions and activities the permittee must complete and/or submit to the Alaska Department of Environmental Conservation (DEC) during the term of this permit. The permittee is responsible for all submissions and activities even if they are not summarized below.

**Table 1- Schedule of Submissions**

Location of Requirement	Submittal or Completion	Frequency	Due Date	Submit to <sup>a</sup>
Permit Section 3.1 Appendix A Section 3.2	Discharge Monitoring Report (DMR)	Monthly	Must be submitted electronically through the NetDMR system, on or before the 15th day of the following month.	NetDMR
Permit Section 2.1.8.10	Cyanide Hold-Time Study	One-time study	180 days before expiration of the final permit	Permitting
Permit Section 1.3	Whole Effluent Toxicity (WET) Monitoring	As required	The permittee shall submit the results of the toxicity tests with the DMR following the month in which the results are received.	Compliance
Permit Section 1.5	Receiving Waterbody Monitoring	1/permit cycle	Submit receiving waterbody monitoring results with the application for permit reissuance.	Permitting
Permit Section 2.1.9	Annual Pretreatment Report	Annually	The report must be submitted no later than January 31 <sup>st</sup> of each calendar year.	Compliance
Appendix Section 1.3	Application for Permit Reissuance	1/permit cycle	180 days before expiration of the final permit	Permitting
Appendix A Section 3.4	Oral notification of noncompliance	As required	Within 24 hours from the time the permittee becomes aware of the circumstances of noncompliance	Compliance
Appendix A Section 3.4	Written notification of noncompliance	As required	Within 5 days after the permittee becomes aware of the circumstances	Compliance
Appendix A Section 3.5	Other Noncompliance Reporting	As required	At the time the permittee submits DMRs under Appendix A, Section 3.2.	Compliance

Note:

a. See Appendix A, 1.1 for addresses

## 1.0 LIMITATIONS AND MONITORING REQUIREMENTS

### 1.1 Discharge Authorization

- 1.1.1 During the effective period of this permit, the permittee is authorized to discharge pollutants from Outfall 001A specified herein to the Tanana River, within the limits and subject to conditions set forth herein. This permit authorizes discharge of only those pollutants resulting from facility processes, waste streams, and operations clearly identified in the permit application process.

### 1.2 Effluent Limits and Monitoring

- 1.2.1 The permittee must limit and monitor discharges from Outfall 001A as specified in Table 2. All values represent maximum effluent limits, unless otherwise indicated. The permittee must comply with effluent limitations in Table 2 at all times unless otherwise indicated, regardless of monitoring frequency or reporting required by other provisions of this permit.
- 1.2.2 Discharge shall not cause contamination of surface or ground waters, and shall not cause or contribute to a violation of Alaska Water Quality Standards AAC Title 18 (18 AAC 70), except if excursions are authorized in accordance with applicable provisions in 18 AAC 70.200 – 70.240 (e.g. variance, mixing zone).
- 1.2.3 The permittee must not discharge any floating solids, debris, sludge, deposits, foam, scum, or other residues that cause a film, sheen or discoloration on the surface of the receiving water or adjoining shorelines; cause leaching of toxic or deleterious substances; or cause a sludge, solid, or emulsion to be deposited beneath or upon the surface of the water, within the water column, on the bottom, or upon adjoining shorelines.
- 1.2.4 Influent samples must be collected prior to the waste stream flowing into the first treatment unit of the wastewater treatment system.
- 1.2.5 Effluent samples must be collected from the effluent stream after the last treatment unit before discharge into receiving waters.
- 1.2.6 For all effluent monitoring, the permittee must use a sufficiently sensitive Environmental Protection Agency (EPA) approved test method that quantifies the pollutants to a level lower than applicable limits or water quality standards or use the most sensitive test method available, per Title 40 Code of Federal Regulations (CFR) §136 (Guidelines Establishing Test Procedures for the Analysis of Pollutants), adopted by reference at 18 AAC 83.010(f).
- 1.2.7 For purposes of reporting on the DMR for a single sample, if a value is less than the method detection limit (MDL), the permittee must report “less than (<) {numeric value of MDL}” and if a value is less than the minimum level (ML) (also called a reporting limit (RL), practical quantification limit (PQL), or limit of quantitation (LOQ)), the permittee must report “less than (<) {numeric value of ML}.”

- 1.2.8 For purposes of calculating monthly averages, zero may be assigned for values less than the MDL and the numeric value of the MDL may be assigned for values between the MDL and the ML. If the average value is less than the MDL, the permittee must report “less than (<) {numeric value of MDL}” and if the average value is less than the ML, the permittee must report “less than (<) {numeric value of ML}.” If a value is equal to or greater than the ML, the permittee must report and use the actual value.
- 1.2.9 Permittees have the option of taking more frequent samples than are required in the permit. These samples must be used for averaging if they are conducted using the Department-approved test methods (generally found in 18 AAC 70 and 40 CFR §136) and if the MDL is less than the effluent limit.
- 1.2.10 For purposes of calculating the reported daily maximum pounds per day, the permittee must use the maximum observed effluent flow rate measured on the date the effluent sample was collected. For purposes of calculating the reported weekly or monthly pounds per day, the permittee may use the appropriate average flow, weekly or monthly.

Table 2- Outfall 001A Effluent Limits and Monitoring Requirements

Parameter	Effluent Limits					Monitoring Requirements		
	Units <sup>a</sup>	Daily Minimum	Monthly Average	Weekly Average	Daily Maximum	Sample Location	Sample Frequency	Sample Type
Flow	mgd	N/A	8	N/A	11.2	Effluent	Continuous <sup>b</sup>	Recording
Carbonaceous Oxygen Demand (CBOD <sub>5</sub> )	mg/L	N/A	25	40	55	Influent and Effluent <sup>d</sup>	1/Week	24-hour Composite <sup>c</sup>
	lbs/day <sub>d</sub>		1,668	2,669	3,670			Calculated
Total Suspended Solids (TSS)	mg/L	N/A	30	45	60	Influent and Effluent	4/Week	24-hour Composite
	lbs/day		2,000	3,000	4,000			Calculated
CBOD <sub>5</sub> & TSS Minimum Percent (%) Removal	%	N/A	85	N/A	N/A	Influent and Effluent	1/Month	Calculated <sup>f</sup>
pH	SU	6.5	N/A	N/A	8.5	Effluent	5/Week	Grab
Temperature	° C	N/A	N/A	N/A	Report	Effluent	5/Week	Grab
Total Residual Chlorine (TRC) <sup>g</sup>	mg/L	N/A	.011	N/A	.019	Effluent	Continuous <sup>b</sup>	Recording
	lbs/day		0.7		1.0			Daily
Fecal Coliform (FC) Bacteria	FC/100 mL	N/A	20 <sup>h</sup>	N/A	40 <sup>i</sup>	Effluent	3/Week	Grab
Escherichia coli (E.coli) (May-September)	cfu/100 mL	N/A	N/A	N/A	Report	Effluent	1/Month <sup>i</sup>	Grab
Total Ammonia, as Nitrogen	mg/L	N/A	31	N/A	38	Effluent	1/Month	24-hour Composite
	lbs/day		2,068		2,535			
Copper, total recoverable	µg/L	N/A	N/A	N/A	Report	Effluent	1/Quarter	24-hour Composite

**Footnotes:**

- a. Units: mgd = million gallons per day, mg/L = milligrams per liter, lbs/day = pounds per day, SU= standard units, °C= degrees Celsius, FC/100 mL = Fecal Coliform per 100 milliliters, cfu/100 mL = colony forming units per 100 milliliters, µg/L = micrograms per liter.
- b. Continuous recording may be interrupted for infrequent shutdowns for maintenance, process changes, or similar activities.
- c. See Appendix C for definition.
- d.  $\text{lbs/day} = \text{concentration (mg/L)} \times \text{flow (mgd)} \times 8.34$  (conversion factor)
- e. Limits apply to effluent. Report average monthly influent concentration. Influent and effluent composite samples shall be collected during the same 24-hour period.
- f.  $\text{Minimum \% Removal} = [(\text{monthly average influent concentration in mg/L} - \text{monthly average effluent concentration in mg/L}) / (\text{monthly average influent concentration in mg/L})] \times 100$ . The monthly average percent removal must be calculated using the arithmetic mean of the influent value and the arithmetic mean of the effluent value for that month.
- g. The TRC effluent limits are not quantifiable using EPA-approved analytical methods. DEC will use the minimum level (ML) of 0.1 mg/L as the compliance evaluation level for this parameter.
- h. If more than one FC bacteria or E. coli bacteria sample is collected within the reporting period, the average result must be reported as the geometric mean. When calculating the geometric mean, replace all results of zero, 0, with a one, 1. The geometric mean of “n” quantities is the “nth” root of the product of the quantities. For example, the geometric mean of 100, 200, and 300 is  $(100 \times 200 \times 300)^{1/3} = 181.7$ .
- i. If less than ten samples are collected within a 30-day period, the effluent limit cannot be exceeded. If ten or more samples are collected within a 30-day period, not more than 10% of the samples may exceed the effluent limit.
- j. One sample shall be collected each month, May through September, on the same day as a FC bacteria sample is collected.

### 1.3 Whole Effluent Toxicity Testing Requirements (WET)

The permittee must conduct chronic WET tests on effluent samples from Outfall 001A. Testing must be conducted in accordance with Sections 1.3.1 through 1.3.6.

- 1.3.1 The permittee must conduct annual toxicity tests on 24-hour composite effluent samples as described below.
- 1.3.2 Chronic Test Species and Methods
  - 1.3.2.1 During the first year of discharge, permittees must conduct short-term tests with the water flea, *Ceriodaphnia dubia*, (survival and reproduction test) and the fathead minnow, *Pimephales promelas*, (larval survival and growth test). For all subsequent tests, testing shall be conducted using the more sensitive species. If no toxicity is observed in the chosen species, testing shall be conducted on *Pimephales promelas*.
  - 1.3.2.2 If the permittee proposes an alternative species to be used for chronic toxicity testing, the permittee shall perform screening first and provide the results of the screening to DEC Permitting for review and written approval prior to implementing the use of the new test species.
  - 1.3.2.3 Presence of chronic toxicity must be estimated as specified in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms* (EPA/821-R-02-013, October 2002).
  - 1.3.2.4 Results must be reported in TUc where  $TUc = 100/\text{no observed effect concentration (NOEC)}$ . See Appendix C for a definition of NOEC.
- 1.3.3 Quality Assurance
  - 1.3.3.1 The toxicity testing on each organism shall include a series of five test dilutions and a control. The series must include the instream waste concentration (IWC), two dilutions above the IWC, and two dilutions below the IWC. No concentration shall be greater than two times that of the next lower concentration. The IWC is the concentration of the effluent at the boundary of the mixing zone. The IWC for this discharge is estimated at 7.7% effluent.
  - 1.3.3.2 The chronic toxicity trigger is defined as toxicity exceeding 13 TUc corresponding to receiving water dilution of 7.7% effluent.
  - 1.3.3.3 All quality assurance criteria and statistical analyses used for chronic tests and reference toxicant tests must be in accordance with *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms* (EPA/821-R-02-013, October 2002) and individual test protocols.
  - 1.3.3.4 In addition to those quality assurance measures specified in the methodology, quality assurance procedures must be followed:
    - 1.3.3.4.1 If organisms are not cultured in-house, concurrent testing with reference toxicants must be conducted. If organisms are cultured in-house, monthly reference toxicant testing is sufficient. Reference toxicant tests must be conducted using the same test conditions as were used in the effluent toxicity tests.



