

**United States Environmental Protection Agency
Region 10
1200 Sixth Avenue
Seattle, Washington 98101**

**AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM**

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

BP Exploration, Alaska (BPXA)
900 E. Benson Boulevard
Anchorage, AK 99508

is authorized to discharge from the Northstar Development Unit located on Seal Island, Stefansson Sound, Beaufort Sea, Alaska, in accordance with discharge points, effluent limitations, monitoring requirements, and other conditions set forth herein.

This permit (AK-0052779) shall become effective on _____.

This permit (AK-0052779) and the authorization to discharge shall expire at midnight,
_____.

Signed this _____ day of _____.

Philip G. Millam
Director, Office of Water
Region 10
U.S. Environmental Protection Agency

THIS PAGE INTENTIONALLY LEFT BLANK

TABLE OF CONTENTS

| <u>Section</u> | <u>Title</u> | <u>Page</u> |
|----------------|---|-------------|
| I. | EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS..... | 1 |
| A. | Primary Discharge (Outfall 001)..... | 1 |
| B. | Fire Suppression System Test Water (Outfall 002) | 4 |
| C. | Construction Dewatering (Outfall 005) | 5 |
| II. | BEST MANAGEMENT PRACTICES PLANS AND POLLUTION PREVENTION REQUIREMENTS..... | 6 |
| A. | Purpose..... | 6 |
| B. | Objectives | 6 |
| C. | Pollution Prevention Requirements | 7 |
| D. | BMP Plan Development..... | 8 |
| E. | BMP Plan Requirements..... | 8 |
| F. | Documentation | 10 |
| G. | BMP Plan Modification | 10 |
| H. | Outfall 005 (Construction Dewatering) Pollution Prevention Plan and Best Management Practices Plan | 10 |
| III. | MONITORING, RECORDING, AND REPORTING REQUIREMENTS..... | 10 |
| A. | Whole Effluent Toxicity Monitoring Requirements | 10 |
| B. | Environmental Monitoring Requirements..... | 12 |
| C. | Quality Assurance Requirements | 18 |
| D. | Representative Sampling (Routine and Non-Routine Discharges) | 20 |
| E. | Reporting of Monitoring Results | 21 |
| F. | Monitoring Procedures..... | 21 |
| G. | Additional Monitoring by Permittee | 21 |
| H. | Records Contents | 22 |
| I. | Retention of Records..... | 22 |
| J. | Twenty-four Hour Notice of Noncompliance Reporting | 22 |
| K. | Other Noncompliance Reporting | 23 |
| L. | Reporting Requirements for Construction/Maintenance Activities | 23 |
| IV. | COMPLIANCE RESPONSIBILITIES | 23 |
| A. | Duty to Comply..... | 23 |
| B. | Penalties for Violations of Permit Conditions | 24 |
| C. | Need to Halt or Reduce Activity not a Defense..... | 24 |
| D. | Duty to Mitigate..... | 25 |
| E. | Proper Operation and Maintenance..... | 25 |

| | |
|---|----|
| F. Removed Substances..... | 25 |
| G. Bypass of Treatment Facilities..... | 25 |
| H. Upset Conditions..... | 26 |
| I. Toxic Pollutants | 26 |
| J. Planned Changes | 27 |
| K. Changes in Discharge of Toxic Substances | 27 |
| L. Anticipated Noncompliance..... | 28 |
| V. GENERAL PROVISIONS..... | 28 |
| A. Permit Actions | 28 |
| B. Duty to Reapply | 28 |
| C. Duty to Provide Information..... | 28 |
| D. Other Information | 28 |
| E. Signatory Requirements..... | 29 |
| F. Availability of Reports..... | 30 |
| G. Inspection and Entry | 30 |
| H. Oil and Hazardous Substance Liability..... | 30 |
| I. Property Rights | 31 |
| J. Severability | 31 |
| K. Transfers | 31 |
| L. State and Local Laws | 31 |
| M. Reopener Clause | 31 |
| VI. ACRONYMS, ABBREVIATIONS, AND SYMBOLS | 32 |
| VII. REFERENCES FOR TEXT AND APPENDICES | 36 |

APPENDICES

Appendix A Best Management Practices and Pollution Prevention Plan for Seal Island Construction Dewatering (Outfall 005)

TABLES

| | |
|---------|---|
| Table 1 | Primary Discharge (Outfall 001) Effluent Limitations |
| Table 2 | Primary Discharge (Outfall 001) Monitoring Requirements |
| Table 3 | Construction Dewatering Discharge (Outfall 005) Effluent Limitations |
| Table 4 | Construction Dewatering Discharge (Outfall 005) Monitoring Requirements |
| Table 5 | Location of Environmental Monitoring Stations |

FIGURES

Figure 1 Receiving Water Monitoring Stations
Figure 2 Sediment Monitoring Stations

THIS PAGE INTENTIONALLY LEFT BLANK

I. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the effective period of this National Pollutant Discharge Elimination System (NPDES) Permit, the Permittee is authorized to discharge from Outfalls 001, 002, and 005, subject to the restrictions set forth herein. This Permit does not authorize the discharge of any waste streams, including spills and other unintentional or non-routine discharges of pollutants, that are not consistent with the operation of the facility as disclosed in the Final NPDES Permit Application (BPXA, 1997), or any pollutants that are not identified in the application.

A. Primary Discharge (Outfall 001)

During the effective period of this Permit, the Permittee is authorized to discharge uncontaminated flushwater (Stream 001a), vapor compression distillate (Stream 001b), and treated domestic and sanitary wastewater (Stream 001c) through Outfall 001. All discharges are subject to the following conditions.

Waste streams from the sources listed above are permitted for discharge by the Northstar Development through Outfall 001 in accordance with the requirements of this Permit. Any waste stream not listed in this Permit or in quantities greater than the listed limit amounts in Part I.A.1 of this Permit, shall not be discharged unless specifically authorized by the U.S. Environmental Protection Agency (EPA), in consultation with the Alaska Department of Environmental Conservation (ADEC), prior to discharge.

The discharge end of Outfall 001 is located at latitude 70° 29' 25.98" N and longitude 148° 41' 35.47" W, on the south end of Seal Island.

- 1. Effluent Limitations:** Discharges from Outfall 001 shall be limited by the Permittee as specified in Table 1 below.

Table 1 Primary Discharge (Outfall 001) Effluent Limitations¹

| Parameter | Daily Maximum (24 hour) | Weekly Average (7 day) | Monthly Average (30 day) | Units |
|-------------------------------|---|---------------------------|-----------------------------|------------|
| BOD ₅ ² | 11.4 | 7.1 | 3.0 | mg/L |
| TSS ² | 20.3 | 14.0 | 8.0 | mg/L |
| TRC ³ | 0.018 | NA | 0.009 | mg/L |
| Fecal coliform ^{2,4} | 230 | NA | 115 | FC#/100 ml |
| Temperature | No more than 7°C above or below ambient | | | °C |
| Flow ⁵ | 49,020 | NA | 27,930 | gpd |

Table 1 (Cont.) Primary Discharge (Outfall 001) Effluent Limitations¹

- Notes: 1 All discharge limits apply to end-of-pipe values.
 2 BOD₅, TSS, and fecal coliform limits are applicable only during discharge of the domestic and sanitary waste stream 001c.
 3 The effluent limit for chlorine is not quantifiable using EPA-approved analytical methods, as published in Standard Methods for the Examination of Water and Wastewater, 18th edition, 1992, edited by Greenberg et al. Therefore, the EPA will use the interim minimum level of 0.020 mg/L as the compliance evaluation level for this parameter.
 4 Fecal coliform is to be measured using an EPA-approved analytical method, as published in Standard Methods for the Examination of Water and Wastewater, 18th edition, 1992, edited by Greenberg et al. The count per 100 ml is to be the most probable number (MPN) derived using the approved analytical method. The method of analysis shall be either 9221E, Fecal Coliform Procedure, or 9222D, Fecal Coliform Membrane Filter Procedure.
 5 Flow shall be measured using a continuous flow meter or other methods of similar accuracy (accurate to within $\pm 5\%$ of actual flow), as approved in advance by the EPA, in consultation with ADEC.

| | | | | | |
|------------|---|--|-----|---|-------------------------|
| BOD | = | Biochemical oxygen demand | NA | = | Not applicable |
| °C | = | Degrees Celsius | % | = | Percent |
| FC#/100 ml | = | Fecal coliform count per 100 milliliters | TRC | = | Total residual chlorine |
| gpd | = | Gallons per day | TSS | = | Total suspended solids |
| mg/L | = | Milligrams per liter | | | |

2. **Effluent Monitoring Requirements:** The Permittee shall monitor the effluent from the primary discharge as specified in Table 2 below, subject to the other monitoring and reporting requirements set forth in this Permit.

Table 2 Primary Discharge (Outfall 001) Monitoring Requirements

| Parameter | Measurement Requirements | Sample Type | Reported Value(s) ¹ |
|--|-------------------------------|-------------|--|
| BOD ₅ ² | Weekly | Grab | Daily maximum, weekly average, and monthly average (mg/L) |
| TSS ² | Weekly | Grab | Daily maximum, weekly average, and monthly average (mg/L) |
| TRC ³ | Weekly | Grab | Daily maximum, monthly average (mg/L) |
| Fecal Coliform ² | Weekly | Grab | Daily maximum, monthly average (FC#/100 ml) |
| Temperature, effluent and ambient ⁴ | Continuous | Recording | Maximum difference between corresponding daily effluent and ambient for the month. Report all exceedances (°C) |
| Flow | Continuous | Recording | Maximum daily and monthly average (gpd) |
| WET ⁵ | 1 per summer, 1 per winter | Grab | TUc ⁵ |
| Salinity ⁶ | Weekly | Grab | Daily maximum, monthly average (ppt) |
| pH ⁷ | Weekly | Grab | Daily maximum and minimum (Standard Units) |

Table 2 (Cont.) Primary Discharge (Outfall 001) Monitoring Requirements

- Notes:
- 1 If an analytical value is “less than the method detection limit”, the permittee shall report “<[numerical method detection limit]” on the Discharge Monitoring Report (DMR). For example, if the laboratory reports “not detected” for a sample, and states that the method detection limit is “5Φg/L” then the permittee shall report “<5Φg/L” on the DMR (Φg/L means micrograms per liter).
 - 2 BOD₅, TSS, and fecal coliform shall be monitored during discharge of domestic and sanitary wastewater, waste stream 001c. The Permittee is not required to monitor these parameters at Outfall 001 at other times.
 - 3 At a minimum, analytical methods shall achieve a method detection limit of 0.010 mg/L for TRC.
 - 4 Permittee shall continuously monitor ambient water temperatures in addition to effluent water temperatures. Ambient water temperature shall be obtained from the upcurrent side of Seal Island at a depth of 16 feet (ft) (4.9 meters [m]) below Mean Lower Low Water (MLLW).
 - 5 See Part III.A of this Permit for specifics regarding the Whole Effluent Toxicity (WET) monitoring requirement. WET monitoring shall be conducted for 1 year. Effluent samples for these WET tests shall include discharges from Outfall 001b.
 - 6 Salinity shall be monitored during discharge of vapor compression distillate, waste stream 001b. The Permittee is not required to monitor this parameter at Outfall 001 at other times.
 - 7 pH shall be monitored during discharge of vapor compression distillate, waste stream 001b, and domestic and sanitary wastewater, waste stream 001c. The Permittee is not required to monitor this parameter at Outfall 001 at other times.

