

Permit No.: AK-004064-9

United States Environmental Protection Agency  
Region 10  
1200 Sixth Avenue, OW-130  
Seattle, Washington 98101

AUTHORIZATION TO DISCHARGE UNDER THE  
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

In compliance with the provisions of the Clean Water Act, 33 U.S.C. § 1251 et seq., as amended by the Water Quality Act of 1987, P.L. 100-4 (CWA),

Cominco Alaska, Inc.  
(Red Dog Port Site)

is authorized to discharge from facilities located 66 miles southeast of Kivalina, Alaska, to receiving waters named the Chukchi Sea and the tundra at approximately latitude 67° 34" and longitude 164° 03" in accordance with discharge points, effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective January 29, 1999.

This permit and the authorization to discharge shall expire at midnight, January 29, 2004.

Signed this 23<sup>rd</sup> day of December, 1998

/s/ Roger K. Mochnick for  
Director, Office of Water, Region 10  
U.S. Environmental Protection Agency

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**I. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS**

**A. Outfall 001 Limitations and Frequency of Monitoring - Personnel Accommodations Complex Sewage Treatment Plant, Temporary Construction Camp Sewage Treatment Plant, and Desalination Plant**

1. During the effective period of this permit, the Permittee is authorized to discharge from Outfall 001 into the Chukchi Sea subject to the restrictions set forth in Table 1. This permit does not authorize the discharge of any waste streams, including spills and other unintentional or non-routine discharges of pollutants, that are not part of the normal operation of the facility as disclosed in the permit application, or any pollutants that are not ordinarily present in such waste streams.
2. There shall be no discharge of floating solids, debris, sludge, visible foam, scum, or other residues which produce a film, sheen, or discoloration on the surface of the receiving water. Residuals also may not cause leaching of toxic or deleterious substances, or cause sludge, solids, or emulsion to be deposited beneath or upon the surface of the water, within the water column, on the bottom, or upon adjoining shorelines.
3. The Permittee shall limit discharges as specified in Table 1. Monitoring for all parameters, excluding salinity, shall occur after the last treatment unit and before combination with the desalination effluent or any other waste stream. Monitoring for salinity shall occur at or before the point of discharge to the Chukchi Sea.

**Table 1: Limitations and Frequency of Monitoring for Outfall 001**

Parameter <sup>1</sup>	Daily Maximum	Monthly Average	Weekly Average	Sample Frequency	Sample Type <sup>2</sup>
Biochemical Oxygen Demand (BOD <sub>5</sub> ) <sup>3</sup>	---	30.0 mg/L 7.2 lbs/day	45.0 mg/L 10.8 lbs/day	1/week	24-hour Composite
Total Suspended Solids (TSS) <sup>3</sup>	---	30.0 mg/L 7.2 lbs/day	45.0 mg/L 10.8 lbs/day	1/week	24-hour Composite
Fecal Coliform, #/100 ml	1200	400	800	1/week	Grab
Flow, mgd	---	---	---	Continuous	Recorder
Salinity (ppt)	---	---	---	Once in June, July, August and September	Grab

Parameter <sup>1</sup>	Daily Maximum	Monthly Average	Weekly Average	Sample Frequency	Sample Type <sup>2</sup>
Cadmium, $\mu\text{g/L}^4$	---	---	---	Once in June, July, August and September	24-hour composite
Lead, $\mu\text{g/L}^4$	---	---	---	Once in June, July, August and September	24-hour composite
Zinc, $\mu\text{g/L}^4$	---	---	---	Once in June, July, August and September	24-hour composite
<p>Notes:</p> <ol style="list-style-type: none"> <li>1. If the discharge concentration falls below the method detection level (MDL), the Permittee shall report the effluent concentration as "less than {numerical MDL}" on the discharge monitoring report (DMR). Actual analytical results shall be reported on the DMR when the results are greater than the MDL. For averaging, samples below the MDL shall be assumed equal to zero. The Permittee shall report the number of non-detects for the month in the "Comment Section" of the DMR.</li> <li>2. Effluent samples collected shall be representative of the effluent discharged without dilution from or contact with any outside sources. Results of analyses conducted under Part I.A.3. of this permit shall be submitted on the monthly DMR.</li> <li>3. The sample location shall be influent and effluent for these parameters. The Permittee shall collect influent and effluent samples on the same day.</li> <li>4. Cadmium, lead, and zinc shall be analyzed as total recoverable.</li> </ol>					

4. Percent removal requirements for BOD<sub>5</sub> and TSS are as follows: for any month, the monthly average effluent load shall not exceed 15 percent of the monthly average influent load. Loading shall be calculated using the following formula:  $8.34 \times \text{pollutant concentration (mg/L)} \times \text{daily flow (mgd)}$ .
5. The effluent pH from Outfall 001 shall be within the range of 6.5-8.5 standard units. Monitoring for pH shall occur once per day as a grab sample.

**B. Outfall 005 Limitations and Frequency of Monitoring - Concentrate Storage Building Mine Drainage**

1. During the effective period of this permit, the Permittee is authorized to discharge mine drainage from around the concentrate storage buildings (CSBs) through Outfall 005 to the tundra or Chukchi Sea. This permit does not authorize the discharge of any waste streams, including spills and other unintentional or non-routine discharges of pollutants, that are not part of the normal operation of the facility as disclosed in the permit application, or any pollutants that are not ordinarily present in such waste streams.
2. Storm water runoff associated with construction activities is not authorized for discharge under this permit. Storm water discharges are subject to conditions of the General NPDES Permit for Storm Water Discharges Associated with Construction Activities, and are subject to the requirements and limitations therein (February 17, 1998, 31 FR 7858-8014).
3. There shall be no discharge of floating solids, debris, sludge, visible foam, scum, or other residues which produce a film, sheen, or discoloration on the surface of the receiving water. Residuals also may not cause leaching of toxic or deleterious substances, or cause sludge, solids, or emulsion to be deposited beneath or upon the surface of the water, within the water column, on the bottom, or upon adjoining shorelines.
4. The effluent from Outfall 005 shall be within the range of 6.5-8.5 standard units. Monitoring for pH shall occur once per day as a grab sample.
5. The discharge shall be subject to the restrictions specified in Table 2 when discharge occurs to the tundra, and Table 3 when discharge occurs to the Chukchi Sea. Monitoring for all parameters shall occur at or before the point of discharge, before combination with any other waste stream, and shall only be required during periods of discharge.

**Table 2: Tundra Limitations and Frequency of Monitoring for Outfall 005**

Parameter	Daily Maximum	Monthly Average	Sample Frequency	Sample Type <sup>1</sup>
Hardness (as CaCO <sub>3</sub> ), µg/L	---	---	Once in June, July, August and September	Grab
Zinc <sup>2</sup> , µg/L	77.1	38.4	1/week	24-hour composite

Parameter	Daily Maximum	Monthly Average	Sample Frequency	Sample Type <sup>1</sup>
Cadmium <sup>2</sup> , µg/L	4.6	2.3	1/week	24-hour composite
Lead <sup>2</sup> , µg/L	22.5	11.2	1/week	24-hour composite
Copper <sup>2</sup> , µg/L	300.0	150.0	1/week	24-hour composite
Mercury <sup>2,3</sup> , µg/L	0.02	0.01	1/week	24-hour composite
Total Suspended Solids, mg/L	30.0	20.0	1/week	24-hour composite
Flow, mgd	---	---	Continuous	Recorder
Notes: 1. Effluent samples collected shall be representative of the effluent discharged without dilution from or contact with any outside sources. Results of analyses conducted under Part I.B.4 of this permit shall be submitted monthly on the DMR. 2. Cadmium, lead, and zinc shall be analyzed as total recoverable. 3. The effluent limits for mercury are not quantifiable using EPA approved analytical methods. EPA will use the Interim Minimum Level of 0.6 µg/L as the compliance evaluation level for this parameter.				

