March 30, 2001

Response To Comments

Draft NPDES Permit for:

Municipality of Anchorage, Alaska
John M. Asplund Water Pollution Control Facility
NPDES No.: AK-002255-1

On November 8, 1999, the Environmental Protection Agency (EPA) issued a draft National Pollutant Discharge Elimination System (NPDES) permit for the Municipality of Anchorage John M. Asplund Facility. The facility, located at Point Woronzof, serves the entire Anchorage area and provides primary treatment to domestic and industrial wastewater prior to discharge to Knik Arm of Cook Inlet. The permit also authorizes treated sewage sludge to be incinerated and the ash disposed of in a sanitary landfill. The public comment period for the draft permit extended from November 8, 1999, to December 23, 1999.

EPA received comments from the Municipality of Anchorage in a letter to Robert Robichaud of the EPA, from Mark Premo, General Manager of the Anchorage Water and Wastewater Utility, dated December 15, 1999. EPA also received comment letters from Ken Freeman, Executive Director of the Resource Development Council for Alaska, Inc., to Robert R. Robichaud dated December 16, 1999, and from Jeanne Hanson of the National Marine Fisheries Service, to Robert Robichaud dated January 7, 2000.

This document represents EPA's response to comments received during the comment period. The comments are summarized below followed by EPA's response.

Comment 1: Effluent Sampling Frequency. The Municipality suggest "changing Temperature, pH, Dissolved Oxygen, BOD, Settleable Solids, TSS, and Fecal Coliform Bacteria sampling frequency to 2/week. This frequency is supported by methodology described in the Interim Guidance for Performance-Based Reduction of NPDES Permit Monitoring Frequencies – EPA 833-B-96-001. Previous monitoring has shown no benefit from more frequent sampling of these parameters. Also, a reduced and consistent sampling frequency among these parameters reduces monitoring time and expense without sacrificing treatment plant performance information."

Response: The EPA guidance document referenced by the Municipality does allow for reductions in monitoring frequency over baseline conditions if long-term effluent averages are below monthly average limits. The degree of the monitoring reduction allowed by the guidance is a direct relationship to the difference between the average effluent value and the permit limitations for each parameter. EPA review of the facility data does demonstrate some reduction in frequency is allowed for most parameters. No reduction is allowed under the guidance memorandum, however, for BOD_5 since this parameter exceeded the limitation within the last two years. If a parameter exceeds the limitation, the guidance does not allow for a reduction in

frequency. The Municipality, while developing their comments on the draft permit, also applied the EPA guidance but instead of comparing past effluent values to historic limitations, the Municipality compared past effluent values to the new limits of the draft permit, which are higher for TSS and BOD. This interpretation does result in a reduction in frequency to 2/week or even 1/week for some parameters. The following table lists the previous permit frequency, the draft permit frequency, the reduced frequency that results from using EPA guidance and previous limitations, and the reduced frequency using EPA guidance with the proposed limitations:

Effluent Monitoring Frequency					
Parameter	Limit in the Permit?	Previous Permit Frequency	Proposed Permit Frequency	Reduction Guidance with Previous Limits	Reduction Guidance with Proposed Limits
BOD_5	yes	4/week	4/week	4/week	1/week
TSS	yes	5/week	4/week	2/week	2/week
Fecal	yes	3/week	3/week	1/week	1/week
pH	yes	daily	daily	6/week	
Temperature	no	daily	daily		
DO	no	daily	daily		
Sett. Solids	no	daily	daily		

In addition to the reduction guidance, EPA Region 10 must also consider monitoring frequency consistency among other municipal facilities permitted by EPA Region 10. EPA Region 10 issues permits for NPDES facilities in the States of Idaho and Alaska and tribal facilities throughout the Region. The Asplund facility discharge is twice as large as any other municipal facility permitted by Region 10. The monitoring frequency for this facility should at least be consistent with the frequency of other recently issued NPDES permits in Idaho and Alaska. EPA Region 10 must also consider the fact that the Asplund facility is a CWA 301(h) facility that provides less than secondary treatment.

