

FACT SHEET

United States Environmental Protection Agency (EPA)
Region 10
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Seattle, Washington 98101
(206) 553-0523

Date:

Permit No.: AK-002145-8

PROPOSED REISSUANCE OF A NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE POLLUTANTS PURSUANT TO THE PROVISIONS OF THE CLEAN WATER ACT (CWA)

The City of Petersburg
Wastewater Treatment Plant
1404 North 14th Street
Petersburg, Alaska 99833

has applied for reissuance of a NPDES permit to discharge pollutants pursuant to the provisions of the CWA. This Fact Sheet includes (a) the tentative determination of the EPA to reissue the permit, (b) information on public comment, public hearing and appeal procedures, (c) the description of the current discharge, (d) a listing of tentative effluent limitations, schedules of compliance and other conditions, and (e) a sketch or detailed description of the discharge location. We call your special attention to the technical material presented in the latter part of this document.

Persons wishing to comment on the tentative determinations contained in the proposed permit reissuance may do so by the expiration date of the Public Notice. All written comments should be submitted to EPA as described in the Public Comments Section of the attached Public Notice.

After the expiration date of the Public Notice, the Director, Water Division, will make final determinations with respect to the permit reissuance. The tentative determinations contained in the draft permit will become final conditions if no substantive comments are received during the Public Notice period.

The proposed NPDES permit and other related documents are on file and may be inspected at the above address any time between 8:30 a.m. and 4:00 p.m., Monday through Friday. Copies and other information may be requested by writing to EPA at the above address to the attention of the NPDES Permits Unit, or by calling (206) 553-0523. The draft permit, fact sheet, and tentative decision document are also available from the EPA Alaska Operations Office, Room 537, Federal Building, 222 W. 7th Avenue, #19, Anchorage, Alaska 99513 and EPA Alaska Operations Office, P.O. Box 20370, Juneau, Alaska 99802-0370, physical address: Room 223A, 709 W. 9th Street, Juneau AK.

TECHNICAL INFORMATION

The fact sheet and tentative decision document accompanying the reissuance of the permit set forth the principal facts, legal issues, and policy questions considered in the development of the terms and conditions of the permit.

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I. EXECUTIVE SUMMARY

On the basis of the conclusions presented in this fact sheet, EPA has determined that the proposed discharge from the City of Petersburg Wastewater Treatment Plant, a publicly owned treatment works (POTW), will comply with the requirements of Section 301(h) of the Clean Water Act, as amended by the Water Quality Act of 1987, (the Act) and 40 CFR Part 125, Subpart G.

The City of Petersburg (the applicant) is seeking a waiver to the secondary treatment requirements to discharge treated primary effluent from a 1.2 million gallon per day (mgd) treatment plant. The outfall is located at 18.3 m (60 ft) below mean lower low water in Frederick Sound.

EPA followed the guidance provided by the Amended Section 301(h) Technical Support Document, EPA 842-B-94-007, September 1994, (301(h) TSD) for the evaluation of the improved discharge for the small applicant. The Region relied on information in the current 301(h) application, as well as the results of the monitoring conducted under the existing NPDES permit.

Available monitoring data and an evaluation of the proposed discharge characteristics support this tentative decision because monitoring conducted under the current 301(h) permit has not shown any adverse impacts on solids accumulation, water quality standards, or the biological community in the vicinity of the discharge. Continuing water quality, biological, and effluent monitoring programs will determine future compliance with the 301(h) criteria.

The applicant's receipt of a Section 301(h) waiver from secondary treatment is contingent upon the following conditions:

1. State certification under Section 401 of the Act regarding compliance with State law and water quality standards, including a basis for the conclusions reached.
2. State determination that the discharge will comply with the Alaska State Coastal Zone Management Program.

II. APPLICANT

City of Petersburg Wastewater Treatment Plant

Mailing Address	Facility Location
P.O. Box 329	1404 N. 14th Street
Petersburg, Alaska 99833	Petersburg, Alaska 99833

Contact: Bruce R. Jones, Superintendent WWTP

Permit No. AK-002145-8

The City of Petersburg, Alaska, has applied for renewal of the National Pollutant Discharge Elimination System (NPDES) permit for its publicly owned treatment works (POTW), permit number AK-002145-8. The permit became effective July 5, 1996, and expired July 5, 2001. Petersburg submitted an application for renewal on March 2, 2001. Because the application for renewal was not timely, under the conditions of 40 CFR § 122.6, the permit was not administratively extended.

III. FACILITY DESCRIPTION

The facility has a peak design flow of 3.6 million gallons per day. The existing outfall discharges to Frederick Sound 1200 feet offshore at a depth of 60 feet below mean lower low water. The outfall location is 56° 49' 21" N, 132° 55' 39" W.

The treatment plant currently serves a population of approximately 3,350. Peak design flow is 0.157 m³/sec (3.6 mgd) and average daily design flow is 0.05 m³/sec (1.2 mgd). The collection system is a separate sanitary sewer system consisting of approximately 16 miles of mains and interceptors.

Treatment consists of screening with 0.04 inch screens, grit removal and primary sedimentation using clarifiers. Sludge is pumped to an aerated holding tank. The City of Petersburg treats the sewage sludge to separate much of the water from the solids, treats the sludge solids with lime, and transfers the sludge by truck to the city's solid waste facility where it is disposed in a separate trench-type landfill (sludge monofill). The Petersburg Solid Waste Facility has applied for a separate NPDES permit (a "sludge-only" NPDES permit) for operation of the sludge monofill. The Clean Water Act authorizes EPA to issue NPDES permits solely for the purpose of regulating sludge management.

IV. BACKGROUND

The City of Petersburg was first issued an NPDES permit for its wastewater treatment facility on October 29, 1974. The permit was modified by EPA on October 28, 1975, and again on September 21, 1978, before expiration on March 31, 1979. The Federal Water Pollution Control Act of 1972 specified July 1, 1977, as the date by which publicly owned treatment works must comply with effluent limitations based upon secondary treatment. However, the Clean Water Act of 1977

included an amendment, Section 301(h), which provides that "The Administrator, with the concurrence of the state, may issue a permit under Section 402 which modifies the requirements of Section 301(b)(1)(B) (secondary treatment)... with respect to the discharge of any pollutant from a publicly-owned treatment works into marine waters...". On June 15, 1979, EPA published the 301(h) regulations (40 C.F.R. 125) in the Federal Register (44 FR 34784) establishing the criteria EPA would use for issuing an NPDES permit with a variance from secondary treatment requirements. On November 26, 1982, EPA published final amendments to the 301(h) regulations (47 FR 53666) which clarify, simplify, and update the regulations and application requirements.

The city submitted its original application for a Section 301(h) variance on September 13, 1979. Additional information was submitted on November 23, 1982. The original application was based on the discharge of effluent through four outfalls (three discharging to Wrangell Narrows and one to Frederick Sound) and construction of a new primary treatment facility to replace the existing, non-functioning secondary treatment facility.

On January 16, 1984, EPA issued a tentative decision to deny the variance from secondary treatment requirements. The basis for the denial was the applicant's failure to provide a determination from the State of Alaska that the proposed discharge would comply with applicable provisions of state law, including applicable water quality standards. The Alaska Department of Environmental Conservation (ADEC) conducted a fecal coliform bacteria survey in Wrangell Narrows adjacent to the City of Petersburg during July, 1983. High levels of bacteria found in some of the samples indicated violations of state fecal coliform standards occur in Wrangell Narrows, and ADEC could not certify that the three proposed outfalls into Wrangell Narrows would comply with applicable water quality standards. ADEC certified that the fourth outfall, which discharges to Frederick Sound, would comply with water quality standards.

Subsequent to issuance of the tentative denial, the City of Petersburg notified EPA on February 15, 1984, of their intent to revise their 301(h) application. The revised application stated discharge would be to Frederick Sound only. The revised application was submitted on January 13, 1985, with additional information submitted on February 25, 1985. A permit was issued to the facility and became effective on April 29, 1986. The current permit requirements have been in place since July 1996.

V. RECEIVING WATERS

A. General Features

The facility discharges to the estuarine waters of Frederick Sound, approximately 1200 feet from the shores of Mitkof Island. Frederick Sound is connected to the Pacific Ocean via Chatham Strait to the northwest and Dry Strait/Sumner Strait to the southeast.

The original, revised, and 1990 renewal application were based on a discharge to a saline estuary. However, the applicant requested that the "saline estuary" determination be re-evaluated and notified EPA that the facility was applying for a modification based on an existing discharge to

ocean waters as defined in 40 C.F.R. § 125.58(n). According to the applicant, the regulatory definition of ocean waters most clearly applies to the actual Frederick Sound receiving waters.

The definitions of ocean waters and saline estuarine waters, as defined in the Section 301(h) regulations are not explicit and allow regulators to make various interpretations and classification on a site specific basis. The definitions are:

Ocean waters means those coastal waters landward of the baseline of the territorial seas, or the water of the contiguous zone. The term “ocean waters” excludes saline estuarine waters.

Saline estuarine waters means those semi-enclosed coastal waters which have a free connection to the territorial sea, undergo net seaward exchange with ocean waters, and have salinities comparable to those of the ocean. Generally, these waters are near the mouth of estuaries and have cross-sectional annual mean salinities greater than twenty-five (25) parts per thousand.

According to the preamble of the 1979 Rule (44 FR 34795) the original regulatory intent of the saline estuary definition was to ensure that only those areas of an estuary with strong currents and tidal movement, high flushing efficiency, and thorough water circulation which ensure adequate dispersion and transport of wastewater would be eligible for a section 301(h) modification. In other words, EPA’s definition of ocean waters was derived from the concern that a number of open coastal waters inside the baseline of the territorial seas may have characteristics of well-flushed open ocean waters and may be appropriate receiving waters for a 301(h) waiver. Therefore, the original definition was revised to include open coastal waters inside the baseline because these waters have hydrological, ecological, and geological characteristics more akin to ocean than estuarine waters.