**Table 3: Chukchi Sea Limitations and Frequency of Monitoring for Outfall 005**

Parameter	Daily Maximum	Monthly Average	Sample Frequency	Sample Type <sup>1</sup>
Zinc <sup>2</sup> , µg/L	1500.0	750.0	1/week	24-hour composite
Cadmium <sup>2</sup> , µg/L	100.0	50.0	1/week	24-hour composite
Lead <sup>2</sup> , µg/L	600.0	300.0	1/week	24-hour composite
Copper <sup>2</sup> , µg/L	300.0	150.0	1/week	24-hour composite
Mercury <sup>2,3</sup> , µg/L	2.0	1.0	1/week	24-hour composite
Total Suspended Solids, mg/L	30.0	20.0	1/week	24-hour composite

Parameter	Daily Maximum	Monthly Average	Sample Frequency	Sample Type <sup>1</sup>
Flow, mgd	---	---	Continuous	Recorder
Notes: 1. Effluent samples collected shall be representative of the effluent discharged without dilution from or contact with any outside sources. Results of analyses conducted under Part I.B.4 of this permit shall be submitted monthly on the DMR. 2. Cadmium, lead, and zinc shall be analyzed as total recoverable. 3. The effluent limits for mercury are not quantifiable using EPA approved analytical methods. EPA will use the Interim Minimum Level of 0.6 µg/L as the compliance evaluation level for this parameter.				

C. Effluent Monitoring and Reporting Requirements

1. The Permittee shall conduct analyses using analytical methods approved in 40 CFR 136.
2. Analytical methods should achieve the minimum detection levels in Table 4:

**Table 4: Minimum Detection Levels for Outfalls 001 and 005**

Parameter	Minimum Detection Levels <sup>1</sup>	Interim Minimum Level
Cadmium, µg/L	0.56	N/A
Lead, µg/L	1.12	N/A
Zinc, µg/L	9.4	N/A
Copper, µg/L	0.8	N/A
Mercury, µg/L	0.2	0.6
1. The Permittee may request a less restrictive minimum detection level for ambient monitoring, subject to EPA approval.		

3. As part of the development of the Quality Assurance Plan (see Section III.C) the Permittee shall specify the analytical test method (with associated method detection level, MDL) that will be used to achieve each minimum detection level.
4. For purposes of reporting on the Discharge Monitoring Report (DMR), if an analytical value is less than the MDL, the Permittee shall report "less than [numerical MDL]" on the DMR. For example, if the mercury

laboratory result is less the MDL of 0.2  $\mu\text{g/L}$  (or reported as “not detected”), the MDL shall report “< 0.2  $\mu\text{g/L}$ ” on the DMR. Actual analytical results shall be reported on the DMR when the results are greater than the MDL. For averaging, samples below the MDL shall be assumed equal to zero. The Permittee shall report the number of nondetects for the month in the “Comment Section” of the DMR.

5. For purposes of reporting on the monthly DMR, if the location of outfall 005 is moved from the tundra to the Chukchi Sea (or Chukchi Sea to tundra), the date and time shall be noted. A plan for the decommission of the tundra outfall is required by the Alaska Department of Environmental Conservation (ADEC).

## II. BIOSOLIDS REQUIREMENTS

Biosolids (or sewage sludge) shall be disposed of by co-incineration. During the period beginning on the effective date of this permit, and lasting until permit expiration, the following conditions apply to biosolids disposal:

1. The Permittee shall handle and dispose of biosolids to ensure public health and the environment are protected from any reasonably anticipated adverse effects due to any toxic pollutants that may be present in the biosolids.
2. The Permittee shall comply with all existing Federal and State laws and regulations that apply to its biosolids use or disposal practice. Additionally, the Permittee shall ensure that the requirements of 40 CFR 503 Subpart A are met when biosolids are used or disposed of (Refer to Appendix 1).
3. The Permittee shall ensure that pollutants from the biosolids do not reach waters of the United States.
4. Biosolids from the Personnel Accommodations Complex (PAC), temporary construction camp, and Alaska Interstate Construction (AIC) mine camp sewage treatment plants (STPs) shall be transferred to the Port Site co-incinerators for processing and disposal in accordance with the requirements of this permit.
5. Monthly monitoring for the first year of the permit and quarterly monitoring thereafter of biosolids for beryllium, mercury, arsenic, cadmium, lead, and nickel is a requirement of the permit and shall be conducted as follows:
  - a. The sampling method shall be representative of production on the day of sampling, and the number and timing of samples shall be representative of the quantity and quality of biosolids generated over the year.

- b. The biosolids shall be sampled at or immediately before the point of discharge into the biosolid transport vehicle, or at or immediately before the point of discharge from the transport vehicle to the recipient facility.
  - c. Sampling protocol shall follow procedures outlined in *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, EPA Publication SW-846, 2nd Edition (1982) with Updates I (April 1984) and II (April 1985) and 3rd Edition (November 1986) with Revision I (December 1987). Analytical protocols shall be in accordance with 40 CFR 503.8.
  - d. Results of biosolids sampling shall be reported as total recoverable metal for each metal in mg/kg dry weight. The first annual report shall be submitted with the appropriate DMR no later than one year from the effective date of this permit and every year thereafter. The report shall contain information on the location of the facilities handling and receiving the biosolids, the amount of biosolids being handled, and the monitoring data.
6. The Permittee must ensure that the use or disposal of the biosolids is in accordance with the requirements of this permit at all times, which are established in accordance with Section 405(d) of the CWA. Efforts to ensure compliance shall include, but not be limited to, the following elements:
- a. The Permittee shall prepare and submit a contingency plan within 6 months of the effective date of this permit. The plan shall be implemented within 6 months of plan submission. The contingency plan shall include an option for biosolids storage, use, or disposal, sufficient to cover the estimated maximum duration of any period when the co-incinerators may be unavailable. These options must be in accordance with the provisions of 40 CFR 503, if applicable. EPA may amend the permit to authorize the backup sludge practice, such as co-disposal in a landfill.
  - b. The quality of the biosolids and the method and delivery of the biosolids shall be in compliance with any applicable requirements in the air pollution control permit for the co-incineration facilities including regulations found under 18 AAC 50.

### III. MONITORING, RECORDING AND REPORTING REQUIREMENTS

#### A. Whole Effluent Toxicity Testing

1. The Permittee shall perform acute toxicity tests on samples representative of the effluents discharged from outfalls 001 and 005 (if discharged to the Chukchi Sea).

The Permittee shall submit test results with the DMR (see Part III.E.).  
The report of test results shall include all relevant information.

2. The Permittee shall conduct one acute toxicity test per month (per fish and invertebrate specie) during the months of June, July, August and September. The testing shall occur by the third year following the effective date of the permit.

The tests shall be conducted using:

*Atherinops affinis* (topsmelt)- 4-day static non-renewal, acute test (refer to Table 14 of reference listed in Section III.A.3.b.);

*Mysidopsis bahia* (Atlantic mysid) or *Holmesimysis costata* (Pacific mysid)- at least 48 hour static non-renewal, acute test (refer to Table 15 of reference listed in Section III.A.3.b.).