The NPDES permit monitoring frequency reduction guidance clearly applies to historic performance at the facility versus application to future or proposed limitations. In light of this evaluation, the guidance would not allow a reduction in BOD_5 frequency below the current frequency of 4/week. EPA agrees with the Municipality that consistent sampling frequency among parameters reduces monitoring time and expense. EPA will require 4/week sampling frequency for BOD_5, TSS, pH, temperature, and DO. Fecal monitoring will remain at 3/week. Upon further review, settleable solids in the effluent has been less than 0.1 mL/L for the past years with 99% removal and, therefore, will be dropped from the permit monitoring

requirements. Other parameter monitoring frequencies will remain as issued in the draft permit.

The frequency of 4/week represents a reduction in monitoring frequency for five parameters (TSS, pH, temperature, DO, and settleable solids which is removed from sampling altogether) over the previous permit. The consistent frequency among parameters should also increase sampling efficiency. The frequency of 4/week assures EPA of adequate treatment plant performance information in order to evaluate the facility and is also generally consistent with other recently issued NPDES municipal permits in Region 10, even though this facility is significantly larger than the other municipal permits.

Comment 2: Monitoring Requirements of Table 2. The Municipality provided a suggestion to clarify the monitoring requirements of Table 2. In the draft permit, heavy metals, cyanide, and toxic pollutants and pesticides are listed as three separate parameters. Since heavy metals and cyanide are by definition included under the parameter toxic pollutant, the Municipality questions the need to list heavy metals and cyanide as separate parameter categories in Table 2 of the draft permit. The Municipality suggest one listing for toxic pollutants and pesticides which would include heavy metals and cyanide.

Response: EPA agrees that listing heavy metals and cyanide along with the general toxic pollutants and pesticide category is redundant and agrees to modify Table 2 as suggested. One category of toxic pollutants and pesticides will be retained and heavy metals and cyanide will be removed from the table.

Comment 3: Specifications for Metals Reporting. The Municipality "suggest changing the specification for metals reporting from "total" and "dissolved" to "total" for sludge (i.e. remove requirement for dissolved testing on sludge) and "total", "total recoverable", and "dissolved" for influent and effluent (i.e. add requirement for total recoverable testing on influent and effluent)."

Response. EPA agrees with the suggestion to change the specification for metals reporting for sludge to total metals and to remove the requirement for dissolved testing.

Regarding the comment pertaining to influent and effluent testing, EPA has determined that the terms "total metal" and "total recoverable metal" may be used interchangeably for purposes of NPDES permits. This position is discussed in detail in a policy memorandum dated August 19, 1998, entitled "Total vs. Total Recoverable Metals", from William A. Telliard, EPA. Therefore, EPA will not modify the specification for metals reporting and will retain the total and dissolved requirement of the draft permit.

Comment 4: Receiving Water Quality Monitoring. The Municipality states that "In order to make receiving water quality monitoring consistent with monitoring that has been conducted in the past, the station location specification for Total Aqueous Hydrocarbons, Total Aromatic Hydrocarbons, and Heavy Metals and Cyanide should be changed. We suggest specifying that sampling for these three parameters be done on the first flood tide cruise at both the outfall and control location. Samples would be collected within the ZID, at the ZID boundary, and in the

near field."

Response. EPA's intention with the requirements for the receiving water quality monitoring program was to be consistent with the program conducted under the previous NPDES permit. EPA agrees that the parameters cited in the comment (Total Aqueous Hydrocarbons, Total Aromatic Hydrocarbons, and Heavy Metals and Cyanide) should be monitored during the first flood tide cruise at both the outfall and control location as has been done historically. The final permit will be amended as suggested by the comment.

Comment 5: Receiving Water Quality Monitoring of Metals. The Municipality "... suggest changing the specification for metals reporting in Table 3 from "total" and "dissolved" to "total recoverable" and "dissolved". The receiving water monitoring would then be consistent with the receiving water quality criteria for metals."

Response. As discussed in response to comment 3 above, EPA uses the terms total metal and total recoverable metal as interchangeable terms for NPDES permitting purposes. There is no need, therefore, to revise the specification for metals reporting of Table 3 of the draft permit.

Comment 6: Pretreatment Requirements. The Municipality provided the following comment: "It is assumed that the first day of sampling specified in Table 5 would be accomplished by the Influent, Effluent, and Sludge monitoring for Toxic Pollutants and Pesticides specified in Table 2. We suggest adding a footnote to Table 5 that makes this clear. The footnote could read, "The first day of the 3 consecutive days of sampling specified by this table are accomplished by the twice per year sampling for the same constituents specified in Table 2."