DMR = Discharge Monitoring Reporting
ppt = Parts per thousand
TU_C = Chronic toxic unit

3. Other Limitations and Requirements:

- a. Surface and Shoreline - The discharge shall not, alone or in combination with other substances, cause a film, sheen or discoloration on the surface of the receiving water or adjoining shorelines.
- b. Clean Water - Introduction of water, including "clean" water to the treatment system effluent for the purpose of achieving the effluent limitations in Part I.A.1 of this Permit is prohibited. "Clean" water is segregated waters which meet the effluent limitations without treatment.
- c. There shall be no discharge of floating solids, garbage, grease, free oil, or foam.
- d. Sludge Handling - Sludge removed from the treatment systems during cleaning of the treatment units shall not be reintroduced into the treatment system or discharged to waters of the United States.

The Permittee shall provide the EPA and ADEC upon request with information on the Permittee's processing of sludge and disposal of solids. The Permittee will dispose of sewage sludge either through injection into the Class I waste disposal injection well (waste disposal well), if permitted and available, or by transportation to an approved North Slope facility for treatment and disposal.

B. Fire Suppression System Test Water (Outfall 002)

1. Effluent Limitations

The Permittee shall limit test discharges (Outfall 002) from the fire suppression system to one test discharge per year for a 30 minute duration at the maximum estimated flow rate of 3,000 gallons per minute (gpm) (11,356 liters per minute). The Permittee shall comply with the flow limit at all times, regardless of the frequency of monitoring or reporting required by other provisions of this Permit. The discharge shall be untreated, unheated, and unstored seawater.

Outfall 002 shall be from fire monitors and/or soft hoses connected to standpipes on Seal Island, itself centered at latitude 70°29'29.69" N and longitude 148°41'36.66" W. The Outfall shall be discharged into the surface of marine water. Prior to the test the system pack water shall be flushed and replaced with untreated seawater. The volume of flush water used to flush pack water shall be at least two times the volume of the pack water. The flush and pack water shall be disposed of through the waste disposal well.

2. Effluent Monitoring Requirements

Upon the first test, the Permittee shall record the test duration and estimate the discharge rate. The method for estimating discharge rate shall be specified in the Best Management Practices Plan developed for Outfall 002 (Part II.E.5).

3. Other Limitations and Requirements:

- a. The discharge shall not, alone or in combination with other substances, cause a film, sheen, or discoloration on the surface of the receiving water or adjoining shorelines.
- b. There shall be no discharge of floating solids, garbage, grease, free oil, or foam.

Outfall 002 does not include the weekly tests of the fire control pumps which will circulate seawater from the seawater intake sump through the pumps and thereafter directly back into the seawater intake sump. This seawater is untreated and will have nothing added.

C. Construction Dewatering (Outfall 005)

The Permittee shall limit discharges from the construction dewatering discharge as specified in Table 3 below; all values represent maximum effluent limits. The Permittee shall comply with the following effluent limits at all times, regardless of the frequency of monitoring or reporting required by other provisions of this Permit.

The dewatering streams shall be through one or more hoses discharging dewatering effluent within 200 ft (61 m) of Seal Island’s outer perimeter sheet pile wall, the island itself centered at latitude 70°29'29.69" N and longitude 148°41'36.66" W. These hoses shall discharge through diffusers submerged in either naturally occurring open water or below slots cut through the surface ice. These diffuser nozzles shall be placed at least 5 ft (1.5 m) below the ice-water surface interface and at least 10 ft (3 m) above sea bottom. The total number of discharge diffusers shall not exceed six.

- 1. Effluent Limitations:** Discharges from Outfall 005 shall be limited by the Permittee as specified in Table 3:

Table 3 Construction Dewatering Discharge (Outfall 005) Effluent Limitations

| Parameter | Daily Maximum | 28 day Average | Units | Duration |
|-----------|---------------|----------------|-------|---|
| Flow rate | 2,000,000 | 1,000,000 | gpd | During Activity; Not to exceed 28 contiguous days |

- 2. Effluent Monitoring Requirements:** The Permittee shall monitor the effluent from the construction dewatering discharge as specified in Table 4 below, subject to the other monitoring and reporting requirements set forth in this Permit.

Table 4 Construction Dewatering Discharge (Outfall 005) Monitoring Requirements

| Parameter | Measurement Requirements | Sample Type | Reported Value(s) | Duration |
|-----------|------------------------------|--|--|---|
| Flow rate | Continuous During Discharges | Temporal log of number and type of pumps in operation. | Daily max., min., and avg. (gpd). Estimate based on number of pumps in operation and estimated pump rate per pump. | During Activity; Not to exceed 28 contiguous days |

Notes: avg. = Average
max. = Maximum
min. = Minimum

3. Other Limitations and Requirements:

- a. The discharge shall not, alone or in combination with other substances, cause a film, sheen or discoloration on the surface of the receiving water or adjoining shorelines.
- b. There shall be no discharge of floating solids, garbage, grease, free oil, or foam.
- c. The Permittee shall comply with the Construction Dewatering Discharge Pollution Prevention Plan and the Best Management Practices Plan specific to this discharge as provided in Appendix A of this Permit.

II. BEST MANAGEMENT PRACTICES PLANS AND POLLUTION PREVENTION REQUIREMENTS

A. Purpose

Through implementation of the Best Management Practices (BMP) Plans and pollution prevention requirements, the Permittee shall prevent or minimize the generation and the potential for release of pollutants from the facility to the waters of the United States. Actions taken to reduce or eliminate the generation and release of pollutants to waters of the United States shall avoid, to the extent practicable, the transfer of pollutants to the air and land.

B. Objectives

The Permittee shall ensure that the BMP Plans are consistent with the following objectives for the control of pollutants:

- The number and quantity of pollutants generated and potentially discharged from the facility to waters of the United States shall be minimized by the Permittee to the extent technically and economically feasible;
- Under the BMP Plans, the Permittee shall ensure proper operation and maintenance of the treatment facility;
- The Permittee shall establish specific objectives for the control of pollutants by addressing the pollution prevention requirements in Part II.C below; and
- The Permittee's BMP Plan for Outfall 005 is offered in Appendix A of this Permit. BMP Plans for other activities will be developed per Part II.D.

C. Pollution Prevention Requirements

The Permittee shall establish specific performance objectives for preventing or reducing pollutants by ensuring that the following pollution prevention (P2) planning activities and evaluations are conducted.

1. **Construction Dewatering Discharge Pollution Prevention Plan for Outfall 005:** Because of its short duration as a construction related discharge, Outfall 005's P2 Plan is submitted separately from P2 Plans associated with Outfalls 001 and 002. The Permittee's P2 Plan for Outfall 005 is presented in Appendix A.

2. **Pollution Prevention Plan Framework for Snow Removal/Disposal and for Outfalls 001 and 002:** No later than 180 days after the effective date of the Permit, the Permittee shall submit a P2 Plan document to the EPA and ADEC for incorporating pollution prevention into Northstar Development activities that discharge operation streams (or have the potential for such discharges) into waters of the United States through Outfalls 001 or 002. Similarly, the Permittee shall submit a P2 Plan document to the EPA and ADEC for incorporating pollution prevention into all snow removal/disposal activities on the Northstar Development Seal Island, itself centered at latitude 70°29'29.69" N and longitude 148°41'36.66" W. The EPA, in consultation with ADEC, shall have the right to disapprove any P2 Plan within 60 days of receipt by the EPA and ADEC, after which time the Plan shall be deemed approved, if neither Agency/Department disapproves them. The framework document shall include:
 - a. A written policy of management support and commitment for planning and implementation of pollution prevention goals developed during the planning process.
 - b. The methodology for considering the technical and economic feasibility of proposed pollution prevention options.
 - c. A statement of specific and measurable pollution prevention objectives, goals, and priorities for the Northstar Development. Standards of measure may be quantitative or qualitative depending on the type or objective, priority, or goal.
 - d. An identification of any significant toxic and/or hazardous products and waste streams, the processes which use these products or generate these waste streams, and opportunities for eliminating or reducing the use of these products and the generation of these waste streams.
 - e. A summary of any current pollution prevention efforts at the facility and results of these efforts. Evaluate and prioritize pollution prevention and reduction opportunities. Establish a schedule for implementing technically and economically feasible pollution prevention opportunities.

3. **Annual P2 Reports:** The Permittee shall prepare annual P2 reports on the status of efforts to meet stated pollution prevention objectives, goals, and priorities, and submit these reports to the EPA and ADEC. The first progress report shall be due two (2) years after the effective date of the Permit. Subsequent reports shall be due annually on the anniversary of the effective date of this Permit. The P2 reports shall:
 - a. Identify progress towards meeting P2 objectives, goals, and priorities. Problems encountered and/or highlights of efforts to prevent pollution shall also be identified.
 - b. Describe pollution prevention projects implemented and for each project, to the extent possible (considering technical and economic feasibility) identify:
 - (1) The type and quantity of any toxic and/or hazardous products reduced or eliminated.
 - (2) The type and quantity of waste streams reduced or eliminated.

D. BMP Plan Development

As noted in Part II.B, the Permittee's BMP Plan associated with Outfall 005 is provided in Appendix A of this Permit. BMP Plans associated with other activities shall be developed as described below.

The Permittee shall develop BMP Plans which achieve the objectives noted in Part II.B and the specific requirements listed below in Part II.E. The Permittee shall, if necessary, modify these Plans to incorporate practices to achieve these objectives and specific requirements. In completing this task, the Permittee can incorporate or cross-reference existing pollution prevention, BMP, Safe Operating Procedures or other plans prepared by the facility in accordance with other state and federal requirements and/or directives internal to the facility.