3. Quality Assurance

- a. The toxicity testing on each organism shall include a series of six test solutions, ranging from 0 percent effluent (control) to 100 percent effluent, with a minimum of four replicates per concentration. Based on available data, dilutions shall be selected that will bracket the expected in-stream waste concentration of 5.5% (IWC, for example 2.5, 4.0, 5.5, 42.0, 90.0). The estimated IWC is one divided by the acute dilution of the effluent. Where organisms are not cultured in-house, concurrent testing with reference toxicants shall also be conducted. Concurrent testing with reference toxicants shall also be conducted once per month in June, July, August and September.

- b. All test methods and quality assurance criteria used shall be in accordance with the following documents:

Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms, Fourth Edition, EPA/600/4-90/027F.

- c. The Permittee shall conduct testing on 24-hour composite samples of effluent. Each sample collected shall be large enough to provide enough effluent to conduct the toxicity tests, as well as chemical tests required in Part I.A.3 and I.B.4 of the permit.
- d. The Permittee shall perform chemical testing for the parameters listed in Part I.A.3 and I.B.4 of this permit on a split sample collected for WET testing to the extent possible. To the extent that the timing of sample collection coincides with that of the sampling required in Part I.A.3 and I.B.4 of this permit, chemical analysis of the split sample will fulfill the requirements of those parts as well.
- e. The Permittee shall use standard laboratory dilution water as defined in each test method. In no case shall water that has failed the test acceptability criteria (TAC) be used for dilution or control water.
- f. If either the reference toxicant tests or the effluent tests do not meet all TAC as specified in the test methods manual, then the Permittee must re-sample and re-test as soon as possible.

4. Reporting

- a. The Permittee shall submit the results of the toxicity tests, including any additional testing conducted during the month, in acute toxic units (TU<sub>a</sub>, see definitions) with the monthly DMR following testing.
- b. The full report shall be submitted with the monthly DMR for November.
- c. The full report shall consist of: (1) the toxicity test results; (2) the dates of sample collection and initiation of each toxicity test; (3) the flow rate at the time of sample collection; and (4) the results of the effluent analyses for chemical/physical parameters.

B. Ambient Water Monitoring Program

The Permittee shall conduct a Water Quality Monitoring program, within the Chukchi Sea, to measure for background salinity. Ambient monitoring for fecal

coliform is also required at the edge of the mixing zone (100 meter radius, centered on the outfall line and over the diffuser) closest to the dock. Ambient total recoverable monitoring for cadmium, lead, zinc, copper and mercury is also required if/when outfall 005 is relocated from the tundra to the Chukchi Sea. A study plan shall be submitted to the EPA for review and comment within 60 days of the effective date of the permit, and shall include the following requirements:

C. Water Column Monitoring

1. The study plan shall include sampling locations, temporal and spatial capability in the receiving water, appropriate sampling and analytical methods (including clean techniques, if necessary), analytical variability, and quality assurance/quality control for sampling and analysis.
2. Upon submittal, the study plan will be implemented within 30 days.
3. The Permittee shall collect a minimum of one monthly ambient sample for salinity, fecal coliform, cadmium, lead, zinc, copper and mercury during the months of June, July, August and September. The date, time, and weather conditions shall be noted and reported for each sample collected.
4. All monitoring results shall be reported in a summary report and submitted along with the monthly DMR for the months in which samples are taken.

D. Quality Assurance Plan

1. The permittee shall develop a Quality Assurance Plan (QAP). The primary purpose of the QAP shall be to assist in planning for the collection and analysis of samples in support of the permit and in explaining data anomalies when they occur.
2. Throughout all sample collection and analysis activities, the Permittee shall use the EPA approved quality assurance, quality control, and chain-of-custody procedures described in EPA QA/R-5 *EPA Requirements for Quality Assurance Project Plans* and EPA QA/G-5 *Guidance on Quality Assurance Project Plans*. The following references may be helpful in preparing the Quality Assurance Plan for this permit: *You and Quality Assurance in Region 10*, EPA, Region 10, Quality and Data Management Program, March 1988 and *The Volunteer Monitors Guide to Quality Assurance Project Plans* EPA 841-B-96-003, September 1996.
3. The plan shall be submitted to EPA and ADEC for review within 90 days of the effective date of this NPDES permit.

4. At a minimum the plan shall include the following:
- Sampling techniques (field blanks, replicates, duplicates, control samples, etc).
  - Sampling preservation methods.
  - Sampling shipment procedures.
  - Instrument calibration procedures and preventive maintenance (frequency, standard, spare parts).
  - Qualification and training of personnel.
  - Analytical methods (including quality control checks, quantification/detection levels).
  - Analytical test method that will be used to achieve the method detection limits in Section I.C.5.
  - Name(s), address(es) and telephone number(s) of the laboratories, used by or proposed to be used by the permittee, shall be specified in the Quality Assurance Plan.
5. The permittee shall require the laboratory director of each laboratory providing measurement results in support of this permit to sign and submit to EPA the following statement on a monthly basis with the DMR:

*I certify that this data is in compliance with requirements under 40 CFR 136 and other analytical requirements specified in NPDES permit No. AK-004064-9.*

*Signature:\_\_\_\_\_ Date:\_\_\_\_\_*

E. Representative Sampling (Routine and Non-Routine Discharges)

Effluent samples taken in compliance with the monitoring requirements (except salinity) established under I.A.3. shall be collected after the last treatment process and before combination with the desalination effluent or any other waste stream. Salinity monitoring established under I.A.3 shall occur at or before the point of discharge to the Chukchi Sea. Effluent samples taken in compliance with the monitoring requirements under I.B.4. shall be collected at or before the point of discharge and before combination with any waste stream. Effluent samples taken in compliance with II.5 shall be collected at or immediately prior to entering the sludge transport vehicle, or at or immediately prior to disposal from the transport vehicle to the co-incinerator. Samples and measurements shall be representative of the volume and nature of the monitored discharge.

In order to ensure that the effluent limits set forth in this permit are not violated at times other than when routine samples are taken, the Permittee shall collect

additional samples at the appropriate outfall(s) whenever any discharge occurs that may reasonably be expected to cause or contribute to a violation that is unlikely to be detected by a routine sample. The Permittee shall analyze the additional samples for effluent limited parameters (Tables 1, 2 and 3) that are likely to be affected by the discharge.

The Permittee shall collect such additional samples as soon as possible after the spill or discharge. The samples shall be analyzed in accordance with paragraph F., below. In the event of an anticipated bypass, as defined in Part V.G. of this permit, the Permittee shall collect and analyze additional samples as soon as the bypassed effluent reaches the outfall. The Permittee shall report all additional monitoring in accordance with paragraph E., below.

F. Reporting of Monitoring Results

The Permittee shall summarize monitoring results each month on the DMR form (EPA No. 3320-1). The Permittee shall submit reports monthly, postmarked by the 15th day of the following month. The Permittee shall sign and certify all DMRs, and all other reports, in accordance with the requirements of Part VI.I. of this permit ("Signatory Requirements"). The Permittee shall submit the legible originals of these documents to the Director, Water Division, with copies to the State agency at the following addresses:

United States Environmental Protection Agency  
Region 10  
1200 Sixth Avenue, OW-133  
Seattle, Washington 98101

Alaska Department of Environmental Conservation  
Northern Region  
610 University Avenue  
Fairbanks, Alaska 99709-3643

G. Additional Monitoring by Permittee

If the Permittee monitors any pollutant more frequently than required by this permit, test procedures approved under 40 CFR 136 or as specified in this permit shall be used. The Permittee shall include the results of this monitoring in the calculation and reporting of the data submitted in the DMR. The Permittee shall indicate on the DMR whenever it has performed additional monitoring, and shall explain why it performed such monitoring.