Response. Sampling done twice per year to meet the requirements of Table 2 would meet the requirements for the first day of sampling specified in Table 5 as suggested in the comment. EPA will add the footnote to Table 5 in order to provide clarification.

Comment 7: Whole Effluent Toxicity Requirements. "We suggest changing the specification for control and dilution water from "synthetic, moderately hard laboratory water" to "natural or synthetic seawater". Seawater is the appropriate medium for the marine organisms on which the bioassay tests will be conducted." (Municipality comment)

Response. EPA agrees that this change is appropriate for a marine discharge and will amend the language as suggested in the comment. The draft permit language is intended for a discharge which is to freshwater.

Comment 8: Whole Effluent Toxicity (WET) Requirements. "We suggest changing the specification for conducting "six more tests, bi-weekly (every two weeks), over a twelve week period" to "three more tests, bi-weekly (every two weeks), over a six week period." This change is consistent with the Anchorage Eagle River NPDES Permit." (Municipality comment)

Response. EPA Region 10 requires permittees to conduct six additional test should accelerated

testing be required under the WET requirements of the permit. This is consistent with the Region 10 guidance document: "Regions 9 and 10 Guidance For Implementing Whole Effluent Toxicity Testing Programs", May 31, 1996, which was used to establish the requirements for the draft permit. Due primarily to the volume of this discharge, and also to the fact that this is a CWA 301(h) facility, EPA Region 10 will not deviate from the guidance document and will retain the six tests as proposed in the draft permit.

Comment 9. WET Requirements. "Some additional flexibility should be incorporated into the process of moving from detection of chronic toxicity to a full blown TRE/TIE. The TRE/TIE studies can be very expensive and consideration should be given to all available information before their initiation. We suggest making the following changes to this section: "If chronic toxicity as defined in Part I.C.4. is detected in any of the three additional tests required under Part I.C.7.b., then the discharger shall notify the Director of the Office of Water. If the Director determines that the discharger consistently exceeds a toxicity effluent limitation, then, in accordance…"

This wording change is consistent with the City of San Diego's Point Loma 301(h) NPDES Permit." (Municipality comment)

Response. The permit as drafted contains a gradual increase in toxicity testing and completion of preliminary steps prior to requiring implementation of a Toxicity Reduction Evaluation/Toxicity Identification Evaluation (TRE/TIE). First, toxicity must be detected in the routine quarterly test. Following this initial detection, the permittee then is required to implement an initial investigation workplan (Permit Section I.C.7) in an attempt to discover the source of toxicity. If the source is identified, only one additional toxicity test is necessary. If no toxicity is detected in the additional test, then the permittee would return to routine quarterly testing. If toxicity is found in the additional test, then the six bi-weekly tests are triggered. If toxicity is not found in any of the six additional tests, the permittee returns to quarterly testing. Only if toxicity is found in any of the six tests would a TRE/TIE be triggered. EPA Region 10 believes that if toxicity is detected during the routine quarterly test, and toxicity is found after initial investigation, and toxicity is also found in any of the six additional tests, it is then reasonable to require the facility to conduct an evaluation. This increase or stepping-up of toxicity testing is consistent with the Region 9 and 10 guidance document referenced in comment 8 above. The change to the draft permit will not be made as suggested by the commentor.

Comment 10. WET Requirements. The National Marine Fisheries Service (NMFS) agreed with the draft permit conditions to require WET testing but questioned the fish species selected and included in the permit. The commentor stated that the fish species top smelt does not represent native species found in Cook inlet and, in fact, top smelt are not found in Alaskan waters. NMFS suggest the EPA investigate the use of eulachon as a test species, which is an anadromous species of smelt that is readily abundant in Cook Inlet during April and May.

Response. The Region 10 guidance document, "Regions 9 and 10 Guidance For Implementing Whole Effluent Toxicity Testing Programs", May 31, 1996, was used to develop WET

conditions of the permit including selection of test species. EPA has reviewed and approved toxicity test methods for discharges under the following conditions: Freshwater, "East Coast" marine waters, and "West Coast" marine waters. EPA Region 10 applies West Coast methods to Alaskan waters for NPDES permitting purposes. The top smelt is the only fish species that has been approved for chronic West Coast testing. Methods for eulachon have not been investigated or approved. Should the eulachon be approved as a test species during the life of the permit, the permit could be modified to incorporate this species. It is important to use standardized protocols with species that are readily available for compliance testing, as well as adequately sensitive. The methods approved for use for West Coast marine discharges use species that are sensitive and believed to be representative of local species.