A copy of each BMP Plan shall be submitted to the EPA and ADEC for approval no later than 180 days from the effective date of the Permit. The EPA, in consultation with ADEC, shall have the right to disapprove any BMP Plan within 60 days of receipt by the EPA, after which time the Plans shall be deemed approved, if neither Agency/Department disapproves them.

E. BMP Plan Requirements

All BMP Plans shall be consistent with the objectives in Part II.B above and the general guidance contained in the publication entitled Guidance Manual for Developing Best Management Practices (USEPA, 1993a) or any subsequent revisions to guidance documentation. BMP Plans shall continue to address the standard components of BMP Plans and shall also:

1. Be documented in narrative form, and shall include any necessary plot plans, drawings or maps, and shall be developed in accordance with good engineering practices.

2. Ensure that the requirements of a BMP Plan are considered as part of planned facility modifications, and that construction and supervisory personnel are aware of and take into account possible spills or releases of pollutants during construction.
3. Require an annual BMP Plan review by the responsible manager and a BMP Committee. The Plan shall also require an annual statement that the above reviews have been completed and that the BMP Plan fulfills the requirements set forth in this Permit. The statement shall be certified by the dated signatures of each BMP Committee member. This statement shall be submitted to the EPA and ADEC on or before July 1st of each year of operation under this Permit after the initial BMP Plan submittal as required by Part II.D above.
4. Establish specific BMPs to meet the objectives identified in Part II.B addressing each component or system capable of generating or causing a release of significant amounts of pollutants, and identifying specific preventative or remedial measures to be implemented. In particular, the control of scale inhibitor and foamer chemicals in Outfall 001b and the minimization of discharge pollutants from Outfall 001c will be addressed in BMPs specific to these outfalls.
5. Include the following BMP requirements specific to Fire Suppression System Testing (Outfall 002). The Permittee shall develop BMPs to limit, manage, and control the discharges from the firewater pump testing and maintenance. The BMPs shall:
 - a. Direct only uncontaminated seawater discharges to the 002 Outfall; in particular, chlorinated pack water will be flushed from the fire suppression system and disposed of via the waste disposal well prior to flooding the system with seawater for subsequent testing.
 - b. Testing will take place only during open water conditions, to the extent possible.
 - c. Specify the method for estimating discharge rate. No fire suppression test water will be directed toward the facility's deck drainage collection system.
6. The BMPs developed for Outfall 001 shall provide the method employed to determine when domestic and sanitary wastewater will be discharged through waste stream 001c and when said wastewater will be discharged into the waste disposal well.
7. The Permittee shall develop a BMP for snow removal including visual checks of the snow for contaminants, or suspected contaminants, prior to disposal of snow over the island's edge (sea wall). This BMP shall define the method(s) to be employed for said visual inspections, specify the means by which contaminated, or suspected contaminated, snow shall be melted, and describe the disposal method(s) (disposal through the waste disposal well and/or transportation to an approved mainland disposal facility). This BMP shall also state the method(s) to be employed

for the disposal of gravel and other debris collected with contaminated, or suspected contaminated, snow.

F. Documentation

The Permittee shall maintain copies of the most current BMP Plans, along with a copy of the NPDES Permit AK-0052779, for use by personnel on the Northstar Development Facility. The Permittee shall make the BMP Plans available to the EPA or ADEC upon request.

G. BMP Plan Modification

The Permittee shall modify the BMP Plans whenever there are physical or operational changes in the facility which materially increase the potential for a discharge of pollutants. The Permittee shall modify the BMP Plans whenever the plans do not effectively address the BMP Plan and P2 requirements stated above in Part II of this Permit. Any such changes to the BMP Plans shall be consistent with the purpose, objectives, and specific requirements listed above. All changes in BMP Plans shall be reviewed by the responsible manager and shall be reported to the EPA and ADEC in writing. The EPA, in consultation with ADEC, shall have the right to disapprove any such changes within 60 days of receipt, after which time such changes shall be deemed approved.

H. Outfall 005 (Construction Dewatering) Pollution Prevention Plan and Best Management Practices Plan

The long-term, well understood, operational natures of snow removal/disposal and of Outfalls 001 and 002 allow the generation of P2 and BMP Plans for snow removal/disposal and for these outfalls over a 180-day period following the issuance of this Permit. However, because of the short-term, temporary and less understood nature of Outfall 005 (Construction Dewatering), the P2 and BMP Plans for this outfall are approved with the issuance of this Permit. The Permittee shall implement the P2 and BMP Plans for Outfall 005 (Construction Dewatering), dated October 15, 1998, as provided in Appendix A of this Permit.

III. MONITORING, RECORDING, AND REPORTING REQUIREMENTS

A. Whole Effluent Toxicity Monitoring Requirements

The Permittee shall conduct Whole Effluent Toxicity (WET) tests on samples of the discharge from Outfall 001 as indicated below.

Chronic Toxicity Testing. The Permittee shall perform chronic toxicity tests of the effluent in accordance with 1 through 8 below. Beginning with or following the first calendar quarter after the initial discharge from Outfall 001, the Permittee shall conduct semi-annual chronic toxicity tests. One such test shall be conducted during the winter, under ice period, and the other shall be conducted during the summer, open water period.

This test schedule shall be maintained for 1 year. Effluent samples for these tests shall include discharges from Outfall 001b.

1. **Test Species and Methods:** The Permittee shall conduct chronic toxicity testing with the following organisms:
 - a. Top Smelt (*Atherinops affinis*).
 - b. Purple Sea Urchin (*Strongylocentrotus purpuratus*) or Sand Dollar (*Dendraster excentricus*), depending on availability.
 - c. Pacific Oyster (*Crassostrea gigas*) or mussel (*Mytilus* sp.), depending on availability.

The presence of chronic toxicity shall be estimated using tests as specified in Section 16 of Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms (USEPA, 1995). If possible, fertilization tests will be completed for the purple sea urchin or sand dollar.

2. **Dilution Series:** The Permittee shall conduct testing on a series of six dilutions ranging from zero percent effluent (control) to 100 percent effluent, with a minimum of four replicates per concentration. Based on available data, dilutions shall be selected that will bracket the IWC (see glossary). Salinity adjustments shall be used if appropriate. Concurrent testing as appropriate with reference toxicants (see U.S. EPA Regions 9 and 10 Guidance Manual for Whole Effluent Toxicity Tests for reference toxicants) shall also be conducted (see Part III.A.6.b below).
3. **Reporting Units:** The chronic toxicity test results shall be reported in TUC, where $TUC = 100/IC_{25}$ (in percent effluent).
4. **Sample Collection:** Testing shall be conducted on grab samples of primary discharge effluent collected at the NPDES sampling location. Each sample shall be large enough to provide enough effluent to conduct toxicity tests, as well as chemical tests required in Paragraph 5 below.
5. **Chemical Analyses:** Chemical testing for the parameters for which effluent limitations exist shall be performed on a split of each sample collected for WET testing. To the extent that the timing of sample collection coincides with that of the sampling required in Part I, chemical analysis of the split samples will fulfill the requirements of Part I as applicable.
6. **Quality Assurance (QA) Requirements:**
 - a. Reference toxicant tests shall be conducted using the same test conditions as the effluent toxicity test (i.e., same test duration).

- b. If the test organisms are not cultured in-house, concurrent testing with reference toxicants shall be conducted.
- c. If either the reference toxicant tests or the effluent tests do not meet all test acceptability criteria as specified in the test methods manuals, then the Permittee must resample and commence a retest within fourteen (14) days.
- d. Control and dilution water should be lab water, as described in the U.S. EPA Regions 9 and 10 Guidance for Whole Effluent Toxicity Tests (Denton and Narvaez, 1996). The Permittee may request using uncontaminated receiving water as control and/or dilution water. If the dilution water used is different from the culture water, a second control using culture water shall also be used.

7. Reporting Requirements:

- a. The full toxicity testing report shall be submitted to the EPA (two copies) and ADEC (two copies) within 45 days after completion of the test. At a minimum, the full report shall consist of:
 - (1) The toxicity test results.
 - (2) The dates of sample collection and initiation of each toxicity test.
 - (3) The flow rate at the time of sample collection.
 - (4) The results of the analyses for chemical/physical parameters on split effluent samples as required in Part III.A.5 above.
 - (5) All raw data and statistical analyses from the tests, including reference toxicant tests.
 - (6) Demonstration of compliance with Quality Assurance Requirements (Part III.A.6 above).
- b. WET test results shall be prepared in accordance with the Report Preparation chapter in the relevant toxicity testing manual. If the Permittee uses the TOXIS database, the data shall also be submitted on an electronic diskette (3.5 inch).

- 8. Reopener:** This Permit may be modified in accordance with the requirements set forth at 40 CFR Parts 122 and 124, to include appropriate conditions or limits to address demonstrated effluent toxicity based on newly available information.

B. Environmental Monitoring Requirements

- 1. Objectives:** The Permittee shall develop and implement an environmental monitoring program which addresses the following objectives:

- a. Early detection/warning of any significant adverse effects due to the Northstar Development Project discharges.
 - b. Ensure compliance with state water quality standards.
 - c. Collect data that will allow the EPA to determine statistically and ecologically significant changes in water quality and the biota of the nearshore area.
 - d. Determine whether changes to the monitoring program are warranted.
 - e. Gather information for Permit renewal or future regulatory decisions (e.g., trends, exceedances of benchmarks or criteria, etc.).
2. **Monitoring Stations:** Locations and approximate depths of stations for environmental monitoring sampling collection are identified in Figures 1 and 2 and Table 5. The latitude and longitude coordinates are the intended sampling locations. The depth values reflect the reported ranges.
3. **Receiving Water Monitoring:** The receiving water monitoring shall address the question of whether the Northstar Development Project discharges are adversely impacting survival, growth, or reproduction of marine species in the water column by performing the following monitoring. Receiving water monitoring under this section shall be conducted in July or August beginning with the first July or August following initial discharges from Outfall 001. A second and final monitoring shall be performed two (2) years thereafter. Monitoring shall be conducted at the following established stations (see Part III.B.2 above for station locations): D3, D4, D5, D6, D7, and D8. Monitoring shall also be conducted at the most upcurrent of stations D1 or D2.

The following items shall be monitored in the receiving water using samples obtained from the locations listed in Table 5:

| | |
|--------------------------------|---|
| Temperature (°C) | Biochemical Oxygen Demand, 5 day (mg/L) |
| Total Suspended Solids (mg/L) | Fecal Coliform Bacteria (#/100 ml) |
| Total Residual Chlorine (Φg/L) | pH (Standard Units) |
| Dissolved Oxygen (mg/L) | Salinity (ppt) |

Water samples shall be archived for 1 year after submission of annual report unless the EPA requests that samples be held for a longer period.