- 1.3.3.4.2 If either one of the reference toxicant tests or the effluent tests do not meet all test acceptability criteria as specified in the test methods manual, the permittee must re-sample and re-test within 14 days of receipt of the test results.
- 1.3.3.4.3 To the extent practicable, control and dilution water should be receiving water. If the dilution water used is different from the culture water, a second control using culture water shall also be used. For purposes of this paragraph, “receiving water” means water collected from the Tanana River, outside of the influence of the permittee’s discharge. In no case shall water that has not met test acceptability criteria be used as dilution water.

#### 1.3.4 Accelerated Testing

- 1.3.4.1 If toxicity is greater than 13 TUC in any test, the permittee shall conduct six biweekly (every two weeks) tests over a 12-week period. Accelerated testing must be initiated within two weeks of receipt of test results that indicate exceedance.
- 1.3.4.2 Initial investigation: If the permittee demonstrates through an evaluation of facility operations that the cause of the exceedance is known and corrective actions have been implemented, only one accelerated test is necessary.
- 1.3.4.3 The permittee shall notify DEC in writing of exceedances within two weeks of receipt of the test results. Notification shall include the following information:
  - 1.3.4.3.1 a status report on any actions required by the permit with a schedule for actions not yet completed;
  - 1.3.4.3.2 a description of any additional actions the permittee has taken or will take to investigate and correct the cause(s) of toxicity; and
  - 1.3.4.3.3 where no actions have been taken, a discussion of all reasons for not taking action.
- 1.3.4.4 If none of the accelerated tests indicates toxicity greater than 13 TUC, the permittee may return to the normal testing frequency.
- 1.3.4.5 If toxicity is greater than 13 TUC in any of the accelerated tests, the permittee must initiate a toxicity reduction evaluation (TRE) as outlined in Section 1.3.5 within 15 days of the exceedance.
- 1.3.4.6 If the permittee is able to adequately demonstrate through an evaluation of facility operations that the cause of the exceedance(s) is known and corrective actions have been immediately implemented, or in cases where additional test quality assurance or quality control is necessary, only one accelerated test is necessary. If toxicity is greater than 13 TUC in this test, then TRE requirements in Section 1.3.5 shall apply.

#### 1.3.5 Toxicity Reduction Evaluation and Toxicity Identification Evaluation

- 1.3.5.1 If toxicity is greater than 13 TUC in any of the accelerated tests, the permittee shall initiate a TRE in accordance with *Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants* (EPA/833-B-99-002, August 1999). The permittee will develop a more detailed TRE workplan as expeditiously as possible. At a minimum, the workplan shall include:

- 1.3.5.1.1 further actions to investigate and identify the cause of toxicity,
  - 1.3.5.1.2 actions the permittee will take to mitigate impact of the discharge and to prevent recurrence of toxicity, and
  - 1.3.5.1.3 a schedule for these actions.
- 1.3.5.2 If a TRE is initiated before completion of accelerated testing, the accelerated testing schedule may be terminated or used as necessary in performing the TRE.
- 1.3.5.3 The permittee may initiate a Toxicity Identification Evaluation (TIE) as part of the TRE process. Any TIE must be performed in accordance with EPA guidance manuals, *Toxicity Identification Evaluation, Characterization of Chronically Toxic Effluents, Phase I* (EPA/600-6-91-005F, May 1992); *Methods for Aquatic Toxicity Identification Evaluation, Phase II: Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA/600-R-92-080, September 1993); and *Methods for Aquatic Toxicity Identification Evaluations, Phase III: Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA/600-R-92-081, September 1993).
- 1.3.6 Reporting
- 1.3.6.1 The permittee shall submit as an attachment the results of the toxicity tests with the DMR following the month in which the testing results are received.
  - 1.3.6.2 If applicable, a full accelerated testing report must be submitted within four weeks of receipt of the final testing results from the laboratory.
  - 1.3.6.3 If toxicity is greater than 13 TUC in any test, a copy of the more detailed TRE workplan as required in Permit Section 1.3.5.1, must be submitted as an attachment with the DMR for the month following completion of the workplan.
  - 1.3.6.4 If an initial investigation identifies the source of toxicity and accelerated testing is unnecessary, the result of the investigation must be submitted as an attachment with the DMR for the month following completion of the investigation.
  - 1.3.6.5 The toxicity test report results must include all relevant information outlined in Section 10, *Report Preparation of Short-Term Methods for Estimating the Chronic Toxicity of Freshwater Organisms* (EPA/821-R-02-013, October 2002).

## 1.4 Mixing Zone

- 1.4.1 In accordance with state regulations at 18 AAC 70.240, a mixing zone for ammonia, copper, temperature, and WET is authorized in the Tanana River for the discharge.
- 1.4.2 The chronic mixing zone for this discharge has a dilution of 13.4:1 and is defined as the area extending downstream from the end of the outfall line with a length of 426 meters and a width of 7 meters.
- 1.4.3 The acute mixing zone for this discharge has a dilution of 4.1:1 and is defined as the area extending downstream from the end of the outfall line with a length of 37 meters and a width of 3 meters.

## 1.5 Receiving Waterbody Monitoring

- 1.5.1 The permittees must monitor the Tanana River for pH and temperature at a location upstream of the influence of the facility's discharge.
- 1.5.2 Monitoring for pH and temperature shall occur twice per year: once between June 1 and September 30 and once between October 1 and May 31.
- 1.5.3 Monitoring results must be submitted with the application for permit reissuance.

## 1.6 Additional Monitoring

- 1.6.1 The permittee shall perform the additional effluent testing in the Alaska Pollutant Discharge Elimination System (APDES) Application Form 2A, Section 11 as well as all applicable supplemental monitoring listed in Section 12. The permittee shall submit the results of the additional testing with their application for reissuance of this APDES permit. The permittee shall consult and review Form 2A, Section 11 upon permit issuance to ensure that the required monitoring in the application will be completed prior to submitting a request for permit reissuance. Form 2A may be found at the following site:  
<http://dec.alaska.gov/water/wastewater/permit-entry/domestic-and-municipal/>.
- 1.6.2 Monitoring for the parameters contained in this permit may be used to satisfy, where applicable, Section 11 and 12 monitoring requirements.
- 1.6.3 The permittee is responsible for all submissions and activities required on application Form 2A, even if not summarized here.

## 2.0 SPECIAL CONDITIONS

### 2.1 Pretreatment Requirements

#### 2.1.1 Implementation

The permittees must implement a pretreatment program in accordance with the legal authorities, policies, procedures, staffing levels, and financial provisions described in the approved pretreatment program submission entitled *Industrial Waste Pretreatment Program, City of Fairbanks, Alaska* (approved January 31, 1985), any program amendments submitted thereafter and approved by DEC, and the general pretreatment regulations (40 CFR Part 403, as adopted by reference at [18 AAC 83.010\(g\)\(2\)](#) and any amendments thereof). At a minimum, the permittees must carry out the following activities:

- 2.1.1.1 Enforce prohibitive discharge standards as set forth in 40 CFR §403.5(a) and (b), categorical pretreatment standards promulgated pursuant to Section 307(b) and (c) of the CWA (where applicable), and local limits and a Best Management Practice (BMP) Plan developed by the permittees in accordance with 40 CFR §403.5(c), whichever are more stringent and are applicable to non-domestic users discharging wastewater into the permittees' collection system. Locally derived limits must be defined as pretreatment standards under Section 307(d) of the CWA.

- 2.1.1.2 Implement and enforce the requirements of the most recent and DEC approved portions of local law and regulations (e.g. municipal code, sewer use ordinance) addressing the regulation of non-domestic users.
- 2.1.1.3 Update its inventory of non-domestic users at a frequency and diligence adequate to ensure proper identification of non-domestic users subject to pretreatment standards, but no less than once per year. The permittees must notify these users of applicable pretreatment standards in accordance with 40 CFR §403.8(f)(2)(iii).
- 2.1.1.4 Issue, reissue, and modify, in a timely manner, industrial wastewater discharge permits to at least all Significant Industrial Users (SIUs) and categorical industrial users. These documents must contain, at a minimum, conditions identified in 40 CFR §403.8(f)(1)(iii), including BMPs, if applicable. The permittees must follow the methods described in their implementation procedures for issuance of individual permits.
- 2.1.1.5 Develop and maintain a data management system designed to track the status of the permittees' non-domestic user inventory, non-domestic user discharge characteristics, and their compliance with applicable pretreatment standards and requirements. The permittees must retain all records relating to their pretreatment program activities for a minimum of three years, as required by 40 CFR §403.12(o) and must make such records available to DEC upon request. The permittee must also provide public access to information considered effluent data under 18 AAC 83.405.
- 2.1.1.6 Establish, where necessary, legally binding agreements with contributing jurisdictions to ensure compliance with applicable pretreatment requirements in 40 CFR Part 403 by industrial users within these jurisdictions. These legally binding agreements must identify the agency responsible for the various pretreatment implementation and enforcement activities in the contributing jurisdiction and outline the specific roles, responsibilities, and pretreatment activities of each jurisdiction.
- 2.1.1.7 Carry out inspections, surveillance, and monitoring of non-domestic users to determine compliance with applicable pretreatment standards and requirements. A complete inspection of all SIUs and sampling of all SIUs' effluent must be conducted at least annually.
- 2.1.1.8 Require SIUs to conduct wastewater sampling as specified in 40 CFR §403.12(e) or (h). Frequency of wastewater sampling by the SIUs must be appropriate for the character and volume of the wastewater but no less than twice per year. Sample collection and analysis must be performed in accordance with 40 CFR §403.12(b)(5)(ii) through (v) and 40 CFR Part 136, as adopted by reference at 18 AAC 83.010(f). In cases where the Pretreatment Standard requires compliance with a BMP or pollution prevention alternative, the permittees must require the user to submit documentation to determine compliance with the Pretreatment Standard. If the permittees elect to conduct all non-domestic user monitoring for any SIU instead of requiring self-monitoring, the permittees must conduct sampling in accordance with the requirements of this paragraph and the requirements of 40 CFR §403.12(g)(2).