Comment 11: Resource Development Council for Alaska, Inc. The Resource Development Council submitted a letter during the comment period to support EPA's tentative decision to grant the Municipality a renewal of the NPDES permit. The letter states the Council believes that the "discharge limits contained in the draft permit will continue to ensure protection of the Cook Inlet environment and its use by humans, fish and wildlife." In addition, the Council also states that "extensive monitoring conducted in the Inlet since 1986 supports the finding that there will be no adverse impacts from the Point Woronzof discharge."

Response. EPA acknowledges receipt of this comment supporting renewal of the NPDES permit for this facility.

Comment 12: Beluga Whales. NMFS points out that EPA has determined that the discharge will not adversely impact the beluga whales and ask that the EPA provide NMFS with their findings for review.

Response. The document entitled: "Biological Evaluation of Site-Specific Water Quality Criteria for the Point Woronzof Area of Cook Inlet and Reissuance of the Asplund Water Pollution Control Facility NPDES Permit", prepared by EPA Region 10, is the basis for EPA's finding with regard to the beluga whale. This document was made available to NMFS on April 14, 2000. The following represents EPA's conclusion from the report: "Conventional pollutant discharges allowed by the NPDES permit are not likely to harm beluga whales or their prey. While both the site-specific criteria approval and the NPDES permit renewal will allow metals in the waters of upper Cook Inlet, exposure of beluga whales to harmful levels of these contaminants is expected to be minimal. Therefore, EPA has determined that renewal of the NPDES permit and approval of the site-specific criteria for Upper Cook Inlet are not likely to adversely affect beluga whales." NMFS concurred with this determination in a letter dated June 19, 2000 from James Balsiger, Administrator, Alaska Region to Sally Brough, EPA Region 10.

Comment 13: Essential Fish Habitat (EFH). The NMFS reiterated that EPA is conducting an EFH assessment for this permit action and offers to review the assessment and offer conservation recommendations, if appropriate, at that time.

Response. EPA Region 10 has conducted an Essential Fish Habitat (EFH) Assessment in order

to evaluate two federal actions proposed for the Point Woronzof area of Upper Cook Inlet. The assessment entitled: "Essential Fish Habitat Determination and Voluntary Assessment", was provided to NMFS for their review on April 4, 2000. EPA's concludes in the assessment: "EPA has developed the proposed permit to protect aquatic life species in Cook Inlet in accordance with the Alaska water quality standards. EPA believes that the Alaska water quality standards for the protection of aquatic life should protect both the managed EFH species and their prey. EPA has determined that approval of the site-specific criteria for the site and issuance of this permit based on such criteria is not likely to adversely affect any EFH in the vicinity of the discharge." NMFS provided their concurrence with the findings of the EFH assessment in a letter dated June 19, 2000, from James W. Balsiger, Administrator, Alaska Region, to Sally Brough, EPA Region 10.

Biological evaluation for Steller's eiders: EPA has also conducted a biological evaluation to identify any potential effects on the threatened Steller's eiders. The evaluation concludes: "Steller's eiders are diving ducks that spend most of the year in shallow, near-shore marine waters. Molting and wintering flocks congregate in Lower Cook Inlet (USFWS, 1998). The threatened Steller's eider occurs only occasionally in upper Cook Inlet near Anchorage (Balogh, 1999). Exposure to aquatic pollutants for eiders would generally occur through consumption of contaminated food such as molluscs and crustaceans. In surveys of the Point Woronzof area where both the NPDES permit and site-specific criteria would apply, the benthic and planktonic communities have low species diversity and abundance. Sampling of the flora and fauna of the Point Woronzof area resulted in few benthic invertebrates and macroalgae (Asplund, 1998). Due to the lack of prey species, high currents, and low occurrence of Steller's eiders in the action area, EPA has determined that renewal of the NPDES permit and approval of the site-specific criteria for upper Cook Inlet will have no effect on Steller's eiders.