Table 5 Location of Environmental Monitoring Stations

| Station Number | Depth Range (meters) | Latitude (North) | Longitude (West) | Location Narrative |
|---------------------|----------------------|------------------|------------------|---|
| Water Column | | | | |
| D1 | 4-6 | 70°29' 29.69" | 148°41' 17.92" | Due east of island center; 100 m from island MLLW |
| D2 | 4-6 | 70°29' 29.69" | 148°41' 55.40" | Due west of island center; 100 m from island MLLW |
| D3 | 4-5 | 70°29' 25.92" | 148°41' 35.92" | 5 m along 247° radial from 001 port |
| D4 | 4-7 | 70°29' 25.82" | 148°41' 35.44" | 5 m along 177° radial from 001 port |
| D5 | 4-5 | 70°29' 25.93" | 148°41' 35.01" | 5 m along 107° radial from 001 port |
| D6 | 4-6 | 70°29' 25.85" | 148°41' 36.36" | 10 m along 247° radial from 001 port |
| D7 | 4-8 | 70°29' 25.66" | 148°41' 35.42" | 10 m along 177° radial from 001 port |
| D8 | 4-6 | 70°29' 25.89" | 148°41' 34.54" | 10 m along 107° radial from 001 port |
| Sediment | | | | |
| S1 | bottom | 70°29' 24.36" | 148°41' 43.86" | 100 m along 114° radial from 001 port |
| S2 | bottom | 70°29' 24.66" | 148°41' 26.62" | 100 m along 240° radial from 001 port |

Note: The island's center is 70°29' 29.69"N, 148°41' 36.66"W. All radials are relative to true north. MLLW is "mean lower low water".

- 4. Sediment Monitoring:** The sediment monitoring program shall address the question of whether the contaminants discharged by the Northstar Development Facility bioaccumulate, concentrate, or persist above natural levels in sediments to significantly adverse levels.

Sediment monitoring for Sediment Chemistry (Subparagraph a) and Benthic Abundance and Community Structure (Subparagraph b) shall be conducted: the first July or August following initial discharge from Outfall 001 and during the last July or August of the effective period of this permit. Sediment monitoring for sediment chemistry (Subparagraph a) shall also be conducted prior to island reconstruction. Sediment monitoring shall be at the following established stations (see Part III.B.2 above for station locations): S1 and S2.

The description of the gross characteristics of the sediment shall also address the presence or absence of oil, oil globules, tar balls, and visible sheen in the aqueous or solid phase of the sediment samples. These written descriptions shall be included in the monitoring report. Sediment samples shall be archived for one year after submission of the annual monitoring report unless the EPA or ADEC request that samples be held for a longer period.

- a. Sediment Chemistry. The Permittee shall collect sediment samples at the stations identified in Part III.B.2. Concentrations of the following shall be determined from the collected sediment samples:

FIGURE 1 RECEIVING WATER MONITORING STATIONS

FIGURE 2 SEDIMENT MONITORING STATIONS

| | |
|--------------------------|---|
| Ammonia | Mercury |
| Cadmium | Nickel |
| Chlorine, Total Residual | Polynuclear Aromatic Hydrocarbons (PAH) |
| Chromium (VI) | Sulfides |
| Manganese | Vanadium |

PAH and their alkylated homologues shall be analyzed using a gas chromatographic/mass spectrometer (GC/MS) technique in the selected ion monitoring (SIM) mode as described by the Geochemical and Environmental Research Group (GERG) Laboratory, Texas A&M University, College Station, Texas, in GERG SOP-8905. Alternative methods may be used with prior approval by the EPA and ADEC. Sediment chemistry data shall be normalized to dry weight, total organic carbon, and sediment grain size.

Results of sediment hydrocarbon analyses shall be compared to historic Prudhoe Bay and other Beaufort Sea values and to EPA, NOAA, and State of Washington accepted published PAH and TAH levels in marine sediments. Sediment quality guidelines or benchmarks which may be used for comparison include the EPA's draft Sediment Quality Criteria (USEPA, 1993b,c,d), State of Washington marine sediment quality standards - chemical criteria (WDE, 1995), and NOAA's Effects Range-Low and Effects Range-Medium Criteria (Long and Morgan, 1990; Long, 1992). If the above guidelines are revised or new guidelines are published, the most recent guidelines should be used for comparison.

- b. Benthic Abundance and Community Structure. Sampling methods and analyses conducted shall be those used by Woodward-Clyde Consultants (WCC) in the 1995 Northstar Unit Sampling Program (WCC, 1996), or the equivalent, as determined by the EPA in consultation with ADEC prior to sampling. The sampling stations are those identified in Table 5.

5. Annual Data Report:

- a. Beginning with or following the first calendar quarter after the initial discharges from Outfall 001, the Permittee shall submit an annual data report to the EPA (two copies) and ADEC (two copies) by February 15. This report will be required for the life of this Permit, both during years of environmental monitoring activities (per Part III.A and Part III.B.1-4) and during years without said activities. Effluent monitoring data (Parts I.A.2, I.B.2, and I.C.2) will be addressed annually. Reporting related to sediment monitoring required prior to island reconstruction (Part III.B.4) shall be included in the first annual data report. The report shall:
 - (1) Describe sampling and analytical methodologies used and quality assurance/quality control procedures.

- (2) Discuss how the monitoring addresses the environmental monitoring program objectives (see Part III.B.1) by using appropriate descriptive, analytical, and statistical methods to test for and describe impacts of the effluent on the receiving water, sediment, and benthic community.
- (3) Provide an interpretative summary of the results of Parts III.B.3 and III.B.4 of the Permit which address the magnitude and environmental significance of observed changes in parameters over time and, for water quality, distance from Outfall 001.
- (4) Demonstrate compliance with Quality Assurance Requirements.
- (5) The Permittee shall use the effluent chemistry data collected under Part I.A.2 of this Permit to quantitatively assess whether applicable water quality standards are being met at the edge of the mixing zone for Outfall 001. This assessment may be performed using computed dilutions expected to occur at this mixing zone boundary. In the years that WET tests are performed, the Permittee shall also use WET testing data collected under Part III.A of this Permit to quantitatively assess whether applicable water quality standards are being met at the edge of the mixing zone for Outfall 001.

b. At the written request of ADEC, the Permittee shall discuss specific ADEC or public comments on the annual data reports in writing.

6. **Digital Data Coding and Submission Requirements:** The Permittee shall submit the environmental monitoring data to the EPA in electronic format using a commercially available software package by February 15 of the year following each sampling period.
7. **Continuation of Monitoring:** The environmental monitoring program shall be continued until the Permit is reissued or adjusted per Part III.B.8 (Adjusted Monitoring) below.
8. **Adjusted Monitoring:** Based on the results of the Annual Data Report required under Part III.B.5 of this Permit, the Permittee may be required to adjust sampling frequency, modify sampling locations, and/or adjust the sampling design. The EPA shall not reduce the requirements without the concurrence of ADEC. Increases in the sampling frequency, the number of monitoring stations, and additional monitoring requirements shall be made as part of a Permit modification in accordance with 40 CFR 122 and 124.

C. Quality Assurance Requirements

1. **Implementation:** The Permittee, or the Permittee's designated water quality analysis laboratory(ies) and/or designated sampling contractor, shall follow the procedures given in the

Quality Assurance Plan, Water and Wastewater Sampling and Analysis (QA Plan) or in accordance with subsequent amendments. The Permittee shall amend this Plan to incorporate practices to achieve the objectives and specific requirements listed below (see Part III.C.8 below).

A copy of the QA Plan shall be submitted to the EPA for approval, in consultation with ADEC, no later than 60 days from the effective date of this NPDES Permit. The EPA, in consultation with ADEC, shall have the right to disapprove the QA Plan. If neither Agency/Department disapproves of the QA Plan within 60 days of receipt by the EPA, it shall be deemed approved. The QA Plan shall be implemented: 1) no later than 150 days from the effective date of this NPDES Permit; and 2) prior to the commencement of sample collection and analysis (including effluent monitoring requirements set forth in Part I).

2. **Objectives:** The objectives of the QA Plan shall be to assist in planning for the collection and analysis of samples in support of the effluent monitoring requirements in Part I of this Permit and in explaining data anomalies when they occur.
3. **Monitoring Equipment:** All monitoring equipment shall be maintained in good working order and routinely calibrated. Calibration records shall be kept on all laboratory and effluent monitoring equipment, including but not limited to effluent flow meters, temperature meters, and weighing balances.
4. **QA Plan Requirements:** Throughout all sample collection and analysis activities, the Permittee, or the Permittee's designate, shall use the EPA's Interim Guidelines and Specifications For Preparing Quality Assurance Project Plans (USEPA, 1980), EPA Requirements for Quality Assurance Project Plans for Environmental Data Operations (USEPA, 1994), or any subsequent revisions to the guidance documentation. The Permittee's QA Plan shall be prepared in the format which is specified in listed references. The following reference may be helpful in preparing the QA Plan for this Permit, You and Quality Assurance in Region 10 (USEPA, 1988).

At a minimum, the QA Plan shall include the following information:

- a. Name(s), address(es) and telephone number(s) of the laboratories used by or proposed to be used by the Permittee.
- b. Sample collection techniques and quality samples (field blanks, replicates, duplicates, control samples, types of containers, holding times, etc).
- c. Sample preservation methods.
- d. Sample shipping requirements.

- e. Instrument calibration procedures and preventative maintenance (frequency, standard, spare parts) to be used by the Permittee's laboratory.
 - f. Analytical methods (including quality control checks, quantification/detection levels, precision and accuracy requirements) to be used by the Permittee's laboratory.
 - g. Qualification and training of personnel to conduct sampling and analysis.
- 5. Discharge Monitoring Report (DMR) Certification:** The Permittee shall require the responsible laboratory manager of each laboratory providing measurement results in support of this Permit to sign and submit to the Permittee following the statement of the analytical results:

I certify that this data is in compliance with requirements under 40 CFR 136 and other analytical requirements specified in NPDES Permit No. AK-0052779.

Signature: _____ Date: _____

Title: _____

- 6. Verification:** Annually, no later than February 15, the Permittee shall verify to the EPA and ADEC that all laboratories used in the previous year for the purpose of measuring Permit samples have facilities, equipment, staff, quality assurance programs, and quality control procedures necessary to perform sample measurements in support of this Permit.
- 7. Documentation:** The Permittee shall maintain a copy of the most current QA Plan at the Northstar Development Facility and provide the QA Plan to all laboratories which conduct analysis pursuant to requirements of this NPDES Permit.
- 8. QA Plan Modification:** The Permittee shall amend the QA Plan when conditions or requirements of the quality assurance practices related to the NPDES Permit change. Any such changes to the QA Plan shall be reported in writing to the EPA and ADEC and shall be consistent with the objectives and specific requirements listed in the Permit. The EPA, in consultation with ADEC, shall have the right to disapprove of changes to QA Plan within 60 days of receipt by the EPA, after which time such changes shall be deemed approved.