- 2.1.1.9 Enforce and obtain remedies for any industrial user noncompliance with applicable pretreatment standards and requirements. This must include timely and appropriate reviews of industrial reports to identify all violations of the user's permit, the local ordinance, and state and federal pretreatment standards and requirements. Once violations have been uncovered, the permittees must take timely and appropriate action to address the noncompliance. The permittees' enforcement actions must follow their approved enforcement response procedures.
- 2.1.1.10 Publish, at least annually, in a newspaper or newspapers of general circulation that provides meaningful public notice within the jurisdiction(s) served by the publicly owned treatment works (POTW), a list of all non-domestic users which, at any time in the previous 12 months, were in significant noncompliance as defined in 40 CFR §403.8(f)(2)(viii).
- 2.1.1.11 Maintain adequate staff, funds, and equipment to implement its pretreatment program.
- 2.1.1.12 Conduct an analysis annually to determine whether influent pollutant loadings are approaching the maximum allowable headworks loadings calculated in the permittees' most recent local limits calculations. Any local limits found to be inadequate by the analysis must be revised. The permittees may be required to revise existing local limits or develop new limits if deemed necessary by DEC.

## 2.1.2 Spill Prevention and Slug Discharges

The permittees must implement an accidental spill prevention program to reduce and prevent spills and slug discharges of pollutants from non-domestic users.

- 2.1.2.1 Control mechanisms for SIUs must contain requirements to control slug discharges if determined by the POTW to be necessary [40 CFR §403.8(f)(1)(iii)(B)(6)].
- 2.1.2.2 SIUs must be evaluated for the need for a plan or other action to control slug discharges within 1 year of being designated as a SIU.
- 2.1.2.3 SIUs must notify the POTW immediately of any changes at their facilities affecting the potential for a slug discharge [40 CFR §403.8(f)(2)(vi)].

## 2.1.3 Enforcement Requirement

Whenever DEC finds, on the basis of any available information, that the owner or operator of any source is introducing a pollutant into the POTW in violation of national pretreatment standards, including prohibited discharges, local limits, or categorical standards, or has caused interference or pass through, DEC may notify the owner or operator of the POTW of such violation. If, within 30 days after such notification has been sent by DEC to the POTW, the POTW fails to commence appropriate enforcement action to correct the violation, DEC may take appropriate enforcement action under the authority provided in Alaska Statute 46.03.

## 2.1.4 Modification of the Pretreatment Program

If the permittees elect to modify any components of their pretreatment program, they must comply with the requirements of 40 CFR §403.18. No substantial program modification, as

defined in 40 CFR §403.18(b), may be implemented prior to receiving written authorization from DEC.

#### 2.1.5 Local Limits

- 2.1.5.1 If any industrial user discharges any pollutant at a concentration or at a flow rate that could cause interference or pass-through, or that could violate any of the prohibitions in 40 §CFR 403.5(b), the permittees must develop local limits for those pollutants.
- 2.1.5.2 Local limits must be reevaluated whenever the permittees are required by Notice of New Introduction of Pollutants of this permit or 18 AAC 83.610(c).

#### 2.1.6 Control of Undesirable Pollutants

- 2.1.6.1 The permittees must not allow introduction of the following pollutants into the POTW:
  - 2.1.6.1.1 Pollutants that will create a fire or explosion hazard in the POTW, including, but not limited to, wastestreams with a closed cup flashpoint of less than 140 degrees Fahrenheit (° F) or 60 ° C using the test methods specified in 40 CFR §261.21;
  - 2.1.6.1.2 Pollutants which will cause corrosive structural damage to the POTW, but in no case, discharges with a pH lower than 5.0 SU., unless the POTW is designed to accommodate such discharges;
  - 2.1.6.1.3 Solid or viscous pollutants in amounts which will cause obstruction to the flow in the POTW (including the collection system) resulting in interference;
  - 2.1.6.1.4 Any pollutant, including oxygen demanding pollutants (BOD5, etc.), released in a discharge at a flow rate and/or pollutant concentration which will cause interference with the POTW;
  - 2.1.6.1.5 Heat in amounts which inhibit biological activity in the POTW resulting in interference, but in no case heat in such quantities that the temperature at the POTW treatment plant exceeds 40 ° C (104 ° F) unless the DEC Commissioner, upon request of the POTW, approves alternate temperature limits;
  - 2.1.6.1.6 Petroleum oil, nonbiodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through;
  - 2.1.6.1.7 Pollutants which result in the presence of toxic gases, vapors, or fumes within the POTW in a quantity that may cause acute worker health and safety problems; and
  - 2.1.6.1.8 Any trucked or hauled pollutants, except at discharge points designated by the POTW.

#### 2.1.7 Requirements for Non-domestic Users

The permittees must require any non-domestic user of their treatment works to comply with any applicable requirements in 40 CFR Part 403 through 471, as adopted by reference at 18 AAC 83.010(g)(2) and (3).

#### 2.1.8 Sampling Requirements

- 2.1.8.1 Parameters: The permittees must sample influent, effluent, and sludge from the facility for arsenic, cadmium, chromium, copper, cyanide, lead, mercury, molybdenum, nickel, selenium, silver, and zinc. Metals must be analyzed and reported as total recoverable metals. If the POTW accepts ammonia from industrial sources, the permittees must also sample the POTW influent and effluent for ammonia.
- 2.1.8.2 Frequency: Influent and effluent sampling must be conducted twice per year, approximately 6 months apart and 3 days within a week: one sampling period between June 1 and September 30 and one sampling period between October 1 and May 31.
- 2.1.8.3 The permittees must sample as described in the table below. To the extent that the timing of effluent sampling coincides with WET testing or sampling required in Table 2, these samples will satisfy those requirements.

**Table 3- Pretreatment Monitoring-Sample Types and Frequency**

Wastestream	Sample Type	Frequency
Influent	24-hour Composite	3 days within a week (Mon – Fri)
Effluent	24-hour Composite	3 days within a week (Mon – Fri)
Sludge	Grab	Once during the same time period that influent and effluent samples are taken
<u>Footnote:</u>		
Influent and effluent samples for cyanide must be collected and analyzed as required in Section 2.1.8.9 and 2.1.8.10.		

- 2.1.8.4 Analytical Methods: For influent and effluent pretreatment sampling, the permittees must use EPA-approved analytical methods that achieve a MDL or ML in the table below unless higher detection limits are approved by DEC. Requests for higher MDLs for pretreatment monitoring must be submitted in writing to the DEC Pretreatment Coordinator.

**Table 4- Method Detection Limits**

Parameter	MDL/ML, mg/L
Arsenic	0.001
Cadmium	0.0001
Chromium	0.001
Copper	0.001
Cyanide	0.005
Lead	0.001
Mercury	0.000005 – 0.00001
Molybdenum	0.001
Nickel	0.001
Selenium	0.002
Silver	0.0002

Parameter	MDL/ML, mg/L
Zinc	0.002

- 2.1.8.5 Sludge Sampling: Sludge samples must be taken as the sludge leaves the dewatering device or digesters.
- 2.1.8.6 Sludge Reporting: Metals concentrations in sludge must be reported in milligrams/kilogram, dry weight.
- 2.1.8.7 Reporting Results: Analytical results for each day's samples must be reported separately. Sample results must be submitted with the pretreatment annual report required in Section 2.1.9.
- 2.1.8.8 If laboratory results are reported as a reporting limit (MRL or RL), permittees must certify in the pretreatment annual report required in Section 2.1.9, that each of the MDLs listed in Table 4, above, have been met.
- 2.1.8.9 Cyanide sampling: Influent and effluent sampling for cyanide must be conducted as follows. Eight discrete grab samples must be collected over a 24-hour day. Each grab sample must be at least 100 mL. Each sample must be checked for the presence of chlorine and/or sulfides prior to preserving and compositing (refer to Standard Methods, 4500-CN B). If chlorine and/or sulfides are detected, the sample must be treated to remove any trace of these parameters. After testing and treating for the interference compounds, the pH of each sample must be adjusted, using sodium hydroxide, > 12.0 SU. Each sample can then be composited into a larger container which has been chilled to 4° C to allow for one analysis for the day.
- 2.1.8.10 Prior to omitting NaOH as a preservative in cyanide analytical testing, the permittees shall conduct a hold-time study. The results should be submitted to DEC no later than 180 days prior to the expiration of the permit. NaOH may, if approved by DEC, be omitted as a preservative if the sample is analyzed within the study's determined hold-time.
- 2.1.9 Pretreatment Report
- 2.1.9.1 The permittees must submit an annual report pursuant to 40 CFR §403.12(i) that describes the permittees' program activities over the previous 12 months. This report must be submitted to DEC no later than January 31st of each year.
- 2.1.9.2 The pretreatment report must be compiled following the EPA Region 10 Annual Report Guidance. At a minimum, the report must include:
- 2.1.9.2.1 An updated nondomestic user inventory, including those facilities that are no longer discharging (with explanation) and new dischargers, appropriately categorized and characterized. Categorical users should have the applicable category noted, as well as cases where more stringent local limits apply instead of the categorical standard.
- 2.1.9.2.2 Results of wastewater and sludge sampling at the POTW as specified in Section 2.1.8.