Re-evaluation of the applicant’s discharge to the waters of Frederick Sound do not indicate that either of the regulatory definitions are clearly appropriate. The waters of Frederick Sound may be more appropriately classified as marine waters. The discharge is to an area of high currents that are well-flushed and not to a semi-enclosed embayment (there is open water on three sides). There does appear to be some fresh water influence from the Stikine River in the discharge area. Thus, a classification of either a saline estuary or ocean waters could be supported. For the purposes of the proposed draft permit, the classification of ocean waters will be used.

Frederick Sound is classified by the Alaska State Water Quality Standards as classes IIA(I)(ii)(iii), B(I)(ii), C and D, for use in aquaculture, seafood processing and industrial water supply, water contact and secondary recreation, growth and propagation of fish, shellfish, aquatic life and wildlife, and harvesting for consumption of raw mollusks or other raw aquatic life.

B. Circulation

Surface water densities near the outfall vary due to freshwater inputs from nearby streams. Maximum freshwater input to Frederick Sound occurs in summer (June or July) and minimum freshwater input occurs in March. The freshwater input is due primarily to the combined flow of the Stikine River, with an annual mean flow of 17,127 cubic feet per second (cfs), and the Iskut River, with annual mean flow of 16,915 cfs (Pickard 1967).

C. Currents and Flushing

Data from the National Ocean Service tide station at Petersburg gives the maximum flood current as 190.2 cm/sec (3.7 kn) with a bearing of 225° and a maximum ebb current of 174.8 cm/sec (3.4 kn) with a bearing of 45° (National Ocean Service 1989a). The mean tide range at Petersburg is 4.1 m (13.28 ft), with a diurnal range of 4.8 m (15.7 ft). The mean tide level is 2.5 m (8.1 ft) above mean lower low water (MLLW) (National Ocean Service 1989b).

The facility discharges to a marine environment where tidal currents vary greatly in speed and direction over the course of a day. This results in the possibility that the effluent wastefield transported away from the zone of initial dilution (ZID) during the first half of a tidal cycle will be transported back into the ZID on the second half of the tidal cycle.

Currents are generally reported to flow northwestward in Frederick Sound with southwestward flows during large tides. The Tidal Current Tables (National Ocean Service 1989a) were used to generate a time series of current speeds at the nearest National Ocean Service tide station [No. 3120 - 0.8 km (0.5 mi) east of Cosmos Point] in Frederick Sound. This time series was used to calculate a frequency distribution of current velocities. Increased freshwater runoff during summer will result in slightly higher current velocities than those predicted using tidal current velocities alone. These results indicate that the 10 percentile current velocity (from tidal influence only) is approximately 13.5 cm/sec (0.26 kn). Maximum tidal velocities of 40 to 50 cm/sec are predicted to occur over 10 percent of the tidal cycle and slack periods (zero current speed) will occur 0.1 percent of the time. These data suggest that most of the time the effluent will be diluted and advected away from the ZID. However, following the short, slack tide, a portion of the discharged effluent may be re-entrained in the rising plume.

VI. PHYSICAL CHARACTERISTICS OF THE DISCHARGE

A. Outfall/Diffuser Design and Initial Dilution

Pursuant to 40 CFR §125.62(a)(1), the outfall and diffuser must be located and designed to provide adequate initial dilution, dispersion, and transport of wastewater to meet all applicable water quality standards at and beyond the boundary of the zone of initial dilution (ZID) during periods of maximum stratification and during other periods when more critical situations may exist. Except as otherwise noted, dilution is expressed as the ratio of the total volume of sample (effluent plus dilution water) to the volume of effluent in that sample.

The applicant's outfall consists of an 18-in diameter ductile iron pipe extending 1200 feet offshore. Effluent is discharged through a 45.9 ft long diffuser with five 4-inch diameter ports. Only two of the diffuser ports will remain open during the discharge. Effluent is discharged at a depth of 60 feet below mean lower low water.

The PLUMES model was used to compute initial dilutions for the proposed discharge. A minimum dilution of 137:1 was calculated at the ZID boundary with an assumed current speed of 0.135 m/s and a flow rate of 0.716 mgd. In an effort to be conservative, the Alaska Department of Environmental Conservation proposes authorization of a dilution ratio of 100:1 for the NPDES permit (Tim Wingerter, ADEC letter to Robert Robichaud, EPA). Therefore, a 100:1 dilution ratio was used to evaluate the permit and to develop limitations.

B. Zone of Initial Dilution (ZID)

The ZID is the region of initial mixing surrounding or adjacent to the end of the outfall pipe or diffuser ports. It can generally be considered to include the bottom area within a horizontal distance equal to the water depth from any point on the diffuser and the water column above that area. The ZID for the applicant's outfall was calculated using a discharge depth of 18.3 m (60.0 ft) below mean lower low water, a port height above sea bottom of 0.2 m (0.7 ft), and a mean tide level of 2.5 m (8.2 ft). The total water depth at mean sea level at the diffuser location is approximately 21 m (68.9 ft). Using the diffuser length of 14.0 m (45.9 ft) and an average diameter of approximately 0.46 m (18 in), the ZID was calculated to be a rectangle 51.0 m (167.3 ft) long (perpendicular to shore) and 37.5 m (122.9 ft.) wide, centered on the diffuser. Marine water quality criteria must be met at and beyond the ZID boundary. Additionally, state water quality standards must be met at the edge of the ZID for those parameters to which the 301(h) modification applies (pH, biochemical oxygen demand (BOD), and suspended solids).

VII. STATUTORY BASIS FOR EFFLUENT LIMITATIONS AND OTHER PERMIT CONDITIONS

Sections 101, 301(h), 304, 308, 401, and 402 of the Clean Water Act provide the basis for the effluent limitations and other conditions in the draft permit. EPA evaluates discharges with respect to these sections of the Act and the relevant NPDES regulations in determining which conditions to include in the permit.

In general, EPA first determines which technology-based limits are required, as well as best management practices or other requirements. EPA then evaluates the effluent quality expected to result from these controls, to see if it could result in any exceedances of the water quality standards in the receiving water. If exceedances could occur, EPA must include water quality-based limits in the permit. The permit limits will thus reflect whichever limits (technology-based or water quality-based) are most stringent.

Under section 308 of the Act and 40 CFR §122.44(I), EPA must include monitoring requirements in the permit to determine compliance with effluent limitations. Effluent and ambient monitoring may also be required to gather data for future effluent limitations or to monitor effluent impacts on

receiving water quality. Under Section 301(h)(3) of the Act, the applicant must have in place a system of monitoring the impact of the discharge on aquatic biota. Monitoring frequencies are based on the nature and effect of the pollutant, as well as a determination of the minimum sampling necessary to adequately monitor the facility's performance.

The basis for each permit condition is described in more detail below. Sections A. and B. discuss provisions that are relevant to all NPDES permits. Sections C. through H. discuss provisions that apply only to 301(h) permittees. Section I. is a discussion of sludge management requirements, which applies to all facilities treating domestic sewage, whether or not they have an NPDES permit.

A. Applicable Technology-Based Requirements

Section 301(b)(1)(B) of the Clean Water Act requires POTWs to achieve effluent limits based on secondary treatment. Secondary treatment is defined at 40 CFR Part 133 as being a monthly average of 30 mg/L and 85 percent removal for biochemical oxygen demand (BOD) and total suspended solids (TSS), and a pH of 6.0 to 9.0. Section 301(h) of the Act provides for a waiver from secondary treatment, if the permittee meets several specific criteria, including a requirement to achieve primary treatment. Primary treatment is defined in the Act as 30 percent removal of BOD and TSS.

Applicants for 301(h) waivers request concentration and loading (lb/day) limits for BOD and TSS based on what the facility is capable of achieving. Therefore, the technology-based requirements for POTWs with 301(h) waivers are established on a case-by-case basis. In the case of Petersburg, the requested effluent limits for BOD and TSS are 140 mg/L monthly average and 200 mg/L for a daily maximum, and 6.5 - 8.5 standard units for pH. The limits were requested by the Alaska Department of Environmental Conservation, after discussions with the permittee, and were transmitted to EPA in a letter of draft State stipulations dated June 18, 2001 (see Appendix 2). The concentrations are based on current influent conditions with 30 percent removal. The permit will also include a monthly average flow rate limitation of 1.2 mgd and a daily maximum limit of 3.6 mgd. The following projected average mass emission levels, based on a monthly design flow of 1.2 mgd, are also included as permit limitations:

Constituent	Monthly Average Mass Limitation	Daily Mass Limitation
BOD ₅	1,400 lbs/day	2,000 lbs/day
TSS	1,400 lbs/day	2,000 lbs/day

B. Water Quality Evaluation

(1) Statutory Basis for Water Quality-based Limits

For 301(h) dischargers, water quality-based permit limits are based on four separate provisions. These provisions overlap to some extent.

The first is 40 CFR 122.44(d)(1), which requires that permits include limits on all pollutants or parameters which "are or may be discharged at a level which will cause, have the reasonable

potential to cause, or contribute to an excursion above any state water quality standard, including state narrative criteria for water quality." This provision applies to all NPDES permits.

The second provision that addresses compliance with water quality standards is 40 CFR §125.62(a)(1), which states that the permittee must demonstrate that its discharge will not result in exceedances of state water quality standards at the edge of the ZID. This provision is specific to permits with 301(h) waivers.