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

The Permittee shall collect all effluent samples from the effluent stream prior to discharge into the receiving waters. Samples and measurements shall be representative of the volume and nature of the monitored discharge.

In order to ensure that the effluent limits set forth in this Permit are not violated at times other than when routine samples are taken, the Permittee shall collect additional samples at the appropriate outfall(s) whenever any discharge occurs that may reasonably be expected to cause or contribute to a violation that is unlikely to be detected by a routine sample. The Permittee shall analyze the additional samples for those parameters listed in Part I of this Permit that are likely to be affected by the discharge.

The Permittee shall collect such additional samples as soon as possible after the discharge. The samples shall be analyzed in accordance with Part III.F below. In the event of an anticipated bypass as defined in Part VI of this Permit, the Permittee shall collect and analyze additional samples as soon as the bypassed effluent reaches the Outfall. The Permittee shall report all additional monitoring in accordance with Part III.G below.

E. Reporting of Monitoring Results

The Permittee shall summarize monitoring results each month on the Discharge Monitoring Report (DMR) Form (EPA No. 3320-1). The Permittee shall submit reports monthly, postmarked by the 15th day of the following month. The Permittee shall sign and certify all DMRs, and all other reports, in accordance with the requirements of Part V.E of this Permit (Signatory Requirements). The Permittee shall submit the originals of these documents to the Director, Office of Water, with copies to ADEC, at the following addresses:

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

Copy to: Alaska Department of Environmental Conservation
Attn: Watershed Management
610 University Avenue
Fairbanks, Alaska 99709

F. Monitoring Procedures

Monitoring must be conducted according to test procedures approved under 40 CFR 136, unless other test procedures have been specified in this Permit or are approved in advance by the EPA.

G. Additional Monitoring by Permittee

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

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

H. Records Contents

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

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

I. Retention of Records

The Permittee shall retain records of all monitoring information, including, but not limited to, all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Permit, copies of DMRs, a copy of this NPDES Permit, and records of all data used to complete the application for this Permit, for a period of at least five (5) years from the date of any sample, measurement, report or application, or for the term of this Permit, whichever is longer. This period may be extended by request of the Director or ADEC at any time.

J. Twenty-four Hour Notice of Noncompliance Reporting

1. The Permittee shall report the following occurrences of noncompliance by telephone, (206) 553-1213, within 24 hours from the time the Permittee becomes aware of the circumstances:
 - a. Any noncompliance that may endanger health or the environment;
 - b. Any unanticipated bypass that results in or contributes to an exceedance of any effluent limitation in the Permit (See Part IV.G, Bypass of Treatment Facilities);
 - c. Any upset that results in or contributes to an exceedance of any effluent limitation in the Permit (See Part IV.H, Upset Conditions); or
 - d. Any violation of a maximum daily discharge limitation for any of the pollutants listed in this Permit.
2. The Permittee shall also provide a written submission within five (5) days of the time that the Permittee becomes aware of any event required to be reported under Part III.J.1 above. The written submission shall contain:

- a. A description of the noncompliance and its cause.
 - b. The period of noncompliance, including exact dates and times.
 - c. The estimated time noncompliance is expected to continue if it has not been corrected.
 - d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
 - e. The results of any required monitoring data.
3. The Director may, at his or her sole discretion, waive the written report on a case-by-case basis if the oral report has been received within 24 hours by the Water Compliance Section in Seattle, Washington, by telephone, (206) 553-1213.
 4. Written reports shall be submitted to the addresses listed in Part III.E (Reporting of Monitoring Results).

K. Other Noncompliance Reporting

The Permittee shall report all instances of noncompliance, not required to be reported within 24 hours, at the time that monitoring reports for Part III.E (Reporting of Monitoring Results) are submitted. The reports shall contain the information listed in Part III.J.2 (Twenty-four Hour Notice of Noncompliance Reporting).

L. Reporting Requirements for Construction/Maintenance Activities

The Permittee shall notify the EPA and ADEC, in writing, of all expected dates and times of projects disturbing the sea bed at least 15 days prior to project startup (e.g., construction dewatering Outfall 005). This notification may be done for the entire project prior to initial startup.

The Permittee shall record: 1) the construction/maintenance activity performed, 2) the days during which these were conducted, and 3) the type and amount of material used. This information shall be made available to the EPA or ADEC upon request.

IV. COMPLIANCE RESPONSIBILITIES

A. Duty to Comply

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

B. Penalties for Violations of Permit Conditions

1. **Civil and Administrative Penalties:** Any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act shall be subject to a civil or administrative penalty, not to exceed the maximum amounts authorized by Sections 309(d) and 309(g) of the Act and the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461 note) as amended by the Debt Collection Improvement Act (31 U.S.C. § 3701 note).
2. **Criminal Penalties:**
 - a. **Negligent Violations.** Any person who negligently violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act shall, upon conviction, be punished by a fine and/or imprisonment as specified in Section 309(c)(1) of the Act.
 - b. **Knowing Violations.** Any person who knowingly violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Act shall, upon conviction, be punished by a fine and/or imprisonment as specified in Section 309(c)(2) of the Act.
 - c. **Knowing Endangerment.** Any person who knowingly violates a permit condition implementing Sections 301, 302, 303, 306, 307, 308, 318, or 405 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subjected to a fine and/or imprisonment as specified in Section 309(c)(3) of the Act.
 - d. **False Statements.** Any person who knowingly makes any false material statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under this Act or who knowingly falsifies, tampers with, or renders inaccurate any monitoring device or method required to be maintained under this Act, shall, upon conviction, be punished by a fine and/or imprisonment as specified in Section 309(c)(4) of the Act.

Except as provided in Permit conditions in Part IV.G, (Bypass of Treatment Facilities) and Part IV.H, (Upset Conditions), nothing in this Permit shall be construed to relieve the Permittee of the civil or criminal penalties for noncompliance.

C. Need to Halt or Reduce Activity not a Defense

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

D. Duty to Mitigate

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

E. Proper Operation and Maintenance

The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Permittee to achieve compliance with the conditions of this Permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when the operation is necessary to achieve compliance with the conditions of the Permit.

F. Removed Substances

Solids, sludges, or other pollutants removed in the course of treatment or control of water and wastewater shall be disposed of in a manner such as to prevent any pollutant from such materials from entering waters of the United States, except as specifically authorized in Part I.

G. Bypass of Treatment Facilities

- 1. Bypass Not Exceeding Limitations:** The Permittee may allow any bypass to occur that does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of Paragraphs 2 and 3 of this Subpart.
- 2. Notice:**
 - a. Anticipated bypass - If the Permittee knows in advance of the need for a bypass, it shall submit prior notice to the EPA, if possible at least 10 days before the date of the bypass.
 - b. Unanticipated bypass - The Permittee shall submit notice of an unanticipated bypass as required under Part III.J (Twenty-four Hour Notice of Noncompliance Reporting).
- 3. Prohibition of Bypass:**
 - a. Bypass is prohibited, and the Director or ADEC may take enforcement action against the Permittee for a bypass, unless:
 - (1) The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage.

- (2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance.
 - (3) The Permittee submitted notices as required under Paragraph 2 of this Subpart.
- b. The Director and ADEC may approve an anticipated bypass, after considering its adverse effects, if the Director and ADEC determine that it will meet the three conditions listed above in Paragraph 3.a of this Subpart.

H. Upset Conditions

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

I. Toxic Pollutants

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

J. Planned Changes

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

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

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

K. Changes in Discharge of Toxic Substances

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

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

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

L. Anticipated Noncompliance

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

V. GENERAL PROVISIONS

A. Permit Actions

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

B. Duty to Reapply

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

C. Duty to Provide Information

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

D. Other Information

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

E. Signatory Requirements

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

1. All Permit Applications Shall Be Signed as Follows:

- a. For a corporation: by a responsible corporate officer or by a manager meeting the requirements of 40 CFR 122.22(a)(1)(ii).
- b. For a partnership or sole proprietorship: by a general partner or the proprietor, respectively.
- c. For a municipality, state, federal, or other public agency: by either a principal executive officer or ranking elected official.

2. All reports required by the Permit and other information requested by the Director or ADEC shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

- a. The authorization is made in writing by a person described above and submitted to the Director and ADEC.
- b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company.

3. Changes to Authorization: If an authorization under Part V.E.2 is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Part V.E.2 must be submitted to the Regional Administrator and ADEC prior to or together with any reports, information, or applications to be signed by an authorized representative.

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

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

F. Availability of Reports

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

G. Inspection and Entry

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

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

H. Oil and Hazardous Substance Liability

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

I. Property Rights

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

J. Severability

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

K. Transfers

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

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

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

L. State and Local Laws

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

M. Reopener Clause

1. This Permit may be modified, or alternatively, revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the Clean Water Act, as amended, if the effluent standard, limitation, or requirement so issued or approved:
 - a. Contains conditions more stringent than any effluent limitation in the Permit; or

- b. Controls any pollutant not limited in the Permit.

The Permit as modified or reissued under this paragraph shall also contain any other requirements of the Clean Water Act then applicable.

2. This Permit may be modified, or alternatively, revoked and reissued in accordance with 40 CFR 122 and 124, to address the application of different Permit conditions, if new information, such as future water quality studies or waste load allocation determinations, or new regulations, such as changes in water quality standards, show the need for different conditions.
3. At the written request of ADEC, this Permit may be modified, or alternatively revoked and reissued to address the application of different Permit conditions if new information, such as future water quality studies and waste load allocation determinations, or new regulations, such as changes in water quality standards, show the need for different conditions. A modification of the Permit shall be conducted in accordance with the requirements of 18 AAC 15.120 through 18 AAC 15.170.

VI. ACRONYMS, ABBREVIATIONS, AND SYMBOLS

The following terms, when used in this Permit, have the meanings given below:

AAC means Alaska Administrative Code.

The Act refers to the Clean Water Act.

ADEC means the Alaska Department of Environmental Conservation.

Administrator means the Administrator of the EPA, or an authorized representative.

avg. means average.

BMP means best management practices.

BOD means biochemical oxygen demand.

BPXA refers to BP Exploration (Alaska) Inc.

Bypass means the intentional diversion of waste streams from any portion of a treatment facility, as specifically defined at 40 CFR 122.41(m).

CFR means Code of Federal Regulations.