- 2.1.9.2.3 Calculations of removal rates for each pollutant for each day of sampling.
- 2.1.9.2.4 An analysis and discussion of whether the existing local limits in the permittees' sewer use ordinance continue to be appropriate to prevent treatment plant interference and pass through of pollutants that could affect water quality or sludge quality. The analysis should include a comparison between influent loadings and the most recent relevant maximum allowable headworks loadings calculated for the treatment plant.
- 2.1.9.2.5 Status of program implementation, including:
  - 2.1.9.2.5.1 Any planned modifications to the pretreatment program that have been approved by DEC, including staffing and funding updates.
  - 2.1.9.2.5.2 A description of any interference, upset, or APDES permit violations experienced at the POTW which were directly or indirectly attributable to nondomestic users, including:
    - 2.1.9.2.5.3 Date & time of the incident.
    - 2.1.9.2.5.4 Description of the effect on the POTW's operation.
    - 2.1.9.2.5.5 Effects on the POTW's effluent and biosolids quality.
    - 2.1.9.2.5.6 Identification of suspected or known sources of the discharge causing the upset.
    - 2.1.9.2.5.7 Steps taken to remedy the situation and to prevent recurrence.
    - 2.1.9.2.5.8 Listing of non-domestic users inspected and/or monitored during the report year with dates and an indication of compliance status.
    - 2.1.9.2.5.9 Listing of non-domestic users planned for inspection and/or monitoring for the coming year along with associated frequencies.
    - 2.1.9.2.5.10 Listing of non-domestic users whose permits have been issued, reissued, or modified during the report year along with current permit expiration dates.
    - 2.1.9.2.5.11 Listing of non-domestic users notified of promulgated pretreatment standards and/or local standards during the report year, as required in 40 CFR §403.8(f)(2)(iii).
    - 2.1.9.2.5.12 Listing of non-domestic users notified of promulgated pretreatment standards or applicable local standards that are on compliance schedules. The listing must include the final date of compliance for each facility.
- 2.1.9.2.6 Status of enforcement activities including:
  - 2.1.9.2.6.1 Listing of non-domestic users who failed to comply with applicable pretreatment standards and requirements, including:
    - 2.1.9.2.6.1.1 Summary of the violation(s).
    - 2.1.9.2.6.1.2 Enforcement action taken or planned by the permittees.
    - 2.1.9.2.6.1.3 Present compliance status as of the date of preparation of the pretreatment report.
    - 2.1.9.2.6.1.4 Listing of those users in significant noncompliance during the report year as defined in 40 CFR §403.8(f)(2)(viii) and a copy of the newspaper publication of those users' names. DEC may require more frequent reporting on those users who are determined to be in significant noncompliance.
  - 2.1.9.2.7 DEC may require more frequent reporting on those users who are determined to be in significant noncompliance.

## 2.2 Quality Assurance Project Plan (QAPP)

- 2.2.1 Within 180 days of the effective date of the permit, the permittee shall review, update as necessary, and implement a QAPP for all monitoring required by this permit.
- 2.2.2 The QAPP must be designed to assist in planning for the collection and analysis of all samples in support of the permit and to help explain data anomalies whenever they occur.
- 2.2.3 The QAPP shall be retained electronically or physically onsite and made available to DEC upon request.
- 2.2.4 Throughout all sample collection and analysis activities, the permittee must use DEC-approved Quality Assurance/Quality Control and chain-of-custody procedures, as described in the *Requirements for Quality Assurance Project Plans* (EPA/QA/R-5, March 2001) and *Guidance for Quality Assurance Project Plans* (EPA/QA/G-5, December 2002). The QAPP must be prepared in the format specified in these documents.
- 2.2.5 At a minimum, a QAPP must include:
  - 2.2.5.1 Details on number of samples, type of sample containers, preservation of samples, holding times, analytical methods, analytical detection and quantitation limits for each target compound, type and number of quality assurance field samples, precision and accuracy requirements, sample preparation requirements, sample shipping methods, and laboratory data delivery requirements;
  - 2.2.5.2 Maps indicating the location of each sampling point;
  - 2.2.5.3 Qualification and training of personnel;
  - 2.2.5.4 Specifications for the collection and analysis of quality assurance samples for each sampling event, including matrix spiked and duplicate samples and analysis of field blanks (sample blanks); and
  - 2.2.5.5 Name, address, and telephone number of all laboratories used by or proposed to be used by the permittee.
- 2.2.6 The permittee must amend the facility specific QAPP whenever sample collection, sample analysis, or other procedure addressed by the QAPP is modified.
- 2.2.7 The QAPP must be reviewed annually. Documentation of annual plan review by the permittee shall be retained onsite and made available to DEC upon request.

## 2.3 Operation and Maintenance Plan (O&M Plan)

- 2.3.1 In addition to requirements specified in Appendix A, Section 1.6 of this permit (Proper Operation and Maintenance), within 180 days of the effective date of this permit, the permittee shall review and update as necessary, the COF and GHU WWTF O&M Plan.
- 2.3.2 The O&M Plan shall be retained electronically or physically onsite and made available to DEC upon request.
- 2.3.3 The O&M Plan must be reviewed annually. Documentation of annual plan review by the permittee shall be retained onsite and made available to DEC upon request.

- 2.3.4 The O&M Plan must include appropriate BMPs which prevent or minimize potential for the release of pollutants to the Tanana River.
- 2.3.5 The permittee must develop a description of pollution prevention measures and controls appropriate for the facility. The appropriateness and priorities of controls in the O&M Plan must reflect identified potential sources of pollutants at the facility. The description of BMPs must address to the extent practicable, the following minimum components:
- 2.3.5.1 Spill prevention and control;
  - 2.3.5.2 Optimization of chemical usage;
  - 2.3.5.3 Preventative maintenance program;
  - 2.3.5.4 Minimization of pollutant inputs from industrial users;
  - 2.3.5.5 Research, development and implementation of a public information and education program to control the introduction of household hazardous materials to the sewer system; and
  - 2.3.5.6 Water conservation.

## 3.0 GENERAL PROVISIONS

### 3.1 Electronic Reporting (E-Reporting) Rule

#### 3.1.1 E-Reporting Rule for DMRs (Phase I)

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://cdxnodengn.epa.gov/oeca-netdmr-web/action/login>). DMRs submitted in compliance with the E-Reporting Rule are not required to be submitted as described in 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 <http://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 <https://netdmr.zendesk.com/home>.

#### 3.1.2 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 <http://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.

### **3.2 Identification Sign**

At least one sign must be posted on the shoreline near the discharge area of Outfall 001A during discharge. Signs must inform the public that secondary treated domestic wastewater is being discharged, state that there is a mixing zone and describe it, warn users of the area that certain activities such as the harvesting of aquatic life for raw consumption and bathing should not take place in the mixing zone, and provide the phone number and identify of the discharger.

### **3.3 Removed Substances**

Collected screenings, grit, solids, scum, and other facility residuals, or other pollutants removed in the course of treatment or control of water and wastewaters shall be disposed in an DEC-approved manner and method in accordance with 18 AAC 60, such as to prevent any pollution from such materials from entering navigable waters.

**APPENDIX A**

**STANDARD CONDITIONS**

**APDES INDIVIDUAL PERMIT**

**PUBLICLY OWNED TREATMENT WORKS**

## TABLE OF CONTENTS

<b>1.0</b>	<b>Standard Conditions Applicable to All Permits.....</b>	<b>A-1</b>
1.1	Contact Information and Addresses .....	A-1
1.2	Duty to Comply .....	A-1
1.3	Duty to Reapply .....	A-2
1.4	Need to Halt or Reduce Activity Not a Defense .....	A-2
1.5	Duty to Mitigate .....	A-2
1.6	Proper Operation and Maintenance .....	A-2
1.7	Permit Actions.....	A-2
1.8	Property Rights.....	A-2
1.9	Duty to Provide Information .....	A-2
1.10	Inspection and Entry .....	A-3
1.11	Monitoring and Records.....	A-3
1.12	Signature Requirement and Penalties.....	A-4
1.13	Proprietary or Confidential Information.....	A-5
1.14	Oil and Hazardous Substance Liability .....	A-5
1.15	Cultural and Paleontological Resources.....	A-6
1.16	Fee .....	A-6
1.17	Other Legal Obligations .....	A-6
<b>2.0</b>	<b>Special Reporting Obligations .....</b>	<b>A-6</b>
2.1	Planned Changes .....	A-6
2.2	Anticipated Noncompliance .....	A-6
2.3	Transfers.....	A-7
2.4	Compliance Schedules .....	A-7
2.5	Corrective Information .....	A-7
2.6	Bypass of Treatment Facilities .....	A-7
2.7	Upset Conditions .....	A-8
2.8	Notice of New Introduction of Pollutants .....	A-8
<b>3.0</b>	<b>Monitoring, Recording, and Reporting Requirements .....</b>	<b>A-8</b>
3.1	Representative Sampling.....	A-8
3.2	Reporting of Monitoring Results.....	A-8
3.3	Additional Monitoring by Permittee .....	A-9
3.4	Twenty-four Hour Reporting .....	A-9
3.5	Other Noncompliance Reporting .....	A-10
<b>4.0</b>	<b>Penalties for Violations of Permit Conditions.....</b>	<b>A-10</b>
4.1	Civil Action .....	A-10
4.2	Injunctive Relief .....	A-11
4.3	Criminal Action.....	A-11
4.4	Other Fines .....	A-11

Appendix A, Standard Conditions is an integral and enforceable part of the permit. Failure to comply with a Standard Condition in this Appendix constitutes a violation of the permit and is subject to enforcement.

## 1.0 Standard Conditions Applicable to All Permits

### 1.1 Contact Information and Addresses

#### 1.1.1 Permitting Program

Documents, reports, and plans required under the permit and Appendix A are to be sent to the following address:

State of Alaska  
Department of Environmental Conservation  
Division of Water  
Wastewater Discharge Authorization Program  
555 Cordova Street  
Anchorage, Alaska 99501  
Telephone (907) 269-6285  
Fax (907) 269-3487  
Email: [DEC.WQPermit@alaska.gov](mailto:DEC.WQPermit@alaska.gov)

#### 1.1.2 Compliance and Enforcement Program

Documents and reports required under the permit and Appendix A relating to compliance are to be sent to the following address:

State of Alaska  
Department of Environmental Conservation  
Division of Water  
Compliance and Enforcement Program  
555 Cordova Street  
Anchorage, Alaska 99501  
Telephone Nationwide (877) 569-4114  
Anchorage Area / International (907) 269-4114  
Fax (907) 269-4604  
Email: [dec-wqreporting@alaska.gov](mailto:dec-wqreporting@alaska.gov)

### 1.2 Duty to Comply

A permittee shall comply with all conditions of the permittee's APDES permit. Any permit noncompliance constitutes a violation of 33 U.S.C 1251-1387 (Clean Water Act) and state law and is grounds for enforcement action including termination, revocation and reissuance, or modification of a permit, or denial of a permit renewal application. A permittee shall comply with effluent standards or prohibitions established under 33 U.S.C. 1317(a) for toxic pollutants within the time provided in the regulations that establish those effluent standards or prohibitions even if the permit has not yet been modified to incorporate the requirement.