The third provision that addresses compliance with water quality standards, 40 C.F.R. Part 125, Subpart G, is also specific to 301(h) waivers. Section 301(h)(9) requires that, at the edge of the zone of initial dilution, the discharge must meet water quality criteria established under section 304(a)(1) of the Act, the section that establishes criteria for toxic pollutants. Where a state has adopted numeric criteria for a given pollutant, that criterion can be used in place of the 304(a)(1) criteria. On December 22, 1992, EPA promulgated numeric criteria for toxic pollutants for the State of Alaska in the National Toxics Rule (40 CFR 131.36). Therefore, compliance with 40 CFR § 122.44(d)(1) also results in compliance with this provision.

Finally, compliance with water quality standards is addressed at 40 CFR § 125.61, which implements Section 301(h)(1) of the Act. This provision applies only to those parameters for which a modification is requested (i.e., BOD, TSS, and pH). Under this provision, there must be a water quality standard applicable to each pollutant for which the modification is requested (i.e., BOD and TSS or surrogates, and pH) and the applicant must demonstrate that the proposed modified discharge will result in compliance with these standards at the edge of the ZID.

The following discussion addresses compliance with each of the above requirements in more detail. See section VII.D.(3) of this fact sheet for a discussion of monitoring frequency for these parameters.

(2) Biochemical Oxygen Demand

Alaska State Water Quality Standards applicable to marine waters provide that for coastal water, the concentration of dissolved oxygen (DO) shall not be less than 6.0 mg/L for a depth of one meter and shall not be less than 4 mg/L at any point. Dissolved oxygen concentrations in estuaries and tidal tributaries may not be less than 5.0 mg/L except where natural conditions cause this value to be depressed. The Alaska Department of Environmental Conservation (ADEC) has determined that waters classified as both coastal and estuarine must meet the standards for both.

The amended 301(h) TSD provides equations for determining the DO depletion caused by the BOD of the effluent. These equations were used to calculate the DO concentration (DO_t) in the waste field at the completion of initial dilution, using the following worst-case assumptions as recommended in the 301(h) TSD:

Ambient DO concentration	$DO_a = 7.0 \text{ mg/L}^1$
Effluent DO concentration	$DO_e = 0.0 \text{ mg/L}$
Immediate DO demand	$IDOD = 5.0 \text{ mg/L}$
Initial dilution	$S_a = 100$

Inserting these values into the equation

$$DO_f = DO_a + (DO_e - IDOD - DO_a)/S_a$$

$$7.0 + (0 - 5 - 7.0)/100 = 6.88 \text{ mg/L}$$

the minimum DO concentration of the receiving water immediately following initial dilution (DO_f) is 6.9, a depletion of 0.1 mg/L from the ambient DO.

The applicant did not provide calculations for the farfield oxygen depression. Therefore, the simplified method for small dischargers described in the revised 301(h) TSD is used. As discussed in IV.A. above, to ensure worst case conditions are considered, the farfield DO depression was calculated using the formula for poorly mixed semi-enclosed embayments.

$$DO = BOD_5/[10(S_a)]$$

Where:

DO = farfield oxygen depression, mg/L
 BOD_5 = BOD_5 concentration in the effluent
 S_a = initial dilution

$$DO = 140 \text{ mg/L}/[10(100)] = 0.14 \text{ mg/L}$$

The calculated depression was found to be 0.14 mg/L. The resulting dissolved oxygen concentration is 6.8 mg/L ($6.9 - 0.14 = 6.2$). This value exceeds the minimum state standard of 6.0 mg/L for dissolved oxygen in the receiving water.

Included in the State draft certification of the permit, ADEC stipulates a minimum DO for the effluent of 2.0 mg/L which has been included in the draft permit (see Appendix 2).

(3) Total Suspended Solids

Alaska State water quality standards applicable to marine waters provide that turbidity shall not exceed 25 nephelometric turbidity units (NTU) and shall not reduce the depth of the compensation

¹Ambient DO concentration determined as the lowest DO value (worst case scenario) from water quality monitoring samples collected January 1997; August 1997; January 1999; and August 1999 at 1.0 m depth at Reference Stations 3 and 4.

point for photosynthetic activity by more than 10 percent. In addition, the turbidity shall not reduce the maximum Secchi disc depth by more than 10 percent.

The applicant provided sixteen values for Secchi depths from surface water quality monitoring conducted in January 1997; August 1997; January 1999; and August 1999. Eight measurements were taken within the ZID and eight from reference stations. These depth values ranged from 3.5 meters to 10 meters. The Secchi disk depths within the ZID were the same or greater than depths at the reference stations in January 1997, January 1999 and August 1999. In August 1997, the Secchi disk depths at the edge of the ZID were the same as that recorded at Reference Station 4 but lower than that recorded at Reference Station 3. Based on these data, effluent discharged from the Petersburg facility does not appear to cause or contribute to an exceedance of state standards for Secchi disc depth.

To assess changes in turbidity from the effluent discharge, the applicant provided calculations similar to those described above for farfield oxygen depression. Turbidity values, rather than suspended solids concentrations, were used in the calculations. Data was collected four times throughout the permit term - January 1997, August 1997, January 1999 and August 1999. Using an average of turbidity values from Station 1 and Station 2 (within the ZID) for each depth, and subtracting average turbidity values from Station 3 and Station 4 (reference stations), the turbidity increase was calculated to be -0.099 NTU, 0.061 NTU, and 0.056 NTU for surface, mid-depth, and bottom waters, respectively. These values are all well below the Alaskan water quality standards of 25 NTU for turbidity.

There do not appear to be significant differences in turbidity between the nearfield stations and the reference stations. The effluent TSS limitation requested by the permittee was used to determine if the discharge would result in an increase in suspended solids that could cause exceedances of the turbidity standard. In using this approach, it is important to note that the correlation between suspended solids and turbidity is not certain. Turbidity is caused not only by suspended solids, but also by colloidal matter. Furthermore, turbidity is not a conservative pollutant. This means that turbidity is affected not only by dilution, but also by physical and chemical changes that may occur as the effluent interacts with the receiving water. According to the 301(h) TSD, suspended solids can be used as an estimate of light transmittance for the purposes of determining compliance with the above water quality standard. The applicant did not provide calculations for the increase in receiving water suspended solids concentration. As part of the review, the simplified method for small dischargers described in the revised 301(h) TSD was used to calculate the receiving water suspended solids concentration:

$$SS = SS_e/S_a$$

Where:

SS = change in suspended solids concentration following initial dilution

SS_e = effluent suspended solids concentration

S_a = initial dilution

$$140/100 = 1.4$$

The maximum increase of 1.4 mg/L is not expected to cause an exceedance of the 25 NTU established by the Alaska state water quality standards.

(4) pH

Alaska water quality standards for pH stipulate that pH may not vary more than 0.1 standard unit from natural conditions and must be within the range of 6.5 to 8.5 standard units.

The effect of on receiving water pH following initial dilution was estimated utilizing the Amended 301(h) Technical Support Document as part of this review. Utilizing the minimum pH of 6.5 included in the permit, an effluent alkalinity of 0.5 meq/L (TSD p. 65), a seawater temperature of 5°C and critical dilution of 100, the maximum change in receiving water pH following initial dilution is determined from Table 1 to be 0.02 pH units over a seawater pH range of 7.00 to 8.50. This meets the Alaska water quality criteria as described in the paragraph above.

(5) Toxic Pollutants

As discussed in Section VI.B.1 above, water quality-based limits must be established that result in compliance with water quality standards at the edge of the ZID.

40 CFR §122.44(d)(1)(ii) requires that, in evaluating the "reasonable potential" for criteria to be exceeded, procedures must be used which account for existing controls on point and nonpoint sources of pollution, the variability of the pollutant in the effluent, species sensitivity (for whole effluent toxicity), and where appropriate, dilution in the receiving water. The limits must be stringent enough to ensure that water quality standards are met, and must be consistent with any available wasteload allocation.

This regulation also specifically addresses when toxicity and chemical-specific limits are required. A whole effluent toxicity limit is required whenever toxicity has the reasonable potential to cause or contribute to an excursion above either a numeric or narrative criterion for toxicity. The only exception is where chemical-specific limits will fully achieve the narrative criterion. A chemical-specific limit is required whenever an individual pollutant is at a level of concern (as defined at 40 CFR §122.44[d][1]) relative to the numeric criterion for that pollutant.

To determine compliance with the above requirements, effluent data were compared to state standards, using the statistical procedures recommended in EPA's Technical Support Document for Water Quality-based Toxics Control.

To determine whether there is reasonable potential for a pollutant to result in an exceedance of water quality standards at the edge of the ZID, the maximum reported effluent concentration was multiplied by an uncertainty factor recommended in EPA's Technical Support Document for Water Quality-based Toxics Control (EPA 505/2-90-001) to determine the maximum probable effluent concentration. The uncertainty factor is based on both the number of samples and the coefficient

of variation (a measure of variability) of the data. If there are not enough data to calculate a coefficient of variation, the Technical Support Document recommends using 0.6 as a default value. As the number of samples decreases, the uncertainty factor increases. For the case of 2 samples, with coefficient of variation of 0.6, the multiplying factor is 7.4. The resulting maximum concentration was then divided by the minimum critical dilution, which was determined to be 100. Appendix 1 compares the maximum effluent concentration reported, the projected maximum concentration at the edge of the ZID, and the water quality criterion for each pollutant detected in the study.