Upon request by the Director, the Permittee shall submit results of any other sampling, regardless of the test method used.

H. Records Contents

All effluent monitoring records shall bear the handwritten signature of the person who prepared them. In addition, all records of monitoring information shall include:

1. the date, exact place, and time of sampling or measurements;
2. the names of the individual(s) who performed the sampling or measurements;
3. the date(s) analyses were performed;
4. the names of the individual(s) who performed the analyses;
5. the analytical techniques or methods used; and
6. the results of such analyses.

I. Retention of Records

The Permittee shall retain records of all monitoring information, including, but not limited to, all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, copies of DMRs, a copy of the NPDES permit, and records of all data used to complete the application for this permit, for a period of at least three years from the date of the sample, measurement, report or application. This period may be extended by request of the Director or ADEC at any time. Data collected on-site, copies of DMRs, and a copy of this NPDES permit must be maintained on-site during the duration of activity at the permitted location.

J. Twenty-four Hour Notice of Noncompliance Reporting

1. The Permittee shall report the following occurrences of noncompliance by telephone within 24 hours from the time the Permittee becomes aware of the circumstances:
  - a. any noncompliance that may endanger health or the environment;
  - b. any unanticipated bypass that results in or contributes to an exceedence of any effluent limitation in the permit (See Part V.G., "Bypass of Treatment Facilities");

- c. any upset that results in or contributes to an exceedance of any effluent limitation in the permit (See Part V.H., "Upset Conditions"); or
  - d. any violation of a maximum daily discharge limitation for any of the pollutants listed in the permit.
2. The Permittee shall also provide a written submission within five days of the time that the Permittee becomes aware of any event required to be reported under Subpart 1 above. The written submission shall contain:
- a. a description of the noncompliance and its cause;
  - b. the period of noncompliance, including exact dates and times;
  - c. the estimated time noncompliance is expected to continue if it has not been corrected; and
  - d. steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.
  - e. the results of any monitoring data required under Section III.E., above.
3. The Director may, at his/her sole discretion, waive the written report on a case-by-case basis if the oral report has been received within 24 hours by the NPDES Compliance Unit in Seattle, Washington, by telephone, (206) 553-1846.
4. Reports shall be submitted to the addresses in Part III.E. ("Reporting of Monitoring Results").

K. Other Noncompliance Reporting

The Permittee shall report all instances of noncompliance, not required to be reported within 24 hours, at the time that monitoring reports for Part III.E. are submitted. The reports shall contain the information listed in Part III.G. of this permit.

L. Changes in Discharge of Toxic Substances

The Permittee shall notify the Director and ADEC as soon as it knows, or has reason to believe:

1. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant that is not limited in the permit, if that discharge may reasonably be expected to exceed the highest of the following "notification levels":
  - a. One hundred micrograms per liter (100 µg/L);
  - b. Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,4-dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
  - c. Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or
  - d. The level established by the Director in accordance with 40 CFR 122.44(f).
  
2. That any activity has occurred or will occur that would result in any discharge, on a non-routine or infrequent basis, of any toxic pollutant that is not limited in the permit, if that discharge may reasonably be expected to exceed the highest of the following "notification levels":
  - a. Five hundred micrograms per liter (500 µg/L);
  - b. One milligram per liter (1 mg/L) for antimony;
  - c. Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or
  - d. The level established by the Director in accordance with 40 CFR 122.44(f).

M. Inspection and Entry

The Permittee shall allow the Director, ADEC, or an authorized representative (including an authorized contractor acting as a representative of the Administrator), upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
4. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the CWA, any substances or parameters at any location.

#### **IV. BEST MANAGEMENT PRACTICES**

##### **A. Purpose**

Through implementation of a Best Management Practices (BMP) plan the Permittee shall prevent or minimize the generation and the potential for the release of pollutants from the facility to the waters of the United States through normal operations and ancillary activities.

##### **B. Submittal**

The Permittee shall develop and submit to EPA a BMP plan and schedule for implementation within six months of the effective date of this permit. The final BMP plan shall be submitted to ADEC.

##### **C. Objectives**

The Permittee shall develop and amend the BMP plan consistent with the following objectives for the control of pollutants.

1. The number and quantity of pollutants and the toxicity of effluent generated, discharged or potentially discharged from the Delong Mountain Regional Transportation System Road shall be minimized by the Permittee to the extent feasible by managing each waste stream in the most appropriate manner.
2. Under the BMP plan, and any Standard Operating Procedures (SOPs) included in the Plan, the Permittee shall ensure proper operation and maintenance of water management and wastewater treatment systems. Plan elements shall be developed in accordance with good engineering practices.

3. The Permittee shall establish specific objectives for the control of pollutants by conducting the following evaluations.
  - (a) Each facility component or system shall be examined for its waste minimization opportunities and its potential for causing a release of significant amounts of pollutants to waters of the United States due to equipment failure, improper operation, natural phenomena such as rain or snowfall, etc. The examination shall include all normal operations and ancillary activities including material storage areas, storm water, transfer of materials along conveyor and road, material handling and process handling areas, loading or unloading operations, spillage or leaks, sludge and waste disposal, or drainage from raw material storage.
  - (b) Where experience indicates a reasonable potential for equipment failure (e.g., haul truck overflow or leakage), natural condition (e.g., precipitation), or other circumstances to result in significant amounts of pollutants reaching surface waters, the program should include a prediction of the direction, rate of flow and total quantity of pollutants which could be discharged as a result of each condition or circumstance.

D. Requirements

The BMP plan shall be consistent with the objectives in Part C. above and the general guidance contained in the publication entitled "Best Management Practices Guidance Document" (U.S. EPA, 1981) or any subsequent revisions to the guidance document. The BMP plan shall include:

1. Plan Components

- (a) Statement of BMP policy. This statement must include a statement of management commitment to provide the necessary financial, staff, equipment and training resources to develop and implement the BMP plan on a continuing basis.
- (b) Structure, functions, and procedures of the BMP Committee.
- (c) Spill identification and assessment.
- (d) Specific BMPs and SOPs to achieve the above objectives (see below).
- (e) Reporting of BMP incidents, including the conclusions reached by the boards of review in paragraph E, below. The reports shall include a description of the circumstances leading to the incident, corrective

actions taken and recommended changes to operating and maintenance practices to prevent recurrence.

- (f) Materials compatibility.
- (g) Good housekeeping.
- (h) Inspections and records.
- (i) Preventative maintenance and repair.
- (j) Security.
- (k) Employee training.
- (l) Prior evaluation of any planned modifications to the facility to ensure that the requirements of the BMP plan are considered as part of the modifications.
- (m) Final constructed site plans, drawings and maps (including detailed mine drainage outfall/culvert configurations).

## 2. Review and Certification

- (a) Annual review by plant engineering staff and the plant manager.
- (b) Annual review and endorsement by the Permittee's BMP Committee.
- (c) Certified statement that the above reviews have been completed and that the BMP Plan fulfills the requirements set forth in this permit. The statement shall be certified by the dated signatures of each BMP Committee member. This statement shall be submitted to the EPA on or before January 31 of each year of operation under this permit after the initial BMP submittal (the initial statement shall be submitted to EPA six months after submittal of the BMP).