### **1.3 Duty to Reapply**

If a permittee wishes to continue an activity regulated by this permit after its expiration date, the permittee must apply for and obtain a new permit. In accordance with 18 AAC 83.105(b), a permittee with a currently effective permit shall reapply by submitting a new application at least 180 days before the existing permit expires, unless the Department has granted the permittee permission to submit an application on a later date. However, the Department will not grant permission for an application to be submitted after the expiration date of the existing permit.

### **1.4 Need to Halt or Reduce Activity Not a Defense**

In an enforcement action, a permittee may not assert as a defense that compliance with the conditions of the permit would have made it necessary for the permittee to halt or reduce the permitted activity.

### **1.5 Duty to Mitigate**

A permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment.

### **1.6 Proper Operation and Maintenance**

- 1.6.1 A permittee shall at all times properly operate and maintain all facilities and systems of treatment and control and related appurtenances that the permittee installs or uses to achieve compliance with the conditions of the permit. The permittee's duty to operate and maintain properly includes using adequate laboratory controls and appropriate quality assurance procedures. However, a permittee is not required to operate back-up or auxiliary facilities or similar systems that a permittee installs unless operation of those facilities is necessary to achieve compliance with the conditions of the permit.
- 1.6.2 Operation and maintenance records shall be retained and made available at the site.
- 1.6.3 In accordance with 18 AAC 72.065, the owner or operator of a domestic system that has 100 or more service connections or that is used, or intended for use, by 500 or more people per day shall ensure that the system is operated by a person certified under 18 AAC 74.

### **1.7 Permit Actions**

A permit may be modified, revoked and reissued, or terminated for cause as provided in 18 AAC 83.130. If a permittee files a request to modify, revoke and reissue, or terminate a permit, or gives notice of planned changes or anticipated noncompliance, the filing or notice does not stay any permit condition.

### **1.8 Property Rights**

A permit does not convey any property rights or exclusive privilege.

### **1.9 Duty to Provide Information**

A permittee shall, within a reasonable time, provide to the Department any information that the Department requests to determine whether a permittee is in compliance with the permit, or whether cause exists to modify, revoke and reissue, or terminate the permit. A permittee shall also provide to the Department, upon request, copies of any records the permittee is required to keep under the permit.



## 1.10 Inspection and Entry

A permittee shall allow the Department, or an authorized representative, including a contractor acting as a representative of the Department, at reasonable times and on presentation of credentials establishing authority and any other documents required by law, to:

- 1.10.1 Enter the premises where a permittee's regulated facility or activity is located or conducted, or where permit conditions require records to be kept;
- 1.10.2 Have access to and copy any records that permit conditions require the permittee to keep;
- 1.10.3 Inspect any facilities, equipment, including monitoring and control equipment, practices, or operations regulated or required under a permit; and
- 1.10.4 Sample or monitor any substances or parameters at any location for the purpose of assuring permit compliance or as otherwise authorized by 33 U.S.C. 1251-1387 (Clean Water Act).

## 1.11 Monitoring and Records

A permittee must comply with the following monitoring and recordkeeping conditions:

- 1.11.1 Samples and measurements taken for the purpose of monitoring must be representative of the monitored activity.
- 1.11.2 The permittee shall retain records in Alaska of all monitoring information for at least three years, or longer at the Department's request at any time, from the date of the sample, measurement, report, or application. Monitoring records required to be kept include:
  - 1.11.2.1 All calibration and maintenance records,
  - 1.11.2.2 All original strip chart recordings or other forms of data approved by the Department for continuous monitoring instrumentation,
  - 1.11.2.3 All reports required by a permit,
  - 1.11.2.4 Records of all data used to complete the application for a permit,
  - 1.11.2.5 Field logbooks or visual monitoring logbooks,
  - 1.11.2.6 Quality assurance chain of custody forms,
  - 1.11.2.7 Copies of discharge monitoring reports, and
  - 1.11.2.8 A copy of this APDES permit.
- 1.11.3 Records of monitoring information must include:
  - 1.11.3.1 The date, exact place, and time of any sampling or measurement;
  - 1.11.3.2 The name(s) of any individual(s) who performed the sampling or measurement(s);
  - 1.11.3.3 The date(s) and time any analysis was performed;
  - 1.11.3.4 The name(s) of any individual(s) who performed any analysis;
  - 1.11.3.5 Any analytical technique or method used; and
  - 1.11.3.6 The results of the analysis.

### 1.11.4 Monitoring Procedures

Analyses of pollutants must be conducted using test procedures approved under 40 CFR Part 136, adopted by reference at 18 AAC 83.010, for pollutants with approved test procedures, and using test procedures specified in the permit for pollutants without approved methods.

## 1.12 Signature Requirement and Penalties

- 1.12.1 Any application, report, or information submitted to the Department in compliance with a permit requirement must be signed and certified in accordance with 18 AAC 83.385. Any person who knowingly makes any false material statement, representation, or certification in any application, record, report, or other document filed or required to be maintained under a permit, or who knowingly falsifies, tampers with, or renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be subject to penalties under 33 U.S.C. 1319(c)(4), AS 12.55.035(c)(1)(B), (c)(2) and (c)(3), and AS 46.03.790(g).
- 1.12.2 In accordance with 18 AAC 83.385, an APDES permit application must be signed as follows:
  - 1.12.2.1 For a corporation, a responsible corporate officer shall sign the application; in this subsection, a responsible corporate officer means:
    - 1.12.2.1.1 A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation; or
    - 1.12.2.1.2 The manager of one of more manufacturing, production, or operating facilities, if
      - 1.12.2.1.2.1 The manager is authorized to make management decisions that govern the operation of the regulated facility, including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental statutes and regulations;
      - 1.12.2.1.2.2 The manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and
      - 1.12.2.1.2.3 Authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.
  - 1.12.2.2 For a partnership or sole proprietorship, by the general partner or the proprietor, respectively, shall sign the application.
  - 1.12.2.3 For a municipality, state, federal, or other public agency, either a principal executive officer or ranking elected official shall sign the application; in this subsection, a principal executive officer of an agency means:
    - 1.12.2.3.1 The chief executive officer of the agency; or
    - 1.12.2.3.2 A senior executive officer having responsibility for the overall operations of a principal geographic unit or division of the agency.
- 1.12.3 Any report required by an APDES permit, and a submittal with any other information requested by the Department, must be signed by a person described in Appendix A, Part 1.12.2, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
  - 1.12.3.1 The authorization is made in writing by a person described in Appendix A, Part 1.12.2;

- 1.12.3.2 The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, including the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility; or an individual or position having overall responsibility for environmental matters for the company; and
- 1.12.3.3 The written authorization is submitted to the Department to the Permitting Program address in Appendix A, Part 1.1.1.
- 1.12.4 If an authorization under Appendix A, Part 1.12.3 is no longer effective because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Appendix A, Part 1.12.3 must be submitted to the Department before or together with any report, information, or application to be signed by an authorized representative.
- 1.12.5 Any person signing a document under Appendix A, Part 1.12.2 or Part 1.12.3 shall certify as follows:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

### **1.13 Proprietary or Confidential Information**

- 1.13.1 A permit applicant or permittee may assert a claim of confidentiality for proprietary or confidential business information by stamping the words "confidential business information" on each page of a submission containing proprietary or confidential business information. The Department will treat the stamped submissions as confidential if the information satisfies the test in 40 CFR §2.208, adopted by reference at 18 AAC 83.010, and is not otherwise required to be made public by state law.
- 1.13.2 A claim of confidentiality under Appendix A, Part 1.13.1 may not be asserted for the name and address of any permit applicant or permittee, a permit application, a permit, effluent data, sewage sludge data, and information required by APDES or NPDES application forms provided by the Department, whether submitted on the forms themselves or in any attachments used to supply information required by the forms.
- 1.13.3 A permittee's claim of confidentiality authorized under Appendix A, Part 1.13.1 is not waived if the Department provides the proprietary or confidential business information to the EPA or to other agencies participating in the permitting process. The Department will supply any information obtained or used in the administration of the state APDES program to the EPA upon request under 40 CFR §123.41, as revised as of July 1, 2005. When providing information submitted to the Department with a claim of confidentiality to the EPA, the Department will notify the EPA of the confidentiality claim. If the Department provides the EPA information that is not claimed to be confidential, the EPA may make the information available to the public without further notice.

### **1.14 Oil and Hazardous Substance Liability**

Nothing in this permit shall be construed to preclude the institution of any action or relieve a permittee

from any responsibilities, liabilities, or penalties to which the permittee is or may be subject to under state laws addressing oil and hazardous substances.

### **1.15 Cultural and Paleontological Resources**

If cultural or paleontological resources are discovered because of this disposal activity, work that would disturb such resources is to be stopped, and the Office of History and Archaeology, a Division of Parks and Outdoor Recreation of the Alaska Department of Natural Resources (<http://www.dnr.state.ak.us/parks/oha/>), is to be notified immediately at (907) 269-8721.

### **1.16 Fee**

A permittee must pay the appropriate permit fee described in 18 AAC 72.

### **1.17 Other Legal Obligations**

This permit does not relieve the permittee from the duty to obtain any other necessary permits from the Department or from other local, state, or federal agencies and to comply with the requirements contained in any such permits. All activities conducted and all plan approvals implemented by the permittee pursuant to the terms of this permit shall comply with all applicable local, state, and federal laws and regulations.

## **2.0 Special Reporting Obligations**

### **2.1 Planned Changes**

- 2.1.1 The permittee shall give notice to the Department as soon as possible of any planned physical alteration or addition to the permitted facility if:
  - 2.1.1.1 The alteration or addition may make the facility a “new source” under one or more of the criteria in 18 AAC 83.990(44); or
  - 2.1.1.2 The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged if those pollutants are not subject to effluent limitations in the permit or to notification requirements under 18 AAC 83.610.
- 2.1.2 If the proposed changes are subject to plan review, then the plans must be submitted at least 30 days before implementation of changes (see 18 AAC 15.020 and 18 AAC 72 for plan review requirements). Written approval is not required for an emergency repair or routine maintenance.
- 2.1.3 Written notice must be sent to the Permitting Program address in Appendix A, Part 1.1.1.

### **2.2 Anticipated Noncompliance**

- 2.2.1 A permittee shall give seven days’ notice to the Department before commencing any planned change in the permitted facility or activity that may result in noncompliance with permit requirements.
- 2.2.2 Written notice must be sent to the Compliance and Enforcement Program address in Appendix A, Part 1.1.2.

## **2.3 Transfers**

- 2.3.1 A permittee may not transfer a permit for a facility or activity to any person except after notice to the Department in accordance with 18 AAC 83.150. The Department may modify or revoke and reissue the permit to change the name of the permittee and incorporate such other requirements under 33 U.S.C. 1251-1387 (Clean Water Act) or state law.
- 2.3.2 Written notice must be sent to the Permitting Program address in Appendix A, Part 1.1.1.