Daily discharge means the discharge measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass or volume, the *daily discharge* is calculated as the average measurement over the sampling day. When grab samples are used, the *daily discharge* determination of concentration shall be collected during that sampling day.

Daily Maximum - see Maximum Daily.

Degrees C (°C) means degrees Celsius.

Director means the Director of the Office of Water, U.S. EPA Region 10, or an authorized representative.

DMR means Discharge Monitoring Report.

DO means dissolved oxygen.

Domestic Wastes include wastes from showers, sinks, galleys, and laundries.

E means east.

elev means elevation.

EPA means U.S. Environmental Protection Agency.

FC means fecal coliform.

FC#/100 ml means fecal coliform count per 100 milliliters.

‘ means feet/foot.

ft means feet/foot.

Fire suppression system test water means the water released during the training of personnel in fire protection and the testing and maintenance of fire protection equipment.

GC/MS means gas chromatograph/mass spectrometer

GERG means Geochemical and Environmental Research Group Laboratory, Texas A&M University, College Station, Texas.

gpd means gallons per day.

gpm means gallons per minute.

Grab Sample means a single sample or measurement taken at a specific time or over as short a period of time as is feasible.

IC₂₅ means the point estimate of the toxicant concentration that would cause a 25% reduction in a non-quantal biological measurement (e.g., reproduction or growth) calculated from a continuous model (i.e., USEPA Interpolation Method).

" means seconds.

“Interim minimum level” is calculated when a method-specified minimum level does not exist. It is equal to 3.18 times the method-specified method detection limit rounded to the nearest multiple of 1,2,5,10,20,50, etc.

IWC means Instream Waste Concentration. *IWC* is the concentration of a toxicant in the receiving water after mixing. The *IWC* is inverse of the dilution factor.

m means meter.

max. means maximum.

Maximum means the highest measured discharge or pollutant concentration in a waste stream during the time period specified.

Maximum daily means the highest measured *daily discharge* during the monitoring month.

mgd means million gallons per day.

$\Phi g/L$ means micrograms per liter.

mg/L means milligrams per liter.

min. means minimum.

Minimum daily means the lowest measured *daily discharge* during the monitoring month.

Minimum level is the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point.

ml means milliliter.

MLLW means mean lower low water.

Monitoring month shall mean the period consisting of the calendar weeks which end in a given calendar month.

Monthly average means the average of *daily discharges* over a monitoring month, calculated as the sum of all *daily discharges* measured during a monitoring month divided by the number of *daily discharges* measured during that month. As a Permit limitation *monthly average* means the highest allowable value thus calculated.

N means north.

NA means not applicable.

NOAA means National Oceanic and Atmospheric Administration.

No discharge of free oil means that waste streams that would cause a film or sheen upon or a discoloration of the surface of the receiving water or cause a sludge or emulsion to be deposited beneath the surface of the water or upon adjoining shorelines may not be discharged.

NPDES means National Pollutant Discharge Elimination System.

P2 Plan means pollution prevention plan.

PAH means polynuclear aromatic hydrocarbon.

pH means protenz (power) of hydrogen.

QA Plan means Quality Assurance Plan.

RCRA means Resource Conservation and Recovery Act.

Regional Administrator means the EPA Region 10 Regional Administrator, or an authorized representative.

S means south.

Sanitary wastes means human body waste discharged from toilets and urinals.

Severe property damage is specifically defined in 40 CFR 122.41(m)(ii) and means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

SIM means selected ion monitoring (mode).

TAH means total aromatic hydrocarbons.

TRC means total residual chlorine.

TSERF is a Toxicity Standardized Electronic Reporting Form.

TSS means total suspended solids.

TU means toxic unit as in TUC (chronic toxic unit). TUC is a measure of chronic toxicity; the number of TUC is calculated as $100/IC_{25}$, where the IC_{25} is measured in Permit effluent.

Upset is specifically defined at 40 CFR 122.41(n) and means an exceptional incident in which there is temporary noncompliance with technology-based Permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

U.S. means United States.

W means west.

Waste stream means any non-deminimis stream of pollutants within the Permittee's facility that enters any Permitted Outfall or navigable waters. This includes spills and other unintentional, non-routine or unanticipated discharges.

Water depth means the depth of the water between the surface and the seafloor as measured from mean lower low water (0.0).

WCC refers to Woodward-Clyde Consultants.

WET means whole effluent toxicity.

3/week means three times per week.

24-hour composite sample shall mean a flow-proportioned mixture of not less than 8 evenly spaced discrete aliquots. Each aliquot shall be a grab sample which is as large as possible, but not less than 60 ml. Each aliquot shall be collected and stored in accordance with procedures prescribed in the most recent edition of Standard Methods for the Examination of Water and Wastewater.

VII. REFERENCES FOR TEXT AND APPENDICES

- American Public Health Association, American Water Works Association, and Water Pollution Control Federation (APHA et al.). Standard Methods for the Examination of Water and Wastewater. 18th ed. Washington, D.C.: American Public Health Association, 1992.
- BP Exploration (Alaska) Inc. (BPXA). Final Project Description Northstar Development Project, Revision 1, March 27, 1997. Anchorage: BPXA, 1997.
- Denton, Debra and Madonna Narvaez. Regions 9 & 10 Guidance for Implementing Whole Effluent Toxicity Testing Programs. N.p.: USEPA, 1996.
- Krahn, M.M., C.A. Wigren, R.W. Pearce, L.K. Moore, R.G. Bogar, W.D. MacLeod, S.L. Chan, and R.W. Brown. Standard Analytical Procedures of the NOAA National Analytical Facility. NOAA Technical Memorandum NMFS F/NWC-153, N.p.: n.p., 1988.
- Long, E.R. Ranges in Chemical Concentrations in Sediments Associated With Adverse Biological Effects. N.p.: n.p., 1992.
- Long, E.R. and L.G. Morgan. The Potential for Biological Effects of Sediment-Sorbed Contaminants Tested in the National Status and Trends Program. N.p.: n.p., 1990.
- MacLeod, W.D. Jr., et al. Standard Analytical Procedures of NOAA National Analytical Facility 1984-1985: Extractable Toxic Organic Compounds. N.p.: n.p., 1985.
- State of Washington, Department of Ecology (WDE). 1995. Washington Administrative Code Section 173-204-320, Marine Sediment Quality Standards. Olympia, Washington, 1995.
- United States. Army Engineer District. Alaska (USAEDA). Draft Environmental Impact Statement Beaufort Sea Oil and Gas Development/ Northstar Project. Anchorage: D&M, 1998.
- United States. Environmental Protection Agency (USEPA). EPA Requirements for Quality Assurance Project Plans for Environmental Data Operations. Washington, D.C.: USEPA, 1994.
- BBB. Guidance Manual for Developing Best Management Practices. EPA 833-B93-004. N.p.: n.p., 1993a.
- BBB. Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans. N.p.: n.p., 1980.
- BBB. Sediment Quality Criteria for the Protection of Benthic Organisms: Acenaphthene. N.p.: n.p., 1993b.
- BBB. Sediment Quality Criteria for the Protection of Benthic Organisms: Flouranthene. N.p.: n.p., 1993c.
- BBB. Sediment Quality Criteria for the Protection of Benthic Organisms: Phenanthrene. N.p.: n.p., 1993d.
- BBB. Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms. N.p.: n.p., 1995.
- BBB. You and Quality Assurance in Region 10. Seattle: USEPA, 1988.
- Woodward-Clyde Consultants (WCC). The 1995 Northstar Unit Sampling Program, Final Report. Anchorage: WCC, 1996.

RESPONSE TO COMMENTS

For

**PRELIMINARY FINAL NATIONAL POLLUTANT
DISCHARGE ELIMINATION SYSTEM PERMIT**

RESPONSE TO COMMENTS

Comment F260-1: All non-hazardous fluids collected in the surface runoff sumps will be disposed of in a Class I, Industrial disposal well.

Response: The project proponent has redesigned Seal Island's surface drainage system so that runoff water previously proposed to be marine discharged will now be disposed down the Class I industrial disposal well. Hence, the previously proposed Outfalls 003 and 004 are no longer required and have been deleted from the Final NPDES Permit (AK-0052779). As noted in Response to Comment F357-6, discharge of surface and deck drainage is not authorized by this Final NPDES Permit under any conditions. Moreover, the Final UIC Permit (AK-11002-A) includes surface and deck drainage as a waste stream.

Comment F260-2: Outfalls 003, 004, and 006 are no longer required. BPXA requests all language, conditions, requirements, and stipulations related to these outfalls in the Draft NPDES' Permit be deleted.

Response: The project proponent has redesigned Seal Island's surface and deck drainage system so that Outfalls 003 and 004 are no longer required. In addition, the seawater treatment plant proposed for a waterflood enhanced oil recovery option is no longer proposed, thereby eliminating Outfall 006.

The EPA agrees that permit requirements associated only with Outfalls 003, 004, and/or 006 can be removed from the Final NPDES Permit (AK-0052779). Please see Response to Comments F357-6 through F357-13 for details.

Comment F357-1: BPXA requests that monitoring related to Outfalls 003, 004, and 006 be deleted from the Final NPDES Permit.

Response: The EPA agrees that monitoring requirements specifically associated only with Outfalls 003, 004, and 006 can be removed from the NPDES permit. In particular, this includes, for Outfalls 003, 004, and 006, the removal of end-of-pipe limitations and monitoring requirements from Section I of the Final NPDES Permit, and removal of Whole Effluent Toxicity (WET) testing from Section III.A.

A Turbidity Mixing Zone Compliance Study, and an Ambient Solids Monitoring, are also deleted from the permit. Moreover, both receiving water monitoring and sediment monitoring requirements are reduced, primarily in the number of monitoring stations employed and test analytes. Please see Response to Comments F357-9 through F357-13 for additional details.

Comment F357-2: A continuously moving stream of seawater within the seawater intake system provides a representative ambient seawater temperature. Since other permitted North Slope seawater treatment plants document ambient seawater temperatures similarly, BPXA requests that ambient seawater temperature measurements be taken from the seawater intake system, and that a requirement to measure such temperatures from the upcurrent side of Seal Island be deleted from the NPDES permit.

Response: Outfall 001 - Ambient Temperatures: Alaska Water Quality Standards require that a discharge not increase the receiving water temperature by more than 1 degree C (weekly average) or by 0.5 degrees C per hour. In the event a discharge warms its receiving water above these limits, a mixing zone is generally required. Moreover, the effluent temperature limitations are determined in such a manner that the receiving waters beyond a prescribed mixing zone remain within Alaska Water Quality Standards with respect to temperature. This requires that the difference between ambient water and effluent temperatures remain within a prescribed limit. Hence, knowledge of the ambient water temperature is required.