A priority pollutant study was performed in December 2000 on effluent samples collected at the Petersburg wastewater treatment plant. Samples from each study were analyzed for a suite of 129 priority pollutants as determined by EPA protocol. The following twenty-seven constituents were detected in the combined effluent at levels higher than the detection limit:

Parameter	Effluent Concentration (ug/L)
Antimony	30
Arsenic	100
Beryllium	5
Cadmium	1
Chromium	5
Copper	50
Lead	25
Mercury	0.2
Nickel	10
Selenium	100
Silver	5
Thallium	100
Zinc	67
Cyanide	0.025
Chloroform	5
Bis (2-Ethylhexyl) Phthalate	12
Butyl Benzyl Phthalate	4
Di-n-Octyl Phthalate	2
1,4-Dichlorobenzene	3.2
Diethyl Phthalate	4
Alpha-BHC	0.027
Beta-BHC	0.073
Delta-BHC	0.3
Heptachlor	0.016
Dieldrin	0.024
4,4'-DDD	0.047
Endrin Aldehyde	0.049

Multiplying the maximum reported effluent concentration by the uncertainty factors recommended in the TSD and dividing by dilution results in two of the priority pollutants, including pesticides,

showing reasonable potential to violate water quality standards at the edge of the ZID: Thallium, and 4,4'-DDD. None of these compounds have been detected in previous priority pollutant scans. There are no known contributors of Thallium or 4,4'-DDD to the treatment works and since they have not been detected in the previously-conducted pollutant scans, no limits will be developed for this draft permit. However, priority pollutant scans will be required during the dry season of the first and fourth years of the permit term. If additional testing indicates the pollutants' continued presence in the effluent, the permit may be reopened and additional effluent limits established.

The previous permit included effluent limitations for copper. Since the last permit, a new analysis conducted by ADEC has shown that dilution at the edge of the ZID is 137:1, instead of the previous permit dilution of 35:1. In an effort to be conservative, the State has certified a dilution ratio of 100:1. EPA has conducted an updated analysis of the reasonable potential of the effluent to contribute to exceedance of the criteria for copper. Using the dilution ratio of 100, a maximum measured copper effluent concentration of 50 µg/L, and a reasonable potential multiplier from the TSD, EPA projects a maximum concentration of copper of 1.45 µg/L at the ZID boundary. This compares to the copper criteria of 2.9 µg/L. Using the new dilution ratio analysis, the facility no longer has a reasonable potential to exceed the copper criteria and the copper limitations of the previous permit have not been included in the reissued draft permit.

(6) Fecal Coliform Bacteria

Alaska's most restrictive criterion for receiving water fecal coliform bacteria concentrations is in shellfish harvest areas, which specifies that the median value shall not exceed 14 MPN/100 mL, and that not more than 10 percent of the samples shall exceed 43 MPN/100 mL. Because Frederick Sound is protected for this use, the discharge in the current permit must result in this standard being met at the edge of the ZID.

On September 12, 1995, EPA notified the applicant that a preliminary review of the fecal coliform data from seven stations in the vicinity of the outfall indicated that the facility would require a mixing zone for fecal coliform. The state water quality standards provide for mixing zones at the discretion of the Alaska Department of Environmental Conservation (ADEC).

In accordance with state water quality standards, only ADEC may authorize mixing zones. On January 22, 1996, ADEC provided a Preliminary Certificate of Reasonable Assurance which included a mixing zone defined as an arc of a circle with a 1600 meter radius, centered on the outfall going from one shoreline to the other extending on either side of the outfall line, and extending from the marine bottom to the surface. ADEC reauthorized this mixing zone in a letter dated June 18, 2001 (Appendix 2). ADEC also requires in the preliminary certification that fecal coliform limits not exceed 200 FC/100 mL at the shoreline within the designated mixing zone. The number of fecal coliform bacteria in the primary treated effluent shall not exceed a 30 day average of 1.0×10^6 (1.0 million), per 100 milliliters of sample and a daily limit of 1.5×10^6 (1.0 million), per 100 milliliters of sample. Outside this mixing zone the fecal coliform concentrations shall not exceed a maximum of 14 FC/100 ml for a monthly average and 43 FC/100 ml for a daily maximum. ADEC also stipulates that a sign be placed on the shoreline near the mixing zone in order to inform the public of the discharge location.

Additionally, if chlorination is required to maintain compliance with fecal coliform standards, the permittee will be required to meet the marine water quality criteria for chlorine at the ZID boundary or the state water quality standard for chlorine at the edge of a state-designated mixing zone, whichever is more stringent.

Petersburg has established a series of monitoring stations that are located so as to monitor fecal coliform at critical points in the outfall area. Station 1 is located at the outfall of the wastewater treatment plant. Stations 2, 3, 4, and 5 are located within a 1600 meters radius of the outfall pipe.

See the table in Appendix 2 for 1996-2000 ambient fecal monitoring results. Generally, ambient samples are in compliance with state water quality standards with most samples below the detection level of 2 colonies/ml, however, six samples were above standards. Monitoring conducted by the applicant from 1996 through 2000 indicates that six samples violated state water quality standards for fecal coliform. In November 1996, July 1997 and July 1998, Station 2 reported 50, 900 and 22 colonies fecal coliform/100 mL, respectively. In November 1999 Stations 2 and 4 both reported 17 colonies fecal coliform/100 mL. The last exceedance was in November 2000 where Station 4 reported 30 colonies fecal coliform/100 mL. These values exceed the limit for shellfish harvest areas of 14 colonies/100 mL (which is a monthly average criteria). Two of the values exceed the daily maximum of 43 FC/100 ml. The degree to which the Petersburg effluent contributes to these elevated fecal coliform levels has not been determined by the applicant. Since the receiving water is generally in compliance, fecal monitoring will be reduced but still required twice annually. The permittee will be required to monitor at the existing stations twice per year, once in the dry season, and once in the wet season.

(7) Additional Parameters

The average ammonia nitrogen concentration in the effluent from 1996-2000 is 14 mg/L. The maximum concentration of 26 mg/L was recorded on August 31, 2000. Ammonia is a common constituent of POTW effluent. Therefore, EPA has determined that monitoring is necessary to ensure that the discharge does not cause an exceedance of state water quality standards at the edge of the ZID.

A reasonable potential analysis was conducted for ammonia to determine if ammonia could violate water quality standards at the edge of the ZID. Using a maximum effluent ammonia concentration of 26 mg/L (maximum ammonia value in monitoring data reported from 1996-2000), and determining the multiplier from Table 3-1 in the TSD, the maximum ammonia concentration at the edge of the ZID was determined to be 0.47 mg/L ammonia. The water quality criteria for ammonia was determined from text table 3, "Water quality criteria for saltwater aquatic life based on total ammonia criteria continuous concentrations," in Ambient Water Quality Criteria for Ammonia (Saltwater)-1989 (EPA 440/5-88-004, April, 1989). The following values were used to determine the worst case criteria from this table: a pH of 8.2 (highest pH value from ambient water quality monitoring conducted in 1996, 1997, 1998 and 1999 at the two reference stations), a salinity of 20 g/kg (the lowest salinity values detected during ambient water quality monitoring from 1996, 1997, 1998 and 1999 at the two reference stations), and a temperature of 5° C. This gave a criterion of 1.9 mg/L ammonia. The ammonia concentration at the edge of the ZID was 0.47 mg/L, and therefore

ammonia does not have a reasonable potential to violate water quality standards at the edge of the ZID. However, continued monitoring of ammonia will be required in the current permit to ensure compliance with this criterion.

18 AAC 70.023 of the Alaska State Water Quality Standards states that "An effluent discharged to a water may not impart chronic toxicity to aquatic organisms, expressed as 1.0 chronic toxic unit, at the point of discharge, or if the department authorizes a mixing zone in a permit, approval, or certification, at or beyond the mixing zone boundary, based on the minimum effluent dilution achieved in the mixing zone. If the department determines that an effluent has reasonable potential to cause or contribute to exceedance of this limit, the department will require whole effluent toxicity testing as a conditions of a permit, approval or certification. The permittee shall use methods and species approved by the United States Environmental Protection Agency in Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms (2d ed. 1989) (Office of Research and Development, Cincinnati, OH, EPA-600/4-89/001), Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms (1988) (Office of Research and Development, Cincinnati, OH, EPA-600/4-87/028), and Supplement to "Short-term Methods for Estimating the Chronic Toxicity of Effluents and Surface Waters to Freshwater Organisms" (September 1989) (Office of Research and Development, Cincinnati, OH, EPA-600/4-89/001a, Revision 1), or alternate methods and species approved by the department that provide equivalent estimates of chronic toxicity."

The previous permit required the facility to conduct whole effluent toxicity (WET) tests five times during the permit term. WET testing could be reduced to one suite of quarterly tests in the fourth year of the permit if none of the first year tests showed toxicity greater than 26 toxic units. The WET results submitted with the 2000 application consisted of nine results². Individual No Effect Concentrations (NOECs) ranged from 2.85 percent to 68 percent, with a mean NOEC of 12.1 percent. To simplify the statistical analysis, NOEC data are converted into chronic toxic units (TU_c) by dividing 100 by the NOEC concentration. The average TU_c of the Petersburg effluent is 21.6 and the maximum TU_c is 35 (measured in 1996). With a dilution of 100:1, the maximum effluent value is in compliance with the state water quality standard at the edge of the mixing zone. The proposed permit requires the facility to continue to test for WET in the first and fourth years of the permit term. If chronic toxicity of greater than 100 TU_c is detected, additional testing is required. If additional testing continues to show toxicity above the trigger value of 100 TU_c, the permittee shall initiate a Toxicity Identification Evaluation in order to identify the causes of toxicity. The permit may also be reopened at that point and additional effluent limits established.

²WET tests were conducted on July 17, 1996; August 6, 1996; August 27, 1996; December 4, 1996; April 22, 1997; December 15, 1999; May 17, 2000; August 23, 2000; and December 14, 2000.