## **2.4 Compliance Schedules**

- 2.4.1 A permittee must submit progress or compliance reports on interim and final requirements in any compliance schedule of a permit no later than 14 days following the scheduled date of each requirement.
- 2.4.2 Written notice must be sent to the Compliance and Enforcement Program address in Appendix A, Part 1.1.2.

## **2.5 Corrective Information**

- 2.5.1 If a permittee becomes aware that it failed to submit a relevant fact in a permit application or submitted incorrect information in a permit application or in any report to the Department, the permittee shall promptly submit the relevant fact or the correct information.
- 2.5.2 Information must be sent to the Permitting Program address in Appendix A, Part 1.1.1.

## **2.6 Bypass of Treatment Facilities**

### **2.6.1 Prohibition of Bypass**

Bypass is prohibited. The Department may take enforcement action against a permittee for any bypass, unless:

- 2.6.1.1 The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
- 2.6.1.2 There were no feasible alternatives to the bypass, including use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. However, this condition is not satisfied if the permittee, in the exercise of reasonable engineering judgment, should have installed adequate back-up equipment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance; and
- 2.6.1.3 The permittee provides notice to the Department of a bypass event in the manner, as appropriate, under Appendix A, Part 2.6.2.

### **2.6.2 Notice of bypass**

- 2.6.2.1 For an anticipated bypass, the permittee submits notice at least 10 days before the date of the bypass. The Department may approve an anticipated bypass, after considering its adverse effects, if the Department determines that it will meet the conditions of Appendix A, Parts 2.6.1.1 and 2.6.1.2.
- 2.6.2.2 For an unanticipated bypass, the permittee submits 24-hour notice, as required in 18 AAC 83.410(f) and Appendix A, Part 3.4, Twenty-four Hour Reporting.
- 2.6.2.3 Written notice must be sent to the Compliance and Enforcement Program address in Appendix A, Part 1.1.2.

### **2.6.3 Notwithstanding Appendix A, Part 2.6.1, a permittee may allow a bypass that:**

2.6.3.1 Does not cause an effluent limitation to be exceeded, and

2.6.3.2 Is for essential maintenance to assure efficient operation.

## **2.7 Upset Conditions**

2.7.1 In any enforcement action for noncompliance with technology-based permit effluent limitations, a permittee may claim upset as an affirmative defense. A permittee seeking to establish the occurrence of an upset has the burden of proof to show that the requirements of Appendix A, Part 2.7.2 are met.

2.7.2 To establish the affirmative defense of upset, the permittee must demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that:

2.7.2.1 An upset occurred and the permittee can identify the cause or causes of the upset;

2.7.2.2 The permitted facility was at the time being properly operated;

2.7.2.3 The permittee submitted 24-hour notice of the upset, as required in 18 AAC 83.410(f) and Appendix A, Part 3.4, Twenty-four Hour Reporting; and

2.7.2.4 The permittee complied with any mitigation measures required under 18 AAC 83.405(e) and Appendix A, Part 1.5, Duty to Mitigate.

2.7.3 Any determination made in administrative review of a claim that noncompliance was caused by upset, before an action for noncompliance is commenced, is not final administrative action subject to judicial review.

## **2.8 Notice of New Introduction of Pollutants**

2.8.1 Any POTW shall provide adequate notice to the Department, including information on the quality and quantity of effluent introduced into the POTW, and any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW as soon as the POTW has knowledge of a change, but no later than seven days in advance of any:

2.8.1.1 New introduction of pollutants into the POTW from an indirect discharger if that introduction of pollutants would be subject to 33 U.S.C 1311 or 33 U.S.C 1316 if the POTW directly discharged those pollutants, and

2.8.1.2 Substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.

2.8.2 Written notice must be sent to the Permitting Program address in Appendix A, Part 1.1.1.

## **3.0 Monitoring, Recording, and Reporting Requirements**

### **3.1 Representative Sampling**

A permittee must collect effluent samples from the effluent stream after the last treatment unit before discharge into the receiving waters. Samples and measurements must be representative of the volume and nature of the monitored activity or discharge.

### **3.2 Reporting of Monitoring Results**

At intervals specified in the permit, monitoring results must be reported on the EPA discharge monitoring report (DMR) form, as revised as of March 1999, adopted by reference.

- 3.2.1 Monitoring results shall be summarized each month on the DMR or an approved equivalent report. The permittee must submit reports monthly postmarked by the 15th day of the following month.
- 3.2.2 The permittee must sign and certify all DMRs and all other reports in accordance with the requirements of Appendix A, Part 1.12, Signatory Requirements and Penalties. All signed and certified legible original DMRs and all other documents and reports must be submitted to the Department at the Compliance and Enforcement Program address in Appendix A, Part 1.1.2.
- 3.2.3 If, during the period when this permit is effective, the Department makes available electronic reporting, the permittee may, as an alternative to the requirements of Appendix A, Part 3.2.2, submit monthly DMRs electronically by the 15<sup>th</sup> day of the following month in accordance with guidance provided by the Department. The permittee must certify all DMRs and other reports, in accordance with the requirements of Appendix A, Part 1.12, Signatory Requirements and Penalties. The permittee must retain the legible originals of these documents and make them available to the Department upon request.

### **3.3 Additional Monitoring by Permittee**

If the permittee monitors any pollutant more frequently than the permit requires using test procedures approved in 40 CFR Part 136, adopted by reference at 18 AAC 83.010, or as specified in this permit, the results of that additional monitoring must be included in the calculation and reporting of the data submitted in the DMR required by Appendix A, Part 3.2. All limitations that require averaging of measurements must be calculated using an arithmetic means unless the Department specifies another method in the permit. Upon request by the Department, the permittee must submit the results of any other sampling and monitoring regardless of the test method used.

### **3.4 Twenty-four Hour Reporting**

A permittee shall report any noncompliance event that may endanger health or the environment as follows:

- 3.4.1 A report must be made:
  - 3.4.1.1 Orally within 24 hours after the permittee becomes aware of the circumstances, and
  - 3.4.1.2 In writing within five days after the permittee becomes aware of the circumstances.
- 3.4.2 A report must include the following information:
  - 3.4.2.1 A description of the noncompliance and its causes, including the estimated volume or weight and specific details of the noncompliance;
  - 3.4.2.2 The period of noncompliance, including exact dates and times;
  - 3.4.2.3 If the noncompliance has not been corrected, a statement regarding the anticipated time the noncompliance is expected to continue; and
  - 3.4.2.4 Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
- 3.4.3 An event that must be reported within 24 hours includes:
  - 3.4.3.1 An unanticipated bypass that exceeds any effluent limitation in the permit (see Appendix A, Part 2.6, Bypass of Treatment Facilities).

- 3.4.3.2 An upset that exceeds any effluent limitation in the permit (see Appendix A, Part 2.7, Upset Conditions).
- 3.4.3.3 A violation of a maximum daily discharge limitation for any of the pollutants listed in the permit as requiring 24-hour reporting.
- 3.4.4 The Department may waive the written report on a case-by-case basis for reports under Appendix A, Part 3.4 if the oral report has been received within 24 hours of the permittee becoming aware of the noncompliance event.
- 3.4.5 The permittee may satisfy the written reporting submission requirements of Appendix A, Part 3.4.1.2 by submitting the written report via email, if the following conditions are met:
  - 3.4.5.1 The Noncompliance Notification Form or equivalent form is used to report the noncompliance;
  - 3.4.5.2 The written report includes all the information required under Appendix A, Part 3.4.2;
  - 3.4.5.3 The written report is properly certified and signed in accordance with Appendix A, Parts 1.12.3 and 1.12.5.;
  - 3.4.5.4 The written report is scanned as a PDF (portable document format) document and transmitted to the Department as an attachment to the email; and
  - 3.4.5.5 The permittee retains in the facility file the original signed and certified written report and a printed copy of the conveying email.
- 3.4.6 The email and PDF written report will satisfy the written report submission requirements of this permit provided the email is received by the Department within five days after the time the permittee becomes aware of the noncompliance event, and the email and written report satisfy the criteria of Part 3.4.5. The email address to report noncompliance is: [dec-wqreporting@alaska.gov](mailto:dec-wqreporting@alaska.gov)

### **3.5 Other Noncompliance Reporting**

A permittee shall report all instances of noncompliance not required to be reported under Appendix A, Parts 2.4 (Compliance Schedules), 3.3 (Additional Monitoring by Permittee), and 3.4 (Twenty-four Hour Reporting) at the time the permittee submits monitoring reports under Appendix A, Part 3.2 (Reporting of Monitoring Results). A report of noncompliance under this part must contain the information listed in Appendix A, Part 3.4.2 and be sent to the Compliance and Enforcement Program address in Appendix A, Part 1.1.2.

## **4.0 Penalties for Violations of Permit Conditions**

Alaska laws allow the State to pursue both civil and criminal actions concurrently. The following is a summary of Alaska law. The permittee should read the applicable statutes for further substantive and procedural details.

### **4.1 Civil Action**

Under AS 46.03.760(e), a person who violates or causes or permits to be violated a regulation, a lawful order of the Department, or a permit, approval, or acceptance, or term or condition of a permit, approval or acceptance issued under the program authorized by AS 46.03.020 (12) is liable, in a civil action, to the state for a sum to be assessed by the court of not less than \$500 nor more than \$100,000 for the initial violation, nor more than \$10,000 for each day after that on which the violation continues,



and that shall reflect, when applicable:

- 4.1.1 Reasonable compensation in the nature of liquidated damages for any adverse environmental effects caused by the violation, that shall be determined by the court according to the toxicity, degradability, and dispersal characteristics of the substance discharged, the sensitivity of the receiving environment, and the degree to which the discharge degrades existing environmental quality;
- 4.1.2 Reasonable costs incurred by the state in detection, investigation, and attempted correction of the violation;
- 4.1.3 The economic savings realized by the person in not complying with the requirements for which a violation is charged; and
- 4.1.4 The need for an enhanced civil penalty to deter future noncompliance.

## **4.2 Injunctive Relief**

- 4.2.1 Under AS 46.03.820, the Department can order an activity presenting an imminent or present danger to public health or that would be likely to result in irreversible damage to the environment be discontinued. Upon receipt of such an order, the activity must be immediately discontinued.
- 4.2.2 Under AS 46.03.765, the Department can bring an action in Alaska Superior Court seeking to enjoin ongoing or threatened violations for Department-issued permits and Department statutes and regulations.