## 3. Specific Best Management Practices

Specific practices shall be developed to achieve the objectives of the Plan, including but not limited to:

- (a) Proper management of solid and hazardous waste in accordance with regulations promulgated under the Resource Conservation and Recovery Act (RCRA) and the Alaska Solid Waste Management Regulations (18

AAC 60). Management practices required under RCRA regulations shall be referenced in the BMP plan.

- (b) Proper management of materials in accordance with Spill Prevention, Control, and Countermeasure (SPCC) plans under Section 311 of the CWA and 40 CFR Part 112. The BMP plan may incorporate any part of such plans into the BMP plan by reference.
- (c) Representative sampling is required whenever a bypass, spill, or non-routine discharge of pollutants occurs, if the discharge may reasonably be expected to cause or contribute to a violation of any effluent limit set forth in the permit.
- (d) Measures for the reduction of dispersed metal concentrates at the Port Site is required, including a description of any controls of air emissions that may cause metal concentrates to disperse to surface waters.

E. Documentation

The Permittee shall maintain a copy of the BMP plan at the facility and make it available to the EPA or an authorized representative upon request. All offices of the Permittee which are required to maintain a copy of the NPDES permit shall also maintain a copy of the BMP plan.

F. BMP Plan Modification

The Permittee shall amend the BMP plan whenever there is a change in the facility or in the operation of the facility which materially increases the generation of pollutants or their release or potential release to the receiving waters. The Permittee shall also amend the Plan, as appropriate, when plant operations covered by the BMP plan change. Any such changes to the BMP plan shall be consistent with the objectives and specific requirements listed above. All changes in the BMP plan shall be reviewed by the plant engineering staff and plant manager and shall be reported to the EPA in writing.

G. Modification for Ineffectiveness

At any time, if the BMP plan proves to be ineffective in achieving the general objective of preventing and minimizing the generation of pollutants and their release and potential release to the receiving waters and/or the specific requirements above, the permit and/or the BMP plan shall be subject to modification to incorporate revised BMP requirements.

## V. COMPLIANCE RESPONSIBILITIES

### A. Duty to Comply

The Permittee shall comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the CWA and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification, or for denial of a permit renewal application. The Permittee shall give reasonable advance notice to the Director and ADEC of any planned changes in the permitted facility or activity that may result in noncompliance with permit requirements.

### B. Penalties for Violations of Permit Conditions

Except as provided in permit conditions in section IV.G. Bypass of Treatment Facilities and section IV.H. Upset Conditions, nothing in this permit shall be construed to relieve the permittee of the civil or criminal penalties for noncompliance.

1. **Civil and Administrative Penalties.** Any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act shall be subject to a civil or administrative penalty, not to exceed the maximum amounts authorized by Sections 309(d) and 309(g) of the Act and the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461 note) as amended by the Debt Collection Improvement Act (31 U.S.C. § 3701 note).
2. **Criminal Penalties:**
  - a. **Negligent Violations.** Any person who negligently violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the CWA shall, upon conviction, be punished by a fine and/or imprisonment as specified in Section 309(c)(1) of the CWA.
  - b. **Knowing Violations.** Any person who knowingly violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the CWA shall, upon conviction, be punished by a fine and/or imprisonment as specified in Section 309(c)(2) of the CWA.
  - c. **Knowing Endangerment.** Any person who knowingly violates a permit condition implementing Sections 301, 302, 303, 306, 307, 308, 318, or 405 of the CWA, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine and/or imprisonment as specified in Section 309(c)(3) of the CWA.

- d. False Statements. Any person who knowingly makes any false material statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under the CWA or who knowingly falsifies, tampers with, or renders inaccurate any monitoring device or method required to be maintained under the CWA, shall, upon conviction, be punished by a fine and/or imprisonment as specified in Section 309(c)(4) of the CWA.

C. Need to Halt or Reduce Activity not a Defense

It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with this permit.

D. Duty to Mitigate

The 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.

E. Proper Operation and Maintenance

The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back up or auxiliary facilities or similar systems only when the operation is necessary to achieve compliance with the conditions of the permit. The permittee shall annually inspect the pipelines, including but not limited to dive surveys and dye tracer studies, as required to confirm proper functioning and condition of pipelines and diffuser ports. The pipeline inspections shall be reported to ADEC.

F. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of water and wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering navigable waters, except as specifically authorized in Part I.A.3 and I.B.4.

G. Bypass of Treatment Facilities

1. Bypass not exceeding limitations. The Permittee may allow any bypass to occur that does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs 2 and 3 of this Part.
2. Notice.
  - a. Anticipated bypass. If the Permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least 10 days before the date of the bypass.
  - b. Unanticipated bypass. The Permittee shall submit notice of an unanticipated bypass as required under Part III.I. ("Twenty-four Hour Notice of Noncompliance Reporting").
3. Prohibition of bypass.
  - a. Bypass is prohibited, and the Director or ADEC may take enforcement action against the Permittee for a bypass, unless:
    - (1) The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
    - (2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back up equipment should have been installed, in the exercise of reasonable engineering judgment, to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance; and
    - (3) The Permittee submitted notices as required under paragraph 2 of this Part.
  - b. The Director and ADEC may approve an anticipated bypass, after considering its adverse effects, if the Director and ADEC determine that it will meet the three conditions listed above in paragraph 3.a. of this Part.

H. Upset Conditions

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the Permittee meets the requirements of paragraph 2 of this Part. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is subject to judicial review.
2. Conditions necessary for a demonstration of upset. To establish the affirmative defense for an upset, the Permittee shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
  - a. An upset occurred and that the Permittee can identify the cause(s) of the upset;
  - b. The permitted facility was properly operated at the time;
  - c. The Permittee submitted notice of the upset as required under Part III.I., Twenty-four Hour Notice of Noncompliance Reporting; and
  - d. The Permittee complied with any remedial measures required under Part V.D., Duty to Mitigate.
3. Burden of proof. In any enforcement proceeding, the Permittee seeking to establish the occurrence of an upset has the burden of proof.

I. Toxic Pollutants

The Permittee shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

**VI. GENERAL PROVISIONS**

A. Notice of New Introduction of Pollutants

The Permittee shall provide adequate notice to the Director, Water Division of:

1. Any new introduction of pollutants into the treatment works from an indirect discharger which would be subject to Section 301 or 306 of the CWA if it were directly discharging those pollutants, and

2. Any substantial change in the volume or character of pollutants being introduced into the treatment works by a source introducing pollutants into the treatment works at the time of issuance of the permit.
3. For the purposes of this section, adequate notice shall include information on:
  - a. The quality and quantity of effluent to be introduced into such treatment works and;
  - b. Any anticipated impact of the change on the quantity or quality of effluent to be discharged from such treatment works.

B. Planned Facility Changes

The Permittee shall give notice to the Director and ADEC as soon as possible of any planned physical alterations or additions to the permitted facility whenever:

1. The alteration or addition to a permitted facility meets one of the criteria for determining whether a facility is a new source as determined in 40 CFR 122.29(b); or
2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are subject neither to effluent limitations in the permit, nor to notification requirements under Part III.K.

The Permittee shall give notice to the Director and ADEC as soon as possible of any planned changes in process or chemical use whenever such change could significantly change the nature or increase the quantity of pollutants discharged.