C. Maintenance of that Water Quality which Assures Protection of Public Water Supplies, a Balanced Indigenous Population (BIP) of Shellfish, Fish, and Wildlife, and Recreational Activities in and on the Water [40 CFR § 125.62]

(1) Transport and Dispersion of Diluted Wastewater and Particulates

40 CFR § 125.62 states that wastewater and particulates must be adequately dispersed following initial dilution so as not to adversely affect water use areas. Assuring compliance with this section requires an analysis of solids accumulation.

The accumulation of suspended solids may lower dissolved oxygen concentrations in near-bottom waters and cause changes in the benthic communities. Accumulation of suspended solids in the vicinity of a discharge is influenced by the amount of solids discharged, the settling velocity distribution of the particles in the discharge, the plume height-of-rise, and current velocities. Hence, sedimentation of suspended solids is generally of little concern for small discharges into well-flushed receiving waters.

A simplified approach to determining the need for detailed analysis of suspended solids accumulation was developed to aid small dischargers that are not likely to have sediment accumulation related problems. Two types of problems (dissolved oxygen depletion and biological effects) were considered. Data indicate that biological effects are minimal when accumulation rates are estimated to be below a steady-state sediment accumulation of 25 g/m² for estuaries and semi-enclosed embayments, which are potentially more sensitive than open coastal areas, and 50 g/m² for open coastal areas.

The applicant states that there will be no significant sedimentation of suspended solids due to the strong tidal currents (up to 5 knots) in the vicinity of the discharge. The simplified approach described by the amended 301(h) TSD was used to evaluate sediment accumulations. The data required for evaluation include the annual average suspended solids mass emission rate and the average plume height-of-rise. The average plume height-of-rise calculated as part of this review was 4.4 m (14.4 ft).

The annual suspended solids mass emission rate was calculated according to the following formula:

$$\text{MER}_{\text{ss}} (\text{kg/day}) = 86.4 (S \text{ mg/L}) (Q \text{ m}^3/\text{sec})$$

Where:

$$S = 130 \text{ mg/L, the requested suspended solids concentration}$$

$$Q = [0.0526 \text{ m}^3/\text{sec} (1.2 \text{ mgd})], \text{ the annual average design flow rate}$$

Therefore, the annual suspended solids mass emission rate is 591 kg/d (1,303) based on the annual average design flow of 0.0526 m³/sec (1.2 MGD) and the requested suspended solids concentration limit of 130 mg/L.

Based on the predictions provided in Figure B-1 of the Amended TSD, the steady state organic accumulation should be much less than 50 g/m². Data from several open coastal areas receiving municipal wastewater discharges indicate that biological effects are minimal when accumulation rates are estimated to be below this level.

(2) Impact of the Discharge on Public Water Supplies [40 CFR § 125.62(b)]

40 C.F.R. § 125.62(b) requires that the applicant's proposed improved discharge must allow for the attainment or maintenance of water quality which assures protection of public water supplies and must not interfere with the use of planned or existing public water supplies. There are no existing or planned public water supply intakes in the vicinity of the discharge.

(3) Biological Impact of Discharge [40 CFR § 125.62(c)]

40 C.F.R. § 125.62 requires that in addition to complying with applicable water quality standards, the proposed improved discharge must comply with any additional requirements necessary to maintain water quality which provides for the protection and propagation of a balanced indigenous population (BIP) of fish, shellfish, and wildlife. Specifically, this requirement means that a BIP must exist immediately beyond the boundary of the ZID and in all areas beyond the ZID that are actually or potentially affected by the applicant's discharge.

The previous permit required the collection of benthic invertebrate and total volatile solids (TVS) samples during August of the fourth year of the permit term (August, 1999). Three replicate sediment samples were collected for TVS analysis and five replicate benthic samples were taken at each of the following three stations:

- Station 1, located at a reference station 1.26 miles NW of the outfall near Kupreanoff Island.
- Station 2, located within the ZID
- Station 3, within 20 meters beyond the ZID at an equivalent depth as the outfall.

The benthic samples were placed in glass jars or plastic bags and preserved in buffered formalin. These samples are in storage and analyses would be required only if EPA determined substantial changes have occurred in the TVS content of the sediments in the area of the discharge.

In addition, photographic surveys of the kelp beds in the area were conducted during the same time period. The kelp beds exist approximately 500 feet inshore of the terminus of the outfall and extend along the shore for a distance of approximately 1.2 miles, from the entrance to Wrangell Narrows to a point southeast of the outfall.

The three sample stations included in the biomonitoring survey (Biological Monitoring Report by Carson Dorn, Inc., August 1999) were very similar in sediment type, habitat structure and species composition and abundance. There was very little observable difference between the three stations, and results of the TVS analysis indicate the concentration of organic particulate material in the sediments is also very similar from one station to the next.

The highest percentage of organic material was observed in sediments from the reference station, although these values were only slightly higher than results from Station 2 within the ZID.

No visible, distinct layer of fine floc/silt was observed at any of the three stations, and no significant increase in suspended particulate matter was noted within the ZID. The strong tidal fluctuations and currents in the area appeared to inhibit the accumulation of fine organic sediments.

All three stations were characterized by abundant and diverse macro-invertebrate communities. No qualitative difference was noted in the benthic habitat or community structure between the three stations.

It is reasonable to conclude that the City of Petersburg Wastewater Treatment Plant discharge is not causing significant changes in the benthic community structure.

The draft permit retains the TVS and benthic infauna monitoring programs which require benthic sampling for infauna and TVS and photographic surveys of the kelp beds. Additional controls on analytical protocols have been added to ensure that the data collected will be complete and accurate.

(4) Impact of Discharge on Recreational Activities [40 CFR § 125.62(d)]

40 C.F.R. § 125.62(d) requires that the discharge have no impact on recreational activities outside the ZID. The applicant stated that no impacts on recreational activities were expected due to the proposed discharge. The Technical Review Report prepared for the current 301(h) waiver stated that there is a large recreational fishery in the Petersburg area. Fishing for chinook (*Oncorhynchus tshawytscha*), pink (*O. gorbuscha*) and coho (*O. kisutch*) salmon, Dolly Varden (*Salvelinus malma*), cutthroat trout (*Salmo clarki*), halibut (*Hippoglossus stenolepis*), herring (*Clupea pallasii*), pink (*Pandalus borealis*), sidestripe (*Pandalopsis dispar*), and spot (*Pandalus platyceros*) shrimp, and red king (*Paralithodes camtschatica*), brown king (*Lithodes aequispina*), tanner (*Chionoecetes bairdi*), and Dungeness (*Cancer magister*) crabs was said to occur. Clams were said to be harvested primarily in the winter due to the possibility of paralytic shellfish poisoning (PSP) during the summer. Restrictions on shellfish harvesting due to PSP were noted in the 1985 Technical Review report. The restrictions/closures are not thought to be due to the discharge.

D. Establishment of Monitoring Programs [40 CFR §125.63]

Under 40 CFR § 125.63, which implements Section 301(h)(3) of the Act, the applicant must have a monitoring program designed to provide data to evaluate the impact of the modified discharge on the marine biota, demonstrate compliance with applicable water quality standards, and measure toxic substances in the discharge. The applicant must demonstrate the capability to implement these programs upon issuance of a 301(h) modified NPDES permit. In accordance with 40 CFR § 125.63(a)(2), the applicant's monitoring programs are subject to revision as may be required by EPA.

(1) Effluent Monitoring Program [40 CFR §125.63(d)]

40 C.F.R. § 125.63(d) requires an effluent monitoring program and the applicant proposes continuation of the current monitoring program. The current permit's influent and effluent monitoring program required sampling (five days a week) for pH; weekly sampling for settleable solids; twice monthly sampling for BOD₅, TSS, and fecal coliform. Flow is monitored continuously.

The draft permit will require analyses of the effluent to determine compliance with permit limitations (flow, BOD, TSS, copper, dissolved oxygen, and pH) and analysis of the influent for BOD and TSS to determine compliance with the primary treatment requirements. The draft permit requires continuous flow monitoring; weekly sampling for Settleable Solids, temperature, and pH; and twice monthly sampling for influent and effluent BOD and TSS and for fecal coliform, and monthly sampling for ammonia and copper.

The proposed permit requires the facility to conduct whole effluent toxicity tests quarterly during the first and fourth years of the permit to determine whether there is "reasonable potential" to cause or contribute to an exceedance of water quality standards, as discussed in section VII.B.(7). If additional testing shows that toxicity is of concern, the permit may be reopened and effluent limits established.

The applicant has certified that there are no industrial inputs to the collection system. Therefore, as provided in 40 C.F.R. §125.66(a)(2), the draft permit need not require the permittee to perform chemical analyses of its effluent for toxic pollutants. However, as discussed in section VII.B.(5) and VII.F., because of the presence of toxics in the effluent, EPA is requiring testing in the first and fourth years of the permit. Results of the analysis shall be submitted to EPA with the permittee's application for reissuance.

(2) Receiving Water Quality Monitoring Program [40 CFR §125.63(c)]

40 C.F.R. § 125.63(c) requires that the receiving water quality monitoring program must provide data adequate to evaluate compliance with applicable water quality standards.

The previous permit required monitoring to be conducted in August during the second and fourth years of the permit and in January during the first and third years of the permit. Monitoring was to be conducted for the parameters listed below:

- Temperature
- Salinity
- Dissolved oxygen (DO)
- pH
- Secchi disk depth (surface only)
- Turbidity

Sampling was to be conducted at slack low tide in the following four locations: two stations located on boundary of the ZID on the northwest and southeast sides; or, if the plume was visible, samples

were to be collected in the plume and at the opposite side of the ZID; and at two reference stations, one located at least 3000 feet southeast of the ZID, and the second located at least 6000 feet north of the ZID (across the entrance to Wrangell Narrows). The following stations have been listed to meet these criteria:

Station	Location
1	Shoreline area closest to the discharge point/diffuser.
2	Shoreline area just outside of the two points where the outer edges of the 1600 M mixing zone touch the shoreline.
3	Just outside of the down current edge of the 1600 M mixing zone; reference station.
4	Just outside of the open ocean edge of the 1600 M mixing zone; reference station.