## **4.3 Criminal Action**

Under AS 46.03.790(h), a person is guilty of a Class A misdemeanor if the person negligently:

- 4.3.1 Violates a regulation adopted by the Department under AS 46.03.020(12);
- 4.3.2 Violates a permit issued under the program authorized by AS 46.03.020(12);
- 4.3.3 Fails to provide information or provides false information required by a regulation adopted under AS 46.03.020(12);
- 4.3.4 Makes a false statement, representation, or certification in an application, notice, record, report, permit, or other document filed, maintained, or used for purposes of compliance with a permit issued under or a regulation adopted under AS 46.03.020(12); or
- 4.3.5 Renders inaccurate a monitoring device or method required to be maintained by a permit issued or under a regulation adopted under AS 46.03.020(12).

## **4.4 Other Fines**

Upon conviction of a violation of a regulation adopted under AS 46.03.020(12), a defendant who is not an organization may be sentenced to pay a fine of not more than \$10,000 for each separate violation (AS 46.03.790(g)). A defendant that is an organization may be sentenced to pay a fine not exceeding the greater of: (1) \$200,000; (2) three times the pecuniary gain realized by the defendant as a result of the offense; or (3) three times the pecuniary damage or loss caused by the defendant to another, or the property of another, as a result of the offense (AS 12.55.035(c)(1)(B), (c)(2), and (c)(3)).

# Appendix B

## Acronyms

## APPENDIX B

The following acronyms are common terms that may be found in an Alaska Pollutant Discharge Elimination System (APDES) permit.

18 AAC 15	Alaska Administrative Code. Title 18 Environmental Conservation, Chapter 15: Administrative Procedures
18 AAC 70	Alaska Administrative Code. Title 18 Environmental Conservation, Chapter 70: Water Quality Standards
18 AAC 72	Alaska Administrative Code. Title 18 Environmental Conservation, Chapter 72: Wastewater Disposal
18 AAC 83	Alaska Administrative Code. Title 18 Environmental Conservation, Chapter 83: Alaska Pollutant Discharge Elimination System

All chapters of Alaska Administrative Code, Title 18 are available at the Alaska Administrative Code database <http://www.legis.state.ak.us/cgi-bin/folioisa.dll/aac>

40 CFR	<a href="#">Code of Federal Regulations Title 40: Protection of Environment</a>
AAC	Alaska Administrative Code
ADEC	Alaska Department of Environmental Conservation
APDES	Alaska Pollutant Discharge Elimination System
AS	Alaska Statutes
AS 46.03	Alaska Statutes Title 46, Chapter 03: Environmental Conservation. Available at <a href="http://www.legis.state.ak.us/default.htm">http://www.legis.state.ak.us/default.htm</a>
AML	Average Monthly Limit
BMP	Best Management Practices
BOD <sub>5</sub>	5-Day Biochemical Oxygen Demand
CBOD <sub>5</sub>	5-Day Carbonaceous Biochemical Oxygen Demand
°C	Degrees Celsius
C <sub>d</sub>	Aquatic life criteria that cannot be exceed downstream
C <sub>e</sub>	Concentration of pollutant in effluent
C <sub>u</sub>	Upstream background concentration of pollutant
CIU	Categorical Industrial User
CV	Coefficient of Variation
CWA	Clean Water Act
D	Dilution Factor
DML	Daily Maximum Limit
DMR	Discharge Monitoring Report
DO	Dissolved Oxygen
EFH	Essential Fish Habitat
EPA	U.S. Environmental Protection Agency

## APPENDIX B

ESA	Endangered Species Act
FC	Fecal Coliform
ft	Feet
gpd	Gallons per day
IC	Inhibition Concentration
IPP	Industrial Pretreatment Program
L	Liter
LC	Lethal Concentration
lb	Pound
ln	Natural log
LTA	Long Term Average
LTCP	Long Term Control Plan
MDL	Method Detection Limit
MEC	Maximum Expected Concentration
m	Meter
mg/L	Milligrams per Liter
mgd	Million gallons per day
MIU	Minor Industrial User
mL	Milliliter
ML	Minimum Level
MOC	Maximum Observed Concentration
MPN	Most Probable Number
MXZ	Mixing Zone
n	Sample size
NMFS	National Marine Fisheries Service
NPDES	National Pollutant Discharge Elimination System
N/A	Not Applicable
NOEC	No Observed Effect Concentration
OMP	Operations and Maintenance Plan
POTW	Publicly Owned Treatment Works
QA	Quality Assurance
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan
QC	Quality Control
$Q_d$	Receiving Waterbody Flow Rate = $Q_e + Q_u$
$Q_e$	Effluent Flow

## APPENDIX B

Q <sub>u</sub>	Receiving Waterbody Flow
RP	Reasonable Potential
RPA	Reasonable Potential Analysis
RPM	Reasonable Potential Multiplier
RWC	Receiving Water Concentration
SIU	Significant Industrial User
SU	Standard Units
TBEL	Technology-Based Effluent Limit
TIE	Toxicity Identification Evaluation
TRE	Toxicity Reduction Evaluation
TSD	Technical Support Document
TSS	Total Suspended Solids
TU <sub>a</sub>	Toxic Unit, Acute
TU <sub>c</sub>	Toxic Unit, Chronic
μ	Mean
μg/L	Micrograms per Liter
U.S.C.	United States Code
USFWS	United States Fish and Wildlife Service
UPS	Upstream
UV	Ultraviolet
WET	Whole Effluent Toxicity
WLA	Waste Load Allocation
WQBEL	Water-Quality Based Effluent Limit
WQS	Water Quality Standards
WWTF	Wastewater Treatment Facility
z	Z test value or z score
σ	Standard deviation
σ <sup>2</sup>	Variance

# Appendix C

## Definitions

## APPENDIX C

The following are common definitions of terms associated with APDES permits. Not all the terms listed may appear in a permit. Consult the footnote references for a complete list of terms and definitions.

Administrator <sup>a</sup>	Means the Administrator of the EPA or an authorized representative.
Alaska Pollutant Discharge Elimination System (APDES) <sup>a</sup>	Means the state's program, approved by EPA under 33 U.S.C. 1342(b), for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits and imposing and enforcing pretreatment requirements under 33 U.S.C. 1317, 1328, 1342, and 1345.
Aquaculture <sup>b</sup>	Means the cultivation of aquatic plants or animals for human use or consumption.
Average	Means an arithmetic mean obtained by adding quantities and dividing the sum by the number of quantities.
Average Monthly Limit	Means the highest allowable average of "daily discharges" over a calendar month calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of "daily discharges" measured for that month.
Biochemical Oxygen Demand (BOD) <sup>c</sup>	Means the amount, in milligrams per liter, of oxygen used in the biochemical oxidation of organic matter in five days at 20° C.
Bypass <sup>a</sup>	Means the intentional diversion of waste streams from any portion of a treatment facility.
Clean Water Act (CWA) <sup>a</sup>	Means the federal law codified at 33 U.S.C. 1251-1387, also referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972.
Commissioner <sup>a</sup>	Means the commissioner of the Alaska Department of Environmental Conservation or the commissioner's designee.
Composite Samples	Composite samples must consist of at least eight equal volume grab samples. 24 hour composite sample means a combination of at least eight discrete samples of equal volume collected at equal time intervals over a 24-hour period at the same location. A "flow proportional composite" sample means a combination of at least eight discrete samples collected at equal time intervals over a 24-hour period with each sample volume proportioned according to the flow volume. The sample aliquots must be collected and stored in accordance with procedures prescribed in the most recent edition of <i>Standard Methods for the Examination of Water and Wastewater</i> .
Criterion <sup>b</sup>	Means a set concentration or limit of a water quality parameter that, when not exceeded, will protect an organism, a population of organisms, a community of organisms, or a prescribed water use with a reasonable degree of safety. A criterion might be a narrative statement instead of a numerical concentration or limit.
Daily Discharge <sup>a</sup>	Means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for the purposes of sampling. For pollutants measured in units of mass, the "daily discharge" is calculated as the total

a) See 18 AAC 83

b) See 18 AAC 70.990

c) See 18 AAC 72.990

d) See 40 CFR Part 136

e) See EPA Technical Support Document

f) See Standard Methods for the Examination of Water and Wastewater 18<sup>th</sup> Edition

g) See EPA Permit Writers Manual

## APPENDIX C

mass of the pollutant discharged over the day. For pollutants with a limitation expressed in other units of measurement, the “daily discharge” is calculated as the average measurement of the pollutant over the day.

Daily Maximum Limit <sup>a</sup>	Means the highest allowable “daily discharge”.
Department <sup>a</sup>	Means the Alaska Department of Environmental Conservation.
Design Flow <sup>a</sup>	Means the wastewater flow rate that the plant was designed to handle.
Director <sup>a</sup>	Means the commissioner or the commissioner’s designee assigned to administer the APDES program or a portion of it, unless the context identifies an EPA director.
Discharge <sup>a</sup>	When used without qualification, discharge means the discharge of a pollutant.
Discharge of a Pollutant <sup>a</sup>	Means any addition of any pollutant or combination of pollutants to waters of the United States from any point source or to waters of the contiguous zone or the ocean from any point source other than a vessel or other floating craft that is being used as a means of transportation. Discharge includes any addition of pollutants into waters of the United States from surface runoff that is collected or channeled by humans; discharges through pipes, sewers, or other conveyances owned by a state, municipality, or other person that do not lead to a treatment works; discharges through pipes, sewers, or other conveyances leading into privately owned treatment works; and does not include an addition of pollutants by any indirect discharger.
Dissolved Oxygen (DO) <sup>b</sup>	Means the concentration of oxygen in water as determined either by the Winkler (iodometric) method and its modifications or by the membrane electrode method.  The oxygen dissolved in water or wastewater and usually expressed in milligrams per liter or percent saturation.
Domestic Equivalent	Means businesses that only discharge pollutants similar in nature to domestic wastewater that is discharged from residential dwellings, and that do not otherwise qualify as an SIU or an MIU as defined in this glossary. This definition is intended for use when categorizing industries and businesses, and not intended to be used as a general APDES definition.
Domestic Wastewater <sup>c</sup>	18 AAC 72.72.990(23) “domestic wastewater” means waterborne human wastes or graywater derived from dwellings, commercial buildings, institutions, or similar structures; “domestic wastewater” includes the contents of individual removable containers used to collect and temporarily store human wastes; “domestic wastewater” does not include (A) liquid or solid material removed from a septic tank, cesspool, or similar treatment works, if those facilities receive nondomestic or industrial wastewater; or (B) grease removed from a grease trap at a restaurant.
Effluent <sup>b</sup>	Means the segment of a wastewater stream that follows the final step in a treatment process and precedes discharge of the wastewater stream to the receiving environment.
Fecal Coliform (FC) <sup>b</sup>	Bacteria that can ferment lactose at 44.5° + 0.2°C to produce gas in a multiple tube procedure. Fecal coliform bacteria also means all bacteria that produce blue colonies in

a) See 18 AAC 83

b) See 18 AAC 70.990

c) See 18 AAC 72.990

d) See 40 CFR Part 136

e) See EPA Technical Support Document

f) See Standard Methods for the Examination of Water and Wastewater 18<sup>th</sup> Edition

g) See EPA Permit Writers Manual



## APPENDIX C

a membrane filtration procedure within  $24 \pm 2$  hours of incubation at  $44.5^\circ + 0.2^\circ\text{C}$  in an M-FC broth.