C. Control of Undesirable Pollutants

Under no circumstances shall the Permittee allow introduction of the following wastes into the STPs:

1. Wastes which will create a fire or explosion hazard in the facility;
2. Wastes which will cause corrosive structural damage to the treatment works, but in no case, wastes with a pH lower than 5.0, unless the facility is designed to accommodate such wastes;

3. Solid or viscous substances in amounts which cause obstructions to the flow in piping, or interference with the proper operation of the sewage treatment plants (STPs);
4. Wastewaters at a flow rate and/or pollutant discharge rate which is excessive over relatively short time periods so that there is a treatment process upset and subsequent loss of treatment efficiency and;
5. Any pollutant, including oxygen demanding pollutants (BOD<sub>5</sub>, etc.) released in a discharge of such volume or strength as to cause interference in the treatment works.

D. Anticipated Noncompliance

The Permittee shall also give advance notice to the Director and ADEC of any planned changes in the permitted facility or activity that may result in noncompliance with this permit.

E. Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

F. Duty to Reapply

If the Permittee intends to continue an activity regulated by this permit after the expiration date of this permit, the Permittee must apply for and obtain a new permit. The application shall be submitted at least 180 days before the expiration date of this permit.

G. Duty to Provide Information

The Permittee shall furnish to the Director and ADEC, within the time specified in the request, any information that the Director or ADEC may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The Permittee shall also furnish to the Director or ADEC, upon request, copies of records required to be kept by this permit.

H. Other Information

When the Permittee becomes aware that it failed to submit any relevant facts in a permit application, or that it submitted incorrect information in a permit application or any report to the Director or ADEC, it shall promptly submit the omitted facts or corrected information.

I. Signatory Requirements

All applications, reports or information submitted to the Director and ADEC shall be signed and certified.

1. All permit applications shall be signed as follows:
  - a. For a corporation: by a responsible corporate officer.
  - b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively.
  - c. For a municipality, state, federal, or other public agency: by either a principal executive officer or ranking elected official.
2. All reports required by the permit and other information requested by the Director or ADEC shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:
  - a. The authorization is made in writing by a person described above and submitted to the Director and ADEC, and
  - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company.
3. Changes to authorization. If an authorization under Part VI.I.2. is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph V.I.2. must be submitted to the Director and ADEC prior to or together with any reports, information, or applications to be signed by an authorized representative.

4. Certification. Any person signing a document under this Part shall make the following certification:

"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."

J. Availability of Reports

Except for data determined to be confidential under 40 CFR 2, all reports prepared in accordance with this permit shall be available for public inspection at the offices of the state water pollution control agency and the Director and ADEC. As required by the CWA, permit applications, permits and effluent data shall not be considered confidential.

K. Inspection and Entry

The Permittee shall allow the Director, ADEC, or an authorized representative (including an authorized contractor acting as a representative of the Administrator), upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
4. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the CWA, any substances or parameters at any location.

L. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the Permittee from any responsibilities, liabilities, or penalties to which the Permittee is or may be subject under Section 311 of the CWA.

M. Property Rights

The issuance of this permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

N. Severability

The provisions of this permit are severable. If any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

O. Transfers

This permit may be automatically transferred to a new Permittee if:

1. The current Permittee notifies the Director at least 30 days in advance of the proposed transfer date;
2. The notice includes a written agreement between the existing and new Permittees containing a specific date for transfer of permit responsibility, coverage, and liability between them; and
3. The Director does not notify the existing Permittee and the proposed new Permittee of his or her intent to modify, or revoke and reissue the permit.

If the notice described in paragraph 3 above is not received, the transfer is effective on the date specified in the agreement mentioned in paragraph 2 above.

P. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the Permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by Section 510 of the CWA.

Q. Reopener Clause

This permit may be reopened and modified (following proper administrative procedures) to include the appropriate biosolids limitations, management practices, other appropriate requirements to protect public health and the environment. The permit may also be reopened and modified if there have been substantial changes (or such changes are planned) in biosolids use or disposal practices, applicable management practices, or numerical limitations for pollutants in biosolids have been promulgated which are more stringent than the requirements in this permit, and/or if it has been determined that the Permittee's biosolids use does not comply with existing applicable state or federal regulations.

**VII. DEFINITIONS**

1. "Acute toxicity" measures the lethal effect of the solution.
2. "Acute toxicity unit (TU<sub>a</sub>)" is a measure of acute toxicity. Units are measured as 100/LC<sub>50</sub>.
3. "ADEC" means the Alaska Department of Environmental Conservation.
4. "Administrator" means the Administrator of the US EPA, or an authorized representative.
5. "Average monthly discharge limitation" 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 during that month.
6. "Average weekly discharge limitation" means the average of daily discharges over a calendar week, calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week. For fecal coliform bacteria, the weekly average is calculated as the geometric mean of all daily discharges measured during a calendar week.
7. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.
8. A "24 hour composite" sample shall mean a flow-proportioned mixture of not less than eight discrete aliquots in 24 hours. Each aliquot shall be a grab sample of not less than 100 ml and shall be collected and stored in accordance with procedures prescribed in the most recent edition of Standard Methods for the Examination of Water and Wastewater.

9. “Daily discharge “ means the discharge of a pollutant during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the daily discharge is the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in concentration, rates, or other units, the daily discharge is the average measurement of the pollutant over the day.
10. “Daily maximum”. See Maximum daily discharge.
11. “Director” means the Director of the Office of Water, US EPA, or an authorized representative.
12. "Discharge measurement" means measuring width, depths, and velocities using a tape or tagline, sounding equipment, and a current meter.
13. “DMR” means discharge monitoring report.
14. “EPA” means the United States Environmental Protection Agency.
15. "Fecal coliform" means those bacteria that can ferment lactose at  $44.5^{\circ} \pm 0.2^{\circ}\text{C}$  to produce gas in a multiple tube procedure. It also means all bacteria that produce blue colonies within 24 hours of incubation at  $44.5^{\circ} \pm 0.2^{\circ}\text{C}$  in an M-FC broth medium. For fecal coliform analysis, the average shall be computed as the logarithmic mean.
16. “Final effluent” means effluent at, or downstream from, the point where a permitted outfall enters navigable waters, and through which all waste streams pass that are discharged from the outfall.
17. “Flow-weighted average concentration” is defined as the sum of the product of discharge flows and corresponding concentrations, divided by the sum of discharge flows.
18. “Grab” sample is a single sample or measurement taken at a specific time or over as short a period of time as is feasible.
19. “LC<sub>50</sub>” means the concentration of effluent that is acutely toxic to 50 percent of the test organisms exposed.
20. “Maximum daily discharge limitation” or daily maximum means the highest allowable daily discharge.

21. “Method Detection Limit” (MDL) means the minimum concentration of an analyte that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero as determined by a specific laboratory method.
22. “Mine drainage” means any water drained, pumped, or siphoned from a mine.
23. “Minimum level” (ML) means the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. An interim ML is calculated when a method-specified ML does not exist.
24. “Precipitation” means rainfall or snowmelt.
25. “QA/QC” means quality assurance/quality control.
26. “Regional Administrator” means the EPA Region 10 Regional Administrator, or an authorized representative.
27. “Severe property damage” means substantial physical damage to property, damage to the treatment facilities that causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
28. “Sludge or biosolids” means settled solids.
29. “Upset” means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit 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.
30. “Wasteload allocation” means the maximum amount of pollutants that a body of water can assimilate in a day from a specific facility without violating the State’s Water Quality Standards.
31. “Waste stream” means any non-de minimis stream of pollutants within the Permittee’s facility that enters any permitted outfall or navigable waters. This includes spills and other unintentional, non-routine or unanticipated discharges.
32. “Whole effluent toxicity” means the aggregate toxic effect of an effluent measured directly by a toxicity test using living organisms.