The Comment requests that the ambient water temperature be measured at a location within the seawater intake structure. However, of the expected 40,500 gallons per day entering the seawater intake structure for Northstar during winter, an average 37,440 gallons per day will be heated and recirculated into the intake sump to control ice formation. From information provided by the project proponent (BPXA), the temperature probe in the seawater intake system is downstream of the recirculation system. Hence, the temperature probe cannot be used to collect ambient water temperature data for NPDES permit monitoring.

The project proponent was advised of the above rationale eliminating the proposed use of the seawater intake system temperature probe. The project proponent subsequently proposed no other alternative method for establishing ambient water temperatures; hence, the requirement of monitoring ambient water temperature by a temperature probe upcurrent of the island remains in the NPDES Permit (Footnote #3 of Table 2, Final NPDES Permit, AK-0052779).

Comment F357-3: To prevent any confusion concerning the minimum detection limit and compliance evaluation level for TRC, it is suggested that a discussion from the NPDES Fact Sheet on limits and compliance evaluation levels replace Note 2 of Table 2 provided in the Draft NPDES Permit.

Response: Outfall 001 - Total Residual Chlorine (TRC): The EPA disagrees that inclusion of a discussion of detection limits and derivation of the compliance level for TRC would clarify the permit. Discussion of derivation of the limits and compliance evaluation levels is appropriate for the Fact Sheet, but not for inclusion in the permit. It is EPA Region 10 policy to include the actual limitations in the permit, along with a note explaining that the limitation is below the detection limit and, therefore, the EPA will use a specified value for determination of compliance. If additional information is needed, the reader can consult the Fact Sheet, which is available in the administrative record. The footnote to the table will appear in the Final NPDES Permit (AK-0052779) as it was proposed.

Comment F357-4: Permitted fire water test discharges at a similar facility indicate that discharges are unlikely to impact the surrounding seafloor. It is requested that depth restrictions for Outfall 002 be removed from the NPDES Permit.

Response: Outfall 002 - Fire Test Water, Effluent Limitations on Water Depth: The fire test discharge(s) for Outfall 002 is sprayed into the air before entering the surface of the Beaufort Sea. Because these discharges will either enter waters above the island's gravel berm or armor mat, or into water with depths of over 20 feet, these discharges are not expected to disturb seabed sediments. The draft condition "The Outfall shall be discharged into the surface of marine water *with depth of at least 23 feet (7 meters [m]).*"

is replaced in the Final NPDES Permit (Paragraphs I.B.1, Final NPDES Permit, AK-0052779) with “The Outfall shall be discharged into the surface of marine water.”

Comment F357-5: It is requested that fire water test discharge flow rates be determined by the design pump rating and the duration of use, rather than the flow measurement requirement in the Draft NPDES Permit.

Response: Outfall 002 - Fire Test Water, Effluent Limitations on Flow Rate: The project proponent has specified using pumps for the fire suppression system rated at 3,000 gallons per minute per pump. Given the maturity of pump design technology, it is reasonable to assume that such a pump’s maximum output will be close to its design specification in an unloaded setting. Downstream of the pump used for the fire test will be pipelines with elbows, hydrants and monitors (water canons) and, possibly, hoses and nozzles, all of which contribute to pressure losses. Hence, any exceedances in discharge flow rate above that specified for the pump will be small, if any at all. The draft requirement to employ a calibrated flow measurement device approved in advance by the EPA in consultation with ADEC, and accurate to within plus/minus 5% of actual flow, is replaced in the Final NPDES Permit with a requirement to employ a pump with a maximum estimated flow rate of 3,000 gallons per minute and to provide a method for estimating discharge rate. This method will be specified in the Best Management Practices (BMP) Plan developed for this discharge. If the method proposed is deemed unacceptable by the EPA, the BMP would not be approved. This estimate is required only for the first test and assumes that subsequent annual tests do not employ systems and/or procedures different from those described in the BMP. (Parts I.B.2 and II.E.5, Final NPDES Permit, AK-0052779).

Comment F357-6: Since improved designs eliminate the effluent discharges from Outfalls 003 and 004, BPXA will no longer address any requirements associated with these deleted outfalls. Therefore, all references and requirements pertaining to Outfalls 003 and 004 should be removed from the Northstar NPDES Permit.

Response: Outfalls 003 and 004 – Surface Drainage: The project proponent has eliminated all marine discharges of surface and deck drainages; such drainages will be disposed of via the Underground Injection Control (UIC) well. Permitting limitations and stipulations for these drainages will be set forth in the UIC Permit. Because these drainages will not be marine discharged, they are not limited or monitored by the Final NPDES Permit (AK-0052779). Discharge of surface and deck drainage is not authorized by this permit under any conditions. Snow inspection and disposal practices are required in the final permit under the BMP section as proposed (Part II.E.7, Final NPDES Permit, AK-0052779).

Comment F357-7: It is requested that the proposed continuous flow rate monitoring for the construction dewatering activities be determined by the design pump rating and the duration of use.

Response: Outfall 005 – Construction Dewatering Flow Rate: The project proponent has specified using pumps for construction dewatering rated at 650 gallons per minute per pump. Given the maturity of pump design technology, it is reasonable to assume that such a pump’s maximum output will be close to the design specification in an unloaded setting. Downstream of a pump used for construction dewatering will be hoses, nozzles, and diffusers, all of which contribute to pressure losses. Hence, any exceedances

in discharge flow rate above that specified for a pump will be small, if any at all. The draft requirement to monitor flow rates continuously by metered recording is deleted and replaced by a requirement to maintain a temporal log of the number and type of pumps in operation. From this log, the project operator will generate a record of estimated discharge rates. The estimated discharge rates will be based on the number of pumps in use and the estimated pump rate per pump (Part I.C, Final NPDES Permit, AK-0052779).

Comment F357-8: Because improved designs eliminate the effluent discharge from Outfall 006, BPXA requests that all references and requirements pertaining to Outfall 006 be removed from the Northstar NPDES Permit.

Response: Outfall 006 – Waterflood Seawater Treatment Plant Discharge: The project proponent has eliminated the seawater treatment plant that had been proposed for enhanced oil recovery by waterflooding the oil-bearing formation. By the elimination of this treatment plant, the Final NPDES Permit (AK-0052779) will not include any limitations or stipulations for this deleted discharge.

Comment F357-9: Whole Effluent Toxicity (WET) monitoring requirements should apply only to Outfall 001 in the Northstar NPDES Permit, due to the withdrawal of Outfalls 003, 004, and 006.

Response: Whole Effluent Toxicity Monitoring: With the elimination of Outfalls 003, 004, and 006, the WET testing requirements will apply to effluent from Outfall 001 only. Per requirement of the State 401 certification, the requirement that WET testing be conducted when Outfall 001b is in operation was added to the final permit. (Part III.A, Final NPDES Permit, AK-0052779).

Comment F357-10: It is requested that the receiving water monitoring apply only to Outfall 001, and only be applicable in the area of the 5-meter mixing zone as established in the ADEC Mixing Zone Determination for Outfall 001.

Response: Receiving Water Monitoring: With the deletion of Outfalls 003, 004, and 006, the number of receiving water monitoring stations can be reduced. In addition, pollutants associated solely with these deleted outfalls can be eliminated from the list of items to be tested per the draft monitoring program. In particular, 10 of the 18 water monitoring stations prescribed in the Draft NPDES Permit have been eliminated. The remaining monitoring stations set forth in the permit include three on the edge of the 5 meter radius mixing zone centered on Outfall 001, three at a distance of 10 meters from Outfall 001, and two within 100 meters of the island (one east and one west of the island). The latter two will provide characterization of the receiving water and were selected to ensure at least one upcurrent monitoring station relative to the island; the first six stations will provide data on receiving water dilution of Outfall 001 discharges. In addition, the draft list of constituents to be tested for in the collected water samples has been reduced with the elimination of total aqueous hydrocarbons (TAqH) and turbidity. The primary sources for these particular two potential pollutants were Outfalls 003 and 004, and Outfall 006, respectively, which have been deleted from the proposed project. (Part III.B.3, Final NPDES Permit, AK-0052779).

Comment F357-11: The Turbidity Mixing Zone requirement is no longer necessary with deletion of

Outfall 006 and should be removed from the Northstar NPDES Permit.

Response: Turbidity Mixing Zone Compliance Study: The purpose of this study was to assess, by sample collection, the ability of a 10-meter radius mixing zone to dilute turbid discharges from Outfall 006. The EPA concurs with the comment in that, with the elimination of Outfall 006, the draft Turbidity Mixing Zone Compliance Study (Part III.B.3 of the Draft NPDES Permit) is no longer required and has been deleted from the Final NPDES Permit (AK-0052779).

Comment F357-12: The Draft NPDES Permit incorrectly requires monitoring for Outfall 001 when it is only applicable to Outfall 006. Monitoring is no longer necessary with the deletion of Outfall 006.

Response: Ambient Solids Monitoring: The purpose of this study was to establish ambient total suspended solids (TSS) and turbidity levels near Seal Island. The comment is incorrect in stating that “The draft NPDES permit incorrectly states that this requirement applies to Outfall 001”; the Draft NPDES Permit text (Part III.B.4, Draft NPDES Permit) only states that this monitoring program should commence with the initial discharge of Outfall 001. The intent was to start this monitoring program as early as possible in order to establish baseline data on ambient TSS and turbidity levels. The commencement of discharges from Outfall 001 was viewed as a convenient indicator of initial facility operations. The results of this study would be employed in that portion of the analysis specified in draft SubPart III.B.6(3) (an interpretative summary) of the Draft NPDES Permit when addressing discharges from Outfall 006.

The Comment is correct in that a draft Ambient Solids Monitoring study is no longer required because of the deletion of Outfall 006; this study is, therefore, eliminated from the Final NPDES Permit (AK-0052779).

Comment F357-13: The sediment monitoring program should be removed from the Northstar NPDES Permit, since it specifically applies to the withdrawn Outfalls 003, 004, and 006.

Response: Sediment Monitoring: The Comment suggests that Outfalls 003, 004, and 006 are the sole reasons sediment monitoring is required and should, therefore, be deleted with the elimination of these outfalls. However, even with the elimination of these three outfalls, the pristine nature of the receiving waters, the subsistence lifestyle of local residents, and the fact that the proposed development is the first of its kind in the Beaufort Sea warrant some sediment monitoring near the end of the facility where the remaining primary discharges will occur (i.e., the south end of the island near Outfall 001). Sediment sampling will monitor pollutants that could be present from the result of permitted activities (snow removal and Outfall 001) as well as pollutants that are generally associated with an oil production facility and could be present due to improper design or improper operation. By conducting sediment sampling prior to and after operation of the facility, sediment sampling can provide an indication of impact on the environment. This information could influence future NPDES permit decisions.