The mixing zone is defined as a circle of 1600 meter radius, centered on the outfall line and over the diffuser and extending from the marine bottom to the surface. ADEC requires that the number of fecal coliform bacteria in the primary treated effluent discharged from the facility shall not exceed a 30 day average of 1.0×10^5 (1.0 million), per 100 milliliters of sample and 1.5 million/100ml maximum daily.

The draft permit contains similar sampling requirements for surface water quality and for fecal coliform as the previous permit. Monitoring for surface water quality will be required in August during the second and fourth years of the permit and in January during the first and third years of the permit. Surface water quality will be measured 1 meter below the surface, mid-depth, and 1 meter above the bottom at the four sites referenced above. Fecal coliform will be monitored twice per year, once in the wet season and once in the dry season, at the four sites referenced above. In addition, Petersburg has previously conducted fecal coliform monitoring at a fifth site, and continued monitoring will be required at this site as well.

All reports shall be submitted within 30 days of the end of each sampling period. This frequency will provide EPA with current information in evaluating future reissuance of the permit.

(3) Biological Monitoring Program [40 CFR §125.63(b)]

40 C.F.R. § 125.63(b) requires a permittee to implement a biological monitoring program that provides data adequate to evaluate the impact of the applicant's discharge on the marine biota.

The current NPDES permit for the Petersburg discharge required monitoring for infauna and total volatile solids (TVS) at each of three station locations: within the ZID; beyond the ZID boundary (within 15 feet of the boundary); and two reference stations. The reference station was to be at the same depth as the outfall, and have the same sediment type as that present at the outfall. The reference station was to be located at least 6000 feet north of the outfall. Monitoring was to be

conducted during August in the fourth year of the permit period. The results of sampling conducted in 1999 are discussed in VII.C.(3) of this fact sheet.

The draft permit requires continued TVS and benthic infauna sampling in the fourth year of the permit. Sampling will be conducted at the stations established above.

The applicant is required to take three replicate grab samples for TVS analysis and five replicate grab samples for evaluating the benthic community. Sampling stations shall be located and referenced using whatever navigational aids will assure accurate reoccupation of the same site in subsequent years. Analyses for TVS shall be done according to a single protocol (e.g., Standard Methods 17th edition or other methods as listed in 40 CFR §136.)

E. Effect of Discharge on Other Point and Nonpoint Sources [40 CFR §125.64]

Under 40 CFR §125.64, which implements Section 301(h)(4) of the Act, the applicant's proposed discharge must not result in the imposition of additional treatment requirements on any other point or nonpoint source. The state has determined that the discharge will not affect treatment requirements for any other point or nonpoint sources.

F. Toxics Control Program [40 CFR §125.66]

(1) Chemical Analysis and Toxic Pollutant Source Identification [40 CFR §§125.66(a) and (b)]

Under 40 §125.66(a), applicants are required to perform chemical testing for toxic pollutants and pesticides, unless they certify to the Agency that there are no known or suspected toxic pollutants, and verify this certification by performing an industrial user survey.

The results of the facility's 2000 priority pollutant scan indicated twenty-seven compounds, including copper, were present in the effluent. As discussed in VII.B(5), six of the twenty-seven showed a reasonable potential to violate water quality standards at the edge of the ZID.

(2) Industrial Pretreatment Program [40 CFR §125.66(c)]

40 C.F.R. § 125.66(c) requires that applicants that have known or suspected industrial sources of toxic pollutants shall either have or develop an approved pretreatment program in accordance with the requirements of 40 CFR Part 403 (Pretreatment Regulations). This program is subject to revision as may be required by EPA.

The applicant provided certification stating that there are no known or suspected sources of toxic pollutants to the sewer system. The facility documented this certification with an industrial user survey. Therefore, the applicant is not required to develop an industrial pretreatment program.

(3) Nonindustrial Source Control Program [40 CFR §125.66(d)]

40 CFR §125.66(d), which implements Section 301(h)(6) of the Act, requires the applicant to submit a proposed public education program designed to minimize the entrance of non-industrial toxic pollutants and pesticides into its POTW. In addition, the applicant must promulgate a schedule of activities for identifying nonindustrial sources of toxic pollutants and pesticides and for developing and implementing control programs, to the extent practicable.

A small section 301(h) applicant that certifies there are no known or suspected water quality, sediment accumulation, or biological problems related to toxic pollutants or pesticides in its discharge, is required only to develop the public education program. The applicant has furnished this certification.

A public education program has been implemented and advertisements are placed in the local newspaper every January 15 and June 15. In addition, pamphlets are distributed by June 15 every year. Pamphlets are also made available when new utility hookups are requested. This requirement will be continued in the draft permit and information shall be distributed to the public at a minimum by the following dates:

Advertisement in local newspaper	January 15 and June 15 of each year
Distribution of public education pamphlets to citizens	June 15 of each year

G. Effluent Volume and Amount of Pollutants Discharged [40 CFR §125.67]

Under 40 CFR §125.67, which implements section 301(h)(7) of the Act, the applicant's proposed modified discharge may not result in any new or substantially increased discharges of the pollutant to which the modification applies above the discharge specified in the 301(h) modified permit.

The proposed maximum mass emission limits for BOD and TSS are based on effluent concentration limits of 140 mg/L (monthly average), and 200 mg/L (daily maximum), and the average daily design flow permit limitation of 1.2 mgd:

Constituent	Monthly Average Mass Limitation	Daily Mass Limitation
BOD ₅	1,400 lbs/day	2,000 lbs/day
TSS	1,400 lbs/day	2,000 lbs/day

This is equal to the level allowed by the current permit, and will not be exceeded by the discharge during the term of the draft permit.

H. Percent Removal Requirements

Pursuant to Section 301(h)(9) of the Act and 40 C.F.R. 125.60, the applicant must be discharging effluent that has received at least primary or equivalent treatment by the time the modified permit becomes effective. Primary or equivalent treatment is defined as "...treatment by screening, sedimentation, and skimming adequate to remove 30 percent of the biochemical oxygen demanding material and of the suspended solids in the treatment works influent..."

40 C.F.R. § 125.60(c)(2) allows the Administrator to approve an applicant's request of 30 percent removal of BOD on an averaging basis different from monthly (e.g. quarterly) providing that the applicant has demonstrated that:

- (i) The applicant's POTW is adequately designed and well operated;
- (ii) The applicant will be able to meet all requirements under section 301(h) of the CWA and the subpart G regulations with the averaging basis selected; and
- (iii) The applicant cannot achieve 30 percent removal on a monthly average basis because of circumstances beyond the applicant's control. Circumstances beyond the applicant's control may include seasonally dilute influent BOD concentrations due to relatively high (although nonexcessive) inflow and infiltration; relatively high soluble to insoluble BOD ratios on fluctuating basis; or cold climates resulting in cold influent. Circumstances beyond the applicant's control shall not include less concentrated wastewater due to excessive inflow and infiltration (I&I). The determination of whether the less concentrated wastewater is the result of excessive I&I will be based on the definition of excessive I&I in 40 C.F.R. 35.2005(b)(16) plus the additional criterion that I&I is nonexcessive if the total flow to the POTW (i.e., wastewater plus inflow plus infiltration) is less than 275 gallons per capita per day.

The applicant has greatly reduced inflow and infiltration to the treatment system. Review of the permit monitoring data for January 1995 through November 2000 indicate that the monthly average percent removal of biochemical oxygen demand have consistently been above 30 percent during the permitting term. There were however, nine days in the permit term where the BOD was below the 30 percent removal requirement. These percentages ranged from 23.9 to 29.5 percent BOD removal. The most recent incident in which Petersburg did not achieve the BOD removal requirement occurred August 31, 2000. BOD removal during this reporting period was 29.5.

The draft permit requires the facility to meet the 30 percent removal requirement for BOD on a quarterly basis.

I. Sludge Management Requirements

The biosolids management regulations at 40 CFR §503 were designed so that the standards are directly enforceable against most users or disposers of biosolids, whether or not they obtain an NPDES permit. Therefore, the publication of Part 503 in the *Federal Register* on February 19, 1993

served as notice to the regulated community of its duty to comply with the requirements of the rule, except those requirements that indicate that the permitting authority shall specify what has to be done.

Requirements are included in Part 503 for pollutants in biosolids, the reduction of pathogens in biosolids, the reduction of the characteristics in biosolids that attract vectors, the quality of the exit gas from a biosolids incinerator stack, the quality of biosolids that is placed in a municipal solid waste landfill (MSWLF) unit, the sites where biosolids are either land applied or placed for final disposal, and for a biosolids incinerator.

Even though Part 503 is self-implementing, Section 405(f) of the CWA requires the inclusion of biosolids use or disposal requirements in any NPDES permit issued to a Treatment Works Treating Domestic Sewage (TWTDS). In addition, the biosolids permitting regulations in 40 CFR §122 and §124 have been revised to expand its authority to issue NPDES permits with these requirements. This includes all biosolids generators, biosolids treaters and blenders, surface disposal sites and biosolids incinerators. In the future, EPA Region 10 will be issuing a separate NPDES general permit which deals only with the use and disposal of biosolids. Facilities that generate biosolids, including the City of Petersburg, will be required to be covered under the biosolids general permit. As mentioned earlier, even though the permittee does not presently have a permit for biosolids use or disposal, the Permittee is responsible for complying with the requirements of 40 CFR 503.