Final Approval to Operate	Means the approval that the Department issues after it has reviewed and approved the construction and operation of the engineered wastewater treatment works plans submitted to the Department in accordance with 18 AAC 72.215 through 18 AAC 72.280 or as amended.
Geometric Mean	The geometric mean is the $N^{\text{th}}$ root of the product of $N$ . All sample results of zero will use a value of 1 for calculation of the geometric mean. Example geometric mean calculation: $\sqrt[4]{12 \times 23 \times 34 \times 990} = 55$ .
Grab Sample	Means a single instantaneous sample collected at a particular place and time that represents the composition of wastewater only at that time and place.
Influent	Means untreated wastewater before it enters the first treatment process of a wastewater treatment works.
Inhibition Concentration 25% ( $\text{IC}_{25}$ ) <sup>c</sup>	Means the point estimate of the toxicant concentration that would cause 25% reduction in a nonlethal biological measurement of the test organisms, such as reproduction or growth.
Lethal Concentration 50% ( $\text{LC}_{50}$ )	Means the toxicant concentration that would cause death in 50% of the test organisms.
Mean <sup>b</sup>	Means the average of values obtained over a specified period and, for fecal coliform analysis, is computed as a geometric mean.
Mean Lower Low Water <sup>b</sup>	Means the tidal datum plane of the average of the lower of the two low waters of each day, as would be established by the National Geodetic Survey, at any place subject to tidal influence.
Measured	Means the actual volume of wastewater discharged using appropriate mechanical or electronic equipment to provide a totalized reading. Measure does not provide a recorded measurement of instantaneous rates.
Method Detection Limit (MDL) <sup>d</sup>	Means the minimum concentration of a substance (analyte) that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix containing the analyte.
Micrograms per Liter ( $\mu\text{g/L}$ ) <sup>b</sup>	Means the concentration at which one millionth of a gram ( $10^{-6}$ g) is found in a volume of one liter.
Milligrams per Liter ( $\text{mg/L}$ ) <sup>b</sup>	Means the concentration at which one thousandth of a gram ( $10^{-3}$ g) is found in a volume of one liter. It is approximately equal to the unit “parts per million (ppm),” formerly of common use.

a) See 18 AAC 83

b) See 18 AAC 70.990

c) See 18 AAC 72.990

d) See 40 CFR Part 136

e) See EPA Technical Support Document

f) See Standard Methods for the Examination of Water and Wastewater 18<sup>th</sup> Edition

g) See EPA Permit Writers Manual

## APPENDIX C

Minimum Level (ML) <sup>e</sup>	Means the concentration at which the entire analytical system must give a recognizable signal and an acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method-specified sample weights, volumes, and processing steps have been followed. This level is used as the compliance level if the effluent limit is below it.
Minor Industrial User (MIU)	Means businesses that do not qualify as SIUs according to the SIU definition, but who still either have some discharges of wastewater containing pollutants not typical of domestic wastewater, and potentially of concern to the POTW, or have a potential to discharge or spill chemicals to the POTW which could impair the normal operation of the POTW, adversely affect worker health or safety, or violate Alaska Water Quality Standards (18 AAC 70). This definition is intended for use when categorizing industries and businesses, and not intended to be used as a general APDES definition.
Mixing Zone <sup>b</sup>	Means a volume of water adjacent to a discharge in which wastes discharged mix with the receiving water.
Month	Means the time period from the 1 <sup>st</sup> of a calendar month to the last day in the month.
Monthly Average	Means the average of daily discharges over a monitoring month calculated as the sum of all daily discharges measured during a monitoring month divided by the number of daily discharges measured during that month.
No Observed Effect Concentration (NOEC) <sup>c</sup>	Means the highest concentration of an effluent or a toxicant at which no adverse effects are observed on the aquatic test organisms at a specific time of observation. NOEC is determined using hypothesis testing.
Permittee	Means a company, organization, association, entity, or person who is issued a wastewater permit and is responsible for ensuring compliance, monitoring, and reporting as required by the permit.
pH <sup>g</sup>	Means a measure of the hydrogen ion concentration of water or wastewater; expressed as the negative log of the hydrogen ion concentration in mg/L. A pH of 7 is neutral. A pH less than 7 is acidic, and a pH greater than 7 is basic.
Pollutant <sup>a</sup>	Means dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials (except those regulated under 42 U.S.C. 2011), heat, wrecked or discarded equipment, rock, sand, cellar dirt, and industrial, municipal, or agricultural waste discharged into water.
Primary Contact Recreation	Means activities in which there is direct and intimate contact with water. Contact recreation includes swimming, diving, and water skiing. Contact recreation does not include wading.
Priority Pollutants	Means the set of chemical pollutants that EPA regulates and for which EPA has published analytical test methods. A list of the Priority Pollutants can be found in Appendix A to 40 CFR Part 423.

a) See 18 AAC 83

b) See 18 AAC 70.990

c) See 18 AAC 72.990

d) See 40 CFR Part 136

e) See EPA Technical Support Document

f) See Standard Methods for the Examination of Water and Wastewater 18<sup>th</sup> Edition

g) See EPA Permit Writers Manual

## APPENDIX C

Principal Executive Officer <sup>a</sup>	Means the chief executive officer of the agency or a senior executive officer having responsibility for the overall operations of a principal geographic unit of division of the agency.
Quality Assurance Project Plan (QAPP)	Means a system of procedures, checks, audits, and corrective actions to ensure that all research design and performance, environmental monitoring and sampling, and other technical and reporting activities are of the highest achievable quality.
Quarter	Means the time period of three months based on the calendar year beginning with January.
Receiving Waterbody	Means lakes, bays, sounds, ponds, impounding reservoirs, springs, wells, rivers, streams, creeks, estuaries, marshes, inlets, straits, passages, canals, the Pacific Ocean, Gulf of Alaska, Bering Sea, and Arctic Ocean, in the territorial limits of the state, and all other bodies of surface water, natural or artificial, public or private, inland or coastal, fresh or salt, which are wholly or partially in or bordering the state or under the jurisdiction of the state. (See “Waters of the U.S.” at 18 AAC 83.990(77)).
Recorded	Means a permanent record using mechanical or electronic equipment to provide a totalized reading, as well as a record of instantaneous readings.
Report	Report results of analysis.
Reporting Limit	Minimum concentration of a given parameter that can be reliably measured and reported by a laboratory using a particular analytical method. A reporting limit is greater than or equal to a method detection limit and is typically set by a laboratory.
Residual Chlorine	Means chlorine remaining in water or wastewater at the end of a specified contact period as combined or free chlorine.
Responsible Corporate Officer <sup>a</sup>	Means a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function or any other person who performs similar policy or decision making functions for the corporation.  The Responsible Corporate Officer can also be the manager of one or more manufacturing, production, or operating facilities if the requirements of 18 AAC 83.385(a)(1)(B)(i)-(iii) are met.
Secondary Recreation <sup>b</sup>	Means activities in which incidental water use can occur. Secondary recreation includes boating, camping, hunting, hiking, wading, and recreational fishing. Secondary contact recreation does not include fish consumption.
Significant Industrial User (SIU) <sup>g</sup>	Means all industrial users subject to Categorical Pretreatment Standards under 40 CFR 403.6 and 40 CFR Chapter I, subchapter N; and any other industrial user that: discharges an average of 25,000 gallons per day or more of process wastewater to the POTW (excluding sanitary, noncontact cooling and boiler blowdown wastewater); contributes a process wastestream which makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the POTW Treatment plant; or is designated as such by the control authority on the basis that the industrial user has a reasonable potential for adversely affecting the POTW’s operation or for violating any

a) See 18 AAC 83

b) See 18 AAC 70.990

c) See 18 AAC 72.990

d) See 40 CFR Part 136

e) See EPA Technical Support Document

f) See Standard Methods for the Examination of Water and Wastewater 18<sup>th</sup> Edition

g) See EPA Permit Writers Manual

## APPENDIX C

	pretreatment standard or requirement (in accordance with 40 CFR 403.8(f)(6))
Suspended Solids	Means insoluble solids that either float on the surface of, or are in suspension in, water, wastewater, or other liquids. The quantity of material removed from wastewater in a laboratory test, as prescribed in <i>Standard Methods for the Examination of Water and Wastewater</i> and referred to as nonfilterable.
Total Suspended Solids (TSS) <sup>g</sup>	Means a measure of the filterable solids present in a sample, as determined by the method specified in 40 CFR Part 136.
Toxic Unit, Chronic (TUC) <sup>e</sup>	Means the reciprocal of the effluent concentration that causes no observable effect on the test organisms by the end of the chronic exposure period (i.e., 100/NOEC).
Twice per year	Means two time periods during the calendar year: October through April and May through September.
Upset <sup>a</sup>	Means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
Waters of the United States or Waters of the U.S.	Has the meaning given in 18 AAC 83.990(77).
Water Supply <sup>b</sup>	Means any of the waters of the United States that are designated in 18 AAC 70 to be protected for fresh water or marine water uses. Water supply includes waters used for drinking, culinary, food processing, agricultural, aquacultural, seafood processing, and industrial purposes. Water supply does not necessarily mean that water in a waterbody that is protected as a supply for the uses listed in this paragraph is safe to drink in its natural state.
Week	Means the time period of Sunday through Saturday.

a) See 18 AAC 83

b) See 18 AAC 70.990

c) See 18 AAC 72.990

d) See 40 CFR Part 136

e) See EPA Technical Support Document

f) See Standard Methods for the Examination of Water and Wastewater 18<sup>th</sup> Edition

g) See EPA Permit Writers Manual