The draft sediment monitoring program specified in the Draft NPDES Permit required annual sampling for 5 years at 18 sediment sampling stations. With the deletion of Outfalls 003, 004, and 006, the flux of possible pollutants to the sediments will occur much slower, if at all, and hence the sediment monitoring

program can be reduced from the program proposed in the draft NPDES permit. The sediment monitoring program in the final permit will include sediment sampling and analysis prior to island reconstruction, during the first year of operation of outfall 001, and during the last year of the permit term. In addition, with the elimination of Outfalls 003, 004, and 006, only two monitoring stations are required, one to the southeast and one to the southwest of Outfall 001. Last, with the deletion of Outfalls 003 and 004, several of the metals associated with an oil development facility (i.e., cadmium and manganese) may be deleted from the sediment monitoring program, in addition to BETX compounds such as benzene, ethylbenzene, and toluene. These deletions in the frequency, number of stations, and constituents are included in the Final NPDES Permit (Part III.B.4, Final NPDES Permit, AK-0052779).

Comment F357-14: BPXA requests that the description of the PLUMES and CORMIX dilution models found in the Northstar NPDES Fact Sheet be changed to state that neither model can be described as “theoretical” or “empirical”, because both have “theoretical” components. Whether one model is more “theoretical” or “empirical” than the other is irrelevant, because both have been tested extensively and proven reliable. Finally, the models should be regarded as tools in reaching a conclusion, and cannot account for all physical processes.

Response: The Comment addresses the Draft NPDES Permit Fact Sheet, Appendix B Technical Computations and states that:

“Representations made vis-à-vis the two EPA approved dilution models PLUMES and CORMIX suggest that there are fundamental misunderstandings regarding theoretical bases and empirical content of both models. For example, neither model (system) can be described as “theoretical” or “empirical”. The comparison presented herein is misleading because of implications that PLUMES is “theoretical” while CORMIX is “empirical”.”

Both PLUMES and CORMIX employ model components that may be classified as “empirical” or “theoretical”. An “empirical” component relies heavily on results collected during laboratory or in-situ tests, while a “theoretical” component generally relies on the fundamental physics of fluid mechanics. The comment is correct in that both PLUMES and CORMIX rely on empirical and theoretical components. However, PLUMES is described in the NPDES Fact Sheet (Appendix G of the DEIS) and the ODCE (Appendix H of the DEIS) as empirical because of its heavy use of empirical components, while CORMIX is described as theoretical because of its employment of components which generate solutions from first principles.

The following portion of the Comment is not valid:

“Whether one model is more “empirical” or “theoretical” than the other is irrelevant. Both have been tested extensively and proven reliable, within the usual accuracy expectations for fluid mixing phenomena, any mention of which was notably absent from the Draft NPDES Fact Sheet.”

The Draft NPDES Fact Sheet document clearly states: “Whether PLUMES or CORMIX models are used in many applications is often a matter of user preference, given both sets of models have been extensively

verified, are EPA endorsed, and were designed specifically for wastewater discharges. Both models provide similar results when applied appropriately to the same situation, and each model has advantages and disadvantages for particular uses. In the case of the project, either model performs adequately with no problematic limitations.” The Draft NPDES Fact Sheet continues with: “In this Fact Sheet, both models are employed to analyze the discharges to provide a greater degree of confidence, verify Mixing Zone Application results, better identify any problems associated with the discharges, and assess the mixing zone performance on a worst-case basis.”

Because the above is already provided in the Draft NPDES Permit Fact Sheet, no change is warranted to the Fact Sheet.

Comment F357-15: The final conclusion of the risk assessment provided in Appendix C to the Northstar NPDES Fact Sheet is not supported by the information presented in the risk assessment. In addition, many statements in the document are not supported by reference. The assessment states that the organisms in this region are not well characterized and that quantitative information regarding impact of the discharge activity is lacking. The Mixing Zone Risk Assessment (Woodward-Clyde, 1997) provides a clear assessment for each receptor and also provides an annotated bibliography. BPXA recommends that the permit preparers reexamine the risk assessment and annotated bibliography and re-evaluate risks associated with outfall discharges.

Response: The Comment addresses the Ecological Risk Assessment contained in Appendix C of the Draft NPDES Permit Fact Sheet and states that this Ecological Risk Assessment included:

- 1) For each stressor, the risk of negative impacts is small to negligible for each receptor.
- 2) Extensive monitoring is needed.

The Comment also requests a re-evaluation of risk due to exposure of discharges from Outfalls 001, 002, and 005.

While the Ecological Risk Assessment does state the first conclusion above, it does not state the second. In particular, it only states that three monitoring programs are recommended for the Northstar development, namely:

- 1) End-of-pipe monitoring
- 2) Whole effluent toxicity (WET) testing
- 3) Water column and sediment monitoring

Although an additional risk assessment study is not being published, risk was re-evaluated when drafting the final permit, specifically with regards to the environmental monitoring program. Review and revision of the environmental monitoring program was necessary due to the deletion of Outfalls 003, 004, and 006. The impact of these project changes, along with consideration of ecological risk from exposure to these discharges, are reflected in the changes made to the environmental monitoring program. These changes are discussed above in Comments F357-9 through F357-13.

Comment F357-16: The physical oceanographic processes are well understood and documented in the Beaufort Sea, and are not highly complex.

Response: The Comment implies that the Beaufort Sea oceanography cannot be both highly complex and well understood. It is true that the oceanography of the Beaufort Sea is complex. Simultaneously, it is understood well enough to support modeling and simulation efforts required for developing the NPDES permit. Hence, no change to the draft NPDES Permit Fact Sheet is warranted.

Comment F404-175: Baseline data, including annual precipitation, must be acquired prior to making any determinations. Precipitation figures are necessary in designing adequate water discharge and reinjection facilities.

Response: Rainfall data statistics for the Northstar Development's Seal Island are not available. Such statistics, if available, would be useful for estimating the rainfall the island would receive in a year, as requested by the Comment. However, such an estimate is of little value when designing the deck and surface drainage components of the reconstructed island. The design of these components is driven by the magnitude and duration of severe storms, which can generate large amounts of deck and surface drainage over a short period that must then be disposed of by some means other than a marine discharge.

There are no meteorological or hydrologic records for the island; this basic information was derived during the development of the Draft Environmental Impact Statement (DEIS) using standard hydrologic techniques. This involved four stages of data manipulation and modeling, including determining the appropriate precipitation records to use, converting that data into a series for determining the magnitude of different storm recurrence intervals, determining the stormshed's hydrologic characteristics, and calculating the peak and total flow rates. A conservative approach was used throughout the process to arrive at a "worst case" storm. Admittedly, such an approach cannot precisely characterize Seal Island's meteorology, but it does provide a method for estimating storm strength above that expected to occur at Seal Island.

Two sets of rainfall data with sufficient time periods were available for the North Slope: from Barter Island and Barrow. The Barter Island data was determined to have greater magnitude storms and was found to be closer in rainfall amount to a limited data set from Resolution Island, located at the mouth of Prudhoe Bay, 16.9 miles (27.2 km) on the 121° radial (true north) from Seal Island. Barter Island data was collected for approximately 40 years, from 1949 through 1988. The Barter Island data available for analysis included the occurrence year, record storm amount, and record month's precipitation for each month of the year, as well as the monthly precipitation from 1959 through 1988.

To synthesize the annual peak storm series, ratios between the record storms and record month's total rainfall were determined, then applied to each month from 1949 through 1988. This enabled an approximate determination of the peak annual storm for each year of record. It was found that, for Barter Island, there is very little difference between the greatest precipitation from snowfall, 2.25 inches (5.71 centimeters [cm]) and the greatest rainfall (2.23 inches [5.66 cm]). As a result, it is justified to look at both snowfall and rainfall to conservatively determine the greatest precipitation total that the island's drainage system may be required to handle. The greatest precipitation month values for each year in the

available record, the ratio that was applied, and the resulting estimated peak annual precipitation event was presented in Table B-7 of the DEIS Appendix G (National Pollutant Discharge Elimination System Fact Sheet). Using these data and a log Pearson Type III statistical distribution, the predicted storm for a 10-year reoccurrence interval is 1.336 inches of precipitation/24 hour period. The statistical parameters include a skew coefficient, G, of 0.539 derived from the data above. This data is shown in Figure B-3 of the Draft EIS Appendix G.

From the project description (Final EIS, Appendix A), Seal Island is divided into north and south drainages. The Soil Conservation Service’s TR55 model is commonly used to analyze the hydrology for small urban watersheds. An interface for TR55 developed at the University of Central Florida was utilized (SMADA 6.0 for Windows). In TR55, the first hydrologic parameter to derive is a time of concentration for each watershed using the anticipated longest flow path and the storm magnitude being analyzed. Next, “initial abstractions” are derived, based on the surfaces and soils, in this case gravel. An initial abstraction of 0.31 inches (0.78 cm) was assumed for the packed gravel surface of Seal Island. This means that the first 0.31 inches (0.78 cm) of the modeled rainfall would be held in storage in the void space of the gravel before runoff is generated. In addition, the TR55 method utilizes “curve numbers” to simulate the resistance and overall percentage of the rainfall that is expected to be infiltrated. Total and impervious areas are calculated from the watersheds’ dimensions. The model uses this watershed and rainfall data, with extensively researched mathematical curves, to estimate the amount of runoff for the storm event and watershed. The curve number for packed gravel over a packed gravel base from the TR55 manual was used. The modeled predictions are summarized in the table below. Note that the data presented in this table is an overestimate of a severe storm event on Seal Island.

Overestimated Flows to Seal Island Drainage Terminals

| Drainage Terminal | Initial Abstraction (inches) | Peak Inflow (cfs) | 24-hour Volume (cubic feet) | 24-hour Volume (gallons) | 2-hour Volume (gallons) |
|-------------------|------------------------------|-------------------|-----------------------------|--------------------------|-------------------------|
| South | 0.31 | 0.45 | 5,331 | 39,879 | 19,800 |
| North | 0.31 | 0.54 | 12,415 | 92,874 | 28,300 |

Notes: cfs = Cubic feet per second

The above flow rates are significant and would mandate a rather robust deck and surface drainage system to prevent a marine discharge of storm water. This is of particular concern should the island’s working surface be contaminated. To reduce these computed flow rates due to a severe storm, additional data must be made available or the assumptions relaxed (e.g., increasing the estimated initial abstraction); the second approach is not recommended without additional research to support a relaxation of assumptions.

Comment F404-