Presently, the permittee processes biosolids through an aerated holding tank. The City of Petersburg treats the sewage sludge to separate much of the water from the solids, treats the sludge solids with lime, and transfers the sludge by truck to the city's solid waste facility where it is disposed in a separate trench-type landfill (sludge monofill). The draft permit requires the permittee to comply with 40 CFR Part 503 during biosolids storage and removal.

VIII. COMPLIANCE WITH PROVISIONS OF OTHER STATE, LOCAL OR FEDERAL LAWS

Pursuant to 40 CFR §125.59(b)(3), a modified NPDES permit may not be issued unless the proposed discharge complies with applicable provisions of state, local, or other federal laws or Executive Orders, including the Coastal Zone Management Act, 16 U.S.C. 1451 *et seq.*, the Endangered Species Act, 16 U.S.C. 1531 *et seq.*, and the Marine Protection, Research, and Sanctuaries Act 16 U.S.C. 1431 *et seq.*

A. State Coastal Zone Management Program

EPA has determined that the activities authorized by this permit are consistent with local and state Coastal Management Plans. The proposed permit and consistency determination will be submitted to the State of Alaska for state interagency review. A preliminary draft of the permit was sent to ADEC and comments have been received and incorporated into the public notice draft permit. The requirements for State Coastal Zone Management Review and approval must be satisfied before the permit may be issued.

B. Endangered or Threatened Species

EPA Region 10 requested and received a species list from the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service. This list indicated that threatened or endangered species that had the potential to occur in the vicinity of the Petersburg discharge included the Humpback whale (*Megaptera novaeangliae*) and the Steller sea lion (*Eumetopias jubatus*). EPA has determined that the discharge authorized by this permit is not likely to adversely impact any threatened or endangered species or critical habitat listed pursuant to the Endangered Species Act. A Biological Evaluation document for the Petersburg wastewater treatment facility has been prepared to support this conclusion.

C. Essential Fish Habitat

The Magnuson-Stevens Act (January 21, 1999) requires federal agencies to consult with the National Marine Fisheries Service (NMFS) when any activity proposed to be permitted, funded, or undertaken by a federal agency may have an adverse effect on designated Essential Fish Habitat (EFH) as defined by the Act. The EFH regulations define an *adverse effect* as any impact which reduces quality and/or quantity of EFH and may include direct (e.g. contamination or physical disruption), indirect (e.g. loss of prey, reduction in species' fecundity), site-specific, or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

In a February 21, 2001, letter to EPA, NMFS indicated that the NPDES analysis should include an EFH assessment. The EFH species for the area of the discharge include chinook (king), sockeye (red), pink, and chum salmon, and a number of groundfish species (Habitat Assessment Reports for Essential Fish Habitat, NMFS, 1998). The NMFS letter specifically listed salmon, flatfish, rockfish, and sculpin as species using near-shore habitats which potentially could be degraded by insufficient treatment of waste-water or by chlorine residuals.

For the following reasons, EPA has tentatively determined that issuance of this permit is not likely to adversely affect any EFH in the vicinity of the discharge. The proposed permit has been developed to protect all aquatic life species in the receiving water in accordance with the Alaska water quality standards, including meeting Alaska water quality standards at the edge of the zone of initial dilution. The facility has a relatively small zone of initial dilution as described in the fact sheet. EPA believes that the Alaska water quality criteria for the protection of aquatic life should protect both the managed EFH species and their prey. The effluent is treated wastewater of domestic origin with no significant industrial component. Chlorine is not used as a disinfection agent at this facility. Monitoring has shown compliance with Alaska fecal criteria in the vicinity of the discharge.

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

D. Marine Protection, Research, and Sanctuaries Act

The proposed discharge will not be located in a federal marine sanctuary nor is it located in a sanctuary designated under the Coastal Zone Management Act.

E. Other State, Local, or Federal Laws

Alaska State law (Title 18, Alaska Administrative Code, Section 72.029) requires secondary treatment for all POTWs that discharge to natural surface waters unless a modification of the secondary treatment requirement is granted in accordance with Section 301(h) of the Clean Water Act. The state must certify that the modified discharge complies with applicable provisions of local law before a 301(h) modified permit can be issued. As discussed in Section VI.B., reissuance of this permit will not result in an additional pollutant loading to the receiving water. Therefore, reissuance is consistent with the State of Alaska's antidegradation policy [18 AAC 70.010(c)].

IX. STATE CONCURRENCE IN WAIVER

Section 301(h) of the Act and 40 CFR §125.59(I)(2) provide that a 301(h) waiver may not be granted except with State certification under 401 of the Act. State concurrence has not yet been given. In accordance with the procedures of 40 CFR §124.54(b), before EPA can issue the applicant a 301(h) modified NPDES permit, the state must either grant its certification pursuant to Section 401 of the Act or waive certification, which will serve as state concurrence in the waiver. The state will make this determination upon review of the draft and proposed final permits.

X. CONCLUSION

It is the conclusion of EPA, Region 10, that the applicant's proposed discharge will comply with the requirements of Section 301(h) of the Clean Water Act, as amended by the Water Quality Act of 1987, and 40 CFR Part 125, Subpart G.

REFERENCE

Tetra Tech, 1994. Amended Section 301(h) Technical Support Document, EPA 842-B-94-007. U.S. Environmental Protection Agency, Office of Water Enforcement and Permits and Office of Water Regulations and Standards, Washington, D.C.

U.S. Environmental Protection Agency, 1985. Technical Support Document for Water Quality-based Toxics Control. U.S. Environmental Protection Agency, Office of Water Enforcement and Permits and Office of Water Regulations and Standards, Washington, D.C.

City of Petersburg, Alaska, 1990. 301(h) Application for renewal of NPDES permit No. AK-002145-8 under Section 301(h).

Tetra Tech, Inc., 1982. Technical review of the City of Petersburg 301(h) application for modification of secondary treatment requirements for discharge into marine waters. Prepared for U.S. EPA. Bellevue, WA. 35 pp.

U.S. Environmental Protection Agency, 1993. 40 CFR Part 257. Final Standards for the Use or Disposal of Sewage Sludge; (58 FR 9248, February 19, 1993)

Tetra Tech, Inc. 1995(a). Technical Review of the 1994 Section 301(h) Renewal Application for modification of Secondary Treatment Requirements for the City of Petersburg, Alaska. U.S. Environmental Protection Agency.

Tetra Tech, Inc. 1995(b). Effects from the Petersburg wastewater treatment facility discharge on Threatened and Endangered Species. U.S. Environmental Protection Agency.

National Ocean Service. 1989a. Tidal current tables 1990, Pacific coast of North America and Asia. National Ocean Service, National Oceanic and Atmospheric Administration, U.S. Department of Commerce, Washington, D.C. 287 pp.

National Ocean Service 1989(b). Tidal tables 1990, high and low water predictions, west coast of North and South America including the Hawaiian islands. National Ocean Service, National Oceanic and Atmospheric Administration, U.S. Department of Commerce, Washington, D.C. 238 pp

APPENDIX 1
Priority Pollutants Detected In 2000 Effluent Sampling Events

Detected Pollutant	Max Reported Effluent Conc (µg/L)	Projected Max Edge of ZID Conc ¹ (µg/L)	Most Stringent Marine Criterion
Antimony	30	2.22	4300
Arsenic	100	7.40	36
Beryllium	5	0.37	"
Cadmium	1	0.07	9.3
Chromium	5	0.37	N/A
Copper	50	1.45	2.9
Lead	25	1.85	8.5
Mercury	0.2	0.01	0.025
Nickel	10	0.74	8.3
Selenium	100	7.40	71
Silver	5	0.37	"
Thallium	100	7.40	6.3
Zinc	67	4.96	86
Cyanide	0.025	0.002	1
Chloroform	5	0.37	470
Bis (2-Ethylhexyl) Phthalate	12	0.89	5.9
Butyl Benzyl Phthalate	4	0.30	"
Di-n-Octyl Phthalate	2	0.15	"
1,4-Dichlorobenzene	3.2	0.24	2600
Diethyl Phthalate	2	0.15	120000
Alpha-BHC	0.027	0.002	0.013
Beta-BHC	0.073	0.005	0.046
Delta-BHC	0.3	0.022	0.063
Heptachlor	0.016	0.0012	0.0036
Dieldrin	0.024	0.0018	0.0019
4,4'-DDD	0.047	0.003	0.00084
Endrin Aldehyde	0.049	0.004	0.81
	Max Reported Effluent Conc (mg/L)	Projected Max Edge of ZID Conc (mg/L)	Most Stringent Marine Criterion
Ammonia	26	0.47	1.9 ²

¹Based on maximum reported effluent concentration divided by dilution and multiplied by uncertainty factors from EPA's Technical Support Document for Water Quality-based Toxics Control(EPA/505/2-90-001, March 1991).

²Criterion determined from text table 3, "Water quality criteria for saltwater aquatic life based on total ammonia criteria continuous concentrations," in Ambient Water Quality Criteria for Ammonia (Saltwater)-1989 (EPA 440/5-88-004, April, 1989). Based on pH of 8.2, salinity of 20 g/kg, and temperature of 5° C.

ⁿ EPA has not promulgated criteria for this contaminant.