## **APPENDIX 1 - PART 503 STANDARDS FOR THE USE OR DISPOSAL OF SEWAGE SLUDGE**

### **Subpart A-General Provisions**

#### § 503.1 Purpose and applicability.

(a) Purpose.

- (1) This part establishes standards, which consist of general requirements, pollutant limits, management practices, and operational standards, for the final use or disposal of sewage sludge generated during the treatment of domestic sewage in a treatment works. Standards are included in this part for sewage sludge applied to the land, placed on a surface disposal site, or fired in a sewage sludge incinerator. Also included in this part are pathogen and alternative vector attraction reduction requirements for sewage sludge applied to the land or placed on a surface disposal site.
- (2) In addition, the standards in this part include the frequency of monitoring and record keeping requirements when sewage sludge is applied to the land, placed on a surface disposal site, or fired in a sewage sludge incinerator. Also included in this part are reporting requirements for Class I sludge management facilities, publicly owned treatment works (POTWs) with a design flow rate equal to or greater than one million gallons per day, and POTWs that serve 10,000 people or more.

(b) Applicability.

- (1) This part applies to any person who prepares sewage sludge, applies sewage sludge to the land, or fires sewage sludge in a sewage sludge incinerator and to the owner/operator of a surface disposal site.
- (2) This part applies to sewage sludge applied to the land, placed on a surface disposal site, or fired in a sewage sludge incinerator.
- (3) This part applies to the exit gas from a sewage sludge incinerator stack.
- (4) This part applies to land where sewage sludge is applied, to a surface disposal site, and to a sewage sludge incinerator.

#### § 503.2 Compliance period.

(a) Compliance with the standards in this part shall be achieved as expeditiously as practicable, but in no case later than February 19, 1994. When compliance with the standards requires construction of new pollution control facilities, compliance with the standards shall be achieved as expeditiously as practicable, but in no case later than February 19, 1995.

(b) The requirements for frequency of monitoring, record keeping, and reporting in this part for total hydrocarbons in the exit gas from a sewage sludge incinerator are effective February 19, 1994 or, if compliance with the operational standard for total hydrocarbons in this part requires the construction of new pollution control facilities, February 19, 1995.

(c) All other requirements for frequency of monitoring, record keeping, and reporting in this part are effective on July 20, 1993.

#### § 503.3 Permits and direct enforceability.

(a) Permits. The requirements in this part may be implemented through a permit:

- (1) Issued to a "treatment works treating domestic sewage", as defined in 40 CFR 122.2, in accordance with 40 CFR parts 122 and 124 by EPA or by a State that has a State sludge management program approved by EPA in accordance with 40 CFR part 123 or 40 CFR part 501 or
- (2) Issued under subtitle C of the Solid Waste Disposal Act; part C of the Safe Drinking Water Act; the Marine Protection, Research, and Sanctuaries Act of 1972; or the Clean Air Act. "Treatment works treating domestic sewage" shall submit a permit application in accordance with either 40 CFR 122.21 or an approved State program.

(b) Direct enforceability. No person shall use or dispose of sewage sludge through any practice for which requirements are established in this part except in accordance with such requirements.

§ 503.4 Relationship to other regulations.

Disposal of sewage sludge in a municipal solid waste landfill unit, as defined in 40 CFR 258.2, that complies with the requirements in 40 CFR part 258 constitutes compliance with section 405(d) of the CWA. Any person who prepares sewage sludge that is disposed in a municipal solid waste landfill unit shall ensure that the sewage sludge meets the requirements in 40 CFR part 258 concerning the quality of materials disposed in a municipal solid waste landfill unit.

§ 503.5 Additional or more stringent requirements.

(a) On a case-by-case basis, the permitting authority may impose requirements for the use or disposal of sewage sludge in addition to or more stringent than the requirements in this part when necessary to protect public health and the environment from any adverse effect of a pollutant in the sewage sludge.

(b) Nothing in this part precludes a State or political subdivision thereof or interstate agency from imposing requirements for the use or disposal of sewage sludge more stringent than the requirements in this part or from imposing additional requirements for the use or disposal of sewage sludge.

§ 503.6 Exclusions.

(a) Treatment processes. This part does not establish requirements for processes used to treat domestic sewage or for processes used to treat sewage sludge prior to final use or disposal, except as provided in §503.32 and §503.33.

(b) Selection of a use or disposal practice. This part does not require the selection of a sewage sludge use or disposal practice. The determination of the manner in which sewage sludge is used or disposed is a local determination.

(c) Co-firing of sewage sludge. This part does not establish requirements for sewage sludge co-fired in an incinerator with other wastes or for the incinerator in which sewage sludge and other wastes are co-fired. Other wastes do not include auxiliary fuel, as defined in 40 CFR 503.41(b), fired in a sewage sludge incinerator.

(d) Sludge generated at an industrial facility. This part does not establish requirements for the use or disposal of sludge generated at an industrial facility during the treatment of industrial wastewater, including sewage sludge generated during the treatment of industrial wastewater combined with domestic sewage.

(e) Hazardous sewage sludge. This part does not establish requirements for the use or disposal of sewage sludge determined to be hazardous in accordance with 40 CFR part 261.

(f) Sewage sludge with high PCB concentration. This part does not establish requirements for the use or disposal of sewage sludge with a concentration of polychlorinated biphenyls (PCBs) equal to or greater than 50 milligrams per kilogram of total solids (dry weight basis).

(g) Incinerator ash. This part does not establish requirements for the use or disposal of ash generated during the firing of sewage sludge in a sewage sludge incinerator.

(h) Grit and screenings. This part does not establish requirements for the use or disposal of grit (e.g., sand, gravel, cinders, or other materials with a high specific gravity) or screenings (e.g., relatively large materials such as rags) generated during preliminary treatment of domestic sewage in a treatment works.

(i) Drinking water treatment sludge. This part does not establish requirements for the use or disposal of sludge generated during the treatment of either surface water or ground water used for drinking water.

(j) Commercial and industrial septage. This part does not establish requirements for the use or disposal of commercial septage, industrial septage, a mixture of domestic septage and commercial septage, or a mixture of domestic septage and industrial septage.

§ 503.7 Requirement for a person who prepares sewage sludge.

Any person who prepares sewage sludge shall ensure that the applicable requirements in this part are met when the sewage sludge is applied to the land, placed on a surface disposal site, or fired in a sewage sludge incinerator.

§ 503.8 Sampling and analysis.

(a) Sampling. Representative samples of sewage sludge that is applied to the land, placed on a surface disposal site, or fired in a sewage sludge incinerator shall be collected and analyzed.

(b) Methods. The materials listed below are incorporated by reference in this part. These incorporations by reference were approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. The materials are incorporated as they exist on the date of approval, and notice of any change in these materials will be published in the Federal Register. They are available for inspection at the Office of the Federal Register, 7th Floor, suite 700, 800 North Capitol Street, NW., Washington, DC, and at the Office of Water Docket, room L-102, U.S. Environmental Protection Agency, 401 M Street, SW., Washington, DC. Copies may be obtained from the standard producer or publisher listed in the regulation. Methods in the materials listed below shall be used to analyze samples of sewage sludge.

- (1) Enteric viruses. ASTM Designation: D 4994-89, "Standard Practice for Recovery of Viruses From Wastewater Sludges", 1992 Annual Book of ASTM Standards: Section 11-Water and Environmental Technology, ASTM, 1916 Race Street, Philadelphia, PA 19103-1187.
- (2) Fecal coliform. Part 9221 E. or Part 9222 D., "Standard Methods for the Examination of Water and Wastewater", 18th Edition, 1992, American Public Health Association, 1015 15th Street, NW., Washington, DC 20005.
- (3) Helminth ova. Yanko, W.A., "Occurrence of Pathogens in Distribution and Marketing Municipal Sludges", EPA 600/1-87-014, 1987. National Technical Information Service, 5285 Port Royal Road, Springfield, Virginia 22161 (PB 88-154273/AS).
- (4) Inorganic pollutants. "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", EPA Publication SW-846, Second Edition (1982) with Updates I (April 1984) and II (April 1985) and Third Edition (November 1986) with Revision I (December 1987). Second Edition and Updates I and II are available from the National Technical Information Service, 5285 Port Royal Road, Springfield, Virginia 22161 (PB-87-120-291). Third Edition and Revision I are available from Superintendent of Documents, Government Printing Office, 941 North Capitol Street, NE., Washington, DC 20002 (Document Number 955-001-00000-1).
- (5) Salmonella sp. bacteria. Part 9260 D., "Standard Methods for the Examination of Water and Wastewater", 18th Edition, 1992, American Public Health Association, 1015 15th Street, NW., Washington, DC 20005; or Kenner, B.A. and H.P. Clark, "Detection and enumeration of Salmonella and Pseudomonas aeruginosa", Journal of the Water Pollution Control Federation, Vol. 46, no. 9, September 1974, pp. 2163-2171. Water Environment Federation, 601 Wythe Street, Alexandria, Virginia 22314.
- (6) Specific oxygen uptake rate. Part 2710 B., "Standard Methods for the Examination of Water and Wastewater", 18th Edition, 1992, American Public Health Association, 1015 15th Street, NW., Washington, DC 20005.
- (7) Total, fixed, and volatile solids. Part 2540 G., "Standard Methods for the Examination of Water and Wastewater", 18th Edition, 1992, American Public Health Association, 1015 15th Street, NW., Washington, DC 20005.

#### § 503.9 General definitions.

(a) Apply sewage sludge or sewage sludge applied to the land means land application of sewage sludge.

(b) Base flood is a flood that has a one percent chance of occurring in any given year (i.e., a flood with a magnitude equalled once in 100 years).

(c) Class I sludge management facility is any publicly owned treatment works (POTW), as defined in 40 CFR 501.2, required to have an approved pretreatment program under 40 CFR 403.8(a) (including any POTW located in a State that has elected to assume local program responsibilities pursuant to 40 CFR 403.10(e)) and any treatment works treating domestic sewage, as defined in 40 CFR 122.2, classified as a Class I sludge management facility by the EPA Regional Administrator, or, in the case of approved State programs, the Regional Administrator in conjunction with the State Director, because of the potential for its sewage sludge use or disposal practice to affect public health and the environment adversely.

(d) Cover crop is a small grain crop, such as oats, wheat, or barley, not grown for harvest.

(e) CWA means the Clean Water Act (formerly referred to as either the Federal Water Pollution Act or the Federal Water Pollution Control Act Amendments of 1972), Public Law 92-500, as amended by Public Law 95-217, Public Law 95-576, Public Law 96-483, Public Law 97-117, and Public Law 100-4.

(f) Domestic septage is either liquid or solid material removed from a septic tank, cesspool, portable toilet, Type III marine sanitation device, or similar treatment works that receives only domestic sewage. Domestic septage does not include liquid or solid material removed from a septic tank, cesspool, or similar treatment works that receives either commercial wastewater or industrial wastewater and does not include grease removed from a grease trap at a restaurant.

(g) Domestic sewage is waste and wastewater from humans or household operations that is discharged to or otherwise enters a treatment works.

(h) Dry weight basis means calculated on the basis of having been dried at 105 degrees Celsius until reaching a constant mass (i.e., essentially 100 percent solids content).

(i) EPA means the United States Environmental Protection Agency.

(j) Feed crops are crops produced primarily for consumption by animals.

(k) Fiber crops are crops such as flax and cotton.

(l) Food crops are crops consumed by humans. These include, but are not limited to, fruits, vegetables, and tobacco.

(m) Ground water is water below the land surface in the saturated zone.

(n) Industrial wastewater is wastewater generated in a commercial or industrial process.

(o) Municipality means a city, town, borough, county, parish, district, association, or other public body (including an intermunicipal Agency of two or more of the foregoing entities) created by or under State law; an Indian tribe or an authorized Indian tribal organization having jurisdiction over sewage sludge management; or a designated and approved management Agency under section 208 of the CWA, as amended. The definition includes a special district created under State law, such as a water district, sewer district, sanitary district, utility district, drainage district, or similar entity, or an integrated waste management facility as defined in section 201(e) of the CWA, as amended, that has as one of its principal responsibilities the treatment, transport, use, or disposal of sewage sludge.

(p) Permitting authority is either EPA or a State with an EPA-approved sludge management program.

(q) Person is an individual, association, partnership, corporation, municipality, State or Federal agency, or an agent or employee thereof.

(r) Person who prepares sewage sludge is either the person who generates sewage sludge during the treatment of domestic sewage in a treatment works or the person who derives a material from sewage sludge.

(s) Place sewage sludge or sewage sludge placed means disposal of sewage sludge on a surface disposal site.

(t) Pollutant is an organic substance, an inorganic substance, a combination of organic and inorganic substances, or a pathogenic organism that, after discharge and upon exposure, ingestion, inhalation, or assimilation into an organism either directly from the environment or indirectly by ingestion through the food chain, could, on the basis of information available to the Administrator of EPA, cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions (including malfunction in reproduction), or physical deformations in either organisms or offspring of the organisms.

(u) Pollutant limit is a numerical value that describes the amount of a pollutant allowed per unit amount of sewage sludge (e.g., milligrams per kilogram of total solids); the amount of a pollutant that can be applied to a unit area of land (e.g., kilograms per hectare); or the volume of a material that can be applied to a unit area of land (e.g., gallons per acre).

(v) Runoff is rainwater, leachate, or other liquid that drains overland on any part of a land surface and runs off of the land surface.

(w) Sewage sludge is solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in a treatment works. Sewage sludge includes, but is not limited to, domestic septage; scum or solids removed in primary, secondary, or advanced wastewater treatment processes; and a material derived from sewage sludge. Sewage sludge does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator or grit and screenings generated during preliminary treatment of domestic sewage in a treatment works.

(x) State is one of the United States of America, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the Trust Territory of the Pacific Islands, the Commonwealth of the Northern Mariana Islands, and an Indian Tribe eligible for treatment as a State pursuant to regulations promulgated under the authority of section 518(e) of the CWA.

(y) Store or storage of sewage sludge is the placement of sewage sludge on land on which the sewage sludge remains for two years or less. This does not include the placement of sewage sludge on land for treatment.

(z) Treat or treatment of sewage sludge is the preparation of sewage sludge for final use or disposal. This includes, but is not limited to, thickening, stabilization, and dewatering of sewage sludge. This does not include storage of sewage sludge.

(aa) Treatment works is either a federally owned, publicly owned, or privately owned device or system used to treat (including recycle and reclaim) either domestic sewage or a combination of domestic sewage and industrial waste of a liquid nature.

(bb) Wetlands means those areas that are inundated or saturated by surface water or ground water at a frequency and duration to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.