TABLE 1 1996 - 2000 FECAL COLIFORM RESULTS THE CITY OF PETERSBURG, ALASKA																								
DATE																								
	06/25/96	07/09/96	08/27/96	11/06/96	04/06/97	06/16/97	07/15/97	08/13/97	11/12/97	04/22/98	06/22/98	07/16/98	08/18/98	11/30/98	04/19/99	06/09/99	07/08/99	08/12/99	11/04/99	04/19/00	06/13/00	07/12/00	08/09/00	11/08/00
Station	Most Probable Number per 100 mL																							
1	<2	2	<2	11	23	<2	8	<2	50	<2	2	23	7	7	<2	2	<2	4	14	<2	2	2	4	8
2	<2	<2	8	50	11	<2	900	11	4	2	<2	22	<2	<2	2	13	<2	<2	17	<2	2	<2	4	13
3	<2	4	<2	2	<2	<2	2	2	4	<2	<2	0	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
4	2	<2	<2	4	2	<2	<2	<2	<2	<2	<2	0	<2	2	<2	<2	<2	<2	17	<2	<2	<2	<2	30
5	<2	<2	<2	13	2	2	<2	<2	2	<2	<2	0	<2	2	<2	<2	<2	<2	8	<2	<2	<2	4	4

APPENDIX 2

410 Willoughby Avenue, Ste.
303
Juneau, AK 99801-1795
PHONE: (907) 465-5300

DIVISION OF AIR AND WATER QUALITY
Wastewater Discharge Permits Program

June 18, 2001

Mr. Mike Lidgard
NPDES Permits Unit
U.S. Environmental Protection Agency
Region 10
1200 Sixth Avenue
Seattle, WA 98101

RE: State of Alaska Review of Pre-draft NPDES Permit No. AK-002145-8

Dear Mr. Mike Lidgard;

I have reviewed the above referenced pre-draft NPDES Permit and Fact Sheet for the City of Petersburg. I have the following comments.

Draft Permit

State of Alaska Certification Stipulations

- 1.) The State of Alaska's certification of this permit will require a flow rate limitation of 1.2 million gallons per day (mgd) for monthly average and 3.6 mgd for a daily maximum.

Rationale: In accordance with State Regulations 18 AAC 70.245, the Department will consider the characteristics of the effluent, including flow rate, when determining the appropriateness and size of a mixing zone. Restricting the amount of flow will assure that the size of the mixing zone is appropriate and that the treatment capacity of the facilities is not exceeded.

- 2.) The State of Alaska certification of this permit will require a maximum Biochemical Oxygen Demand, (BOD5) limitation of 140 mg/l for a monthly average and 200 mg/l for a daily maximum.

Rationale: In accordance with State Regulations 18 AAC 15.090, the Department may attach terms and conditions to a permit, variance, or approval, including operating, monitoring, inspection, sampling, access to records and reporting

requirements, and the posting of a performance bond or other surety, that it considers necessary to ensure that all applicable criteria will be met.

- 3.) The State of Alaska's certification of this permit will require a maximum Total Suspended Solids limitation of 140 mg/l for a monthly average and 200 mg/l for a daily maximum.

Rationale: In accordance with State Regulations 18 AAC 15.090, the Department may attach terms and conditions to a permit, variance, or approval, including operating, monitoring, inspection, sampling, access to records and reporting requirements, and the posting of a performance bond or other surety, that it considers necessary to ensure that all applicable criteria will be met

- 4.) The State of Alaska certification of this permit will require effluent limitations for Fecal Coliform Bacteria of 1.0 million per 100 ml for a monthly average and 1.5 million per 100 ml for a daily maximum. Sampled at one time per month.

Rationale: In accordance with State Regulations 18 AAC 70.045, the Department will consider the characteristics of the effluent, including flow rate, when determining the appropriateness and size of a mixing zone. Restricting the amount of flow will assure that the size of the mixing zone is appropriate and that the treatment capacity of the facilities is not exceeded.

- 5.) The ADEC will designate a Mixing Zone (MZ) for Fecal Coliform Bacteria contained in the discharge from the City of Petersburg Wastewater Treatment Facility. The mixing zone is defined as an arc of a circle, radius 1600 meters, centered on the outfall, going from one shoreline to the other extending on either side of the outfall line and over the diffuser.

Rationale: In accordance with State Regulations 18 AAC 70.240, the Department has authority to designate mixing zones in permits or certifications. This mixing zone will ensure that the most stringent water quality standard limitations for fecal coliform bacteria; 14 FC/100 ml, 30 day average, (not more than 10% of the samples may exceed 43 FC/100 ml.), is met at all points outside of the mixing zone.

- 6.) The ADEC will designate a Zone of Initial Dilution (ZID) for fecal coliform bacteria contained in the discharge from the City of Petersburg Wastewater Treatment Facility. The ZID is defined in the fact sheet as a rectangle 51.0 X 37.5 meters, centered on the diffuser and located perpendicular to the shoreline. Dilution ratio of 100:1. The most stringent limits for the parameters listed in the State of Alaska Water Quality Standards must be met outside of the ZID, (except for fecal coliform bacteria which must be met outside of the mixing zone)

Rationale: In accordance with State Regulations 18 AAC 70.240, the Department has authority to designate mixing zones in permits or certifications. This mixing zone will ensure that the most stringent water quality standard limitations for all parameters, (except fecal coliform bacteria) are met at all points outside of the ZID.

- 7.) The ADEC will require that fecal coliform numbers shall not exceed 200 FC/100 ML at the shoreline within the designated mixing zone.

Rationale: In accordance with State Regulations 18 AAC 70.020, the Department has authority to protect classes of use of the state's water. The limitation (200 FC/100 ML) is protective of the water quality for secondary recreation.

- 8.) ADEC will require Fecal Coliform Bacteria limitations of 14FC/100 ml for a monthly average and 43 FC/100 ml for a daily maximum be met outside edge of the mixing zone.

Rationale: In accordance with State Regulations 18 AAC 70.020, the Department has authority to protect classes of use of the state's water. The limitations are protective of the most stringent State of Alaska Water Quality Standards for Fecal Coliform Bacteria.

- 9.) The ADEC will require that signs be placed on the shoreline near the mixing zone and outfall line. The signs should state that treated domestic wastewater is being discharged, the name and owner of the facility and the approximate location and size of the mixing zone. The signs should inform the public that certain activities, such as the harvesting of shellfish for raw consumption and bathing should not take place in the mixing zone and give a contact number for additional information.

Rationale: In accordance with AS 46.03.110, (d), the department may specify in a permit the terms and conditions under which waste material may be disposed of. The notification requirement is intended to inform and provide assurances to the public that the wastewater is being treated in accordance with Alaska Water Quality Standards, 18 AAC 70.

State of Alaska Recommendations and Suggestions

Draft Permit

- 1.) Page 5 Effluent Limitations - limitations for effluent limits/monitoring of Dissolved Oxygen has not been established. Suggest: 2.0 mg/L, once per week.
- 2.) Page 7 – Temperature and pH readings of effluent required five times a week. Temperature and pH of effluent does not fluctuate greatly. Suggest: Reduction in monitoring to once per week.
- 3.) Page 9 – Fecal Coliform Monitoring Program – 4 stations monitored in June, July, August, Nov. and April each year. Suggest: Monitoring be performed during 2nd and 4th years at 4 stations twice a year (one during wet and one during dry season).
- 4.) **Page 10 VI A. Outfall/Diffuser and Design and Initial Dilution – due to dilution ratio alteration several effluent limitations need to be recalculated.**

- 5.) Page 14 - C Whole effluent Toxicity (WET) Testing – Testing shall be conducted quarterly in the first and fourth years of the permit term.

Due to the small community resources, and the high cost associated with WET testing, and lack evidence suggesting harmful effects of effluent on benthic community ADEC suggests decreased monitoring requirements. Suggests rewording to: For the first year and fourth year of the permit term, the Permittee shall conduct one chronic toxicity test for determining the toxicity of the effluent from outfall 001 in accordance subsections 1-12 below.

- 6.) Page 19 – G (3) – Quality Assurance Requirements – Quality Assurance Plans have become much more comprehensive since the request for a quality assurance plan was as for in 1996. Suggest: 120 days, for the City of Petersburg to develop their Quality Assurance Plan is advised.

- 7.) Page 23 II (C) Monitoring, Recording and Reporting Requirements – Copy to should be changed to:

Alaska Department of Environmental Conservation
 Division of Air and Water Quality
 410 Willoughby Ave., Suite 303
 Juneau, AK 99801
 907-465-5300
 907-465-5274(fax)

may be submitted via scanned and saved (.pdf, .bmp or .tif) document to:
wq_permit@envircon.state.ak.us

Fact Sheet

- 1.) Page 2 – Correct Address for Juneau EPA Alaska Operations Office to:

EPA Alaska Operations Office
 PO Box 20370
 Juneau, AK 99802-0370

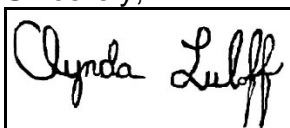
Physical Address:
 Room 223 A
 709 W. 9th Street
 Juneau, AK 99802

- 2.) Page 2 – All three permit FACT SHEETS should have the same information on where information may be obtained from for Haines, Petersburg and Sitka.
- 3.) “city of Petersburg” in a proper noun in describing the city and thus should be capitalized in all cases referring to: the City of Petersburg.

- 4.) Page 10 VI A. Outfall/Diffuser and Design and Initial Dilution – due to dilution ratio alteration several effluent limitations need to be recalculated.**

- 5.) Page 19 (7) Additional Parameters – 1st paragraph. "... is necessary to endure that the discharge..." Suggest: "...is necessary to ensure that the discharge..."
- 6.) Page 23 D. (1) Effluent Monitoring Program – 2nd paragraph- "...the daily sampling for pH...", Suggest: 5/week for pH, to match what permit states.
- 7.) Page 32 – Appendix I - Priority Pollutants Detected in 2000 Effluent Sampling Events - ??? Why is there a value provided in the Haines Permit for Most Stringent Marine Criterion but not in this Petersburg Permit? N/A appears.

Sincerely,

A rectangular box containing a handwritten signature in black ink that reads "Clynda Luloff".

Clynda A. Luloff
Environmental Specialist
Clynda_Luloff@envircon.state.ak.us
907-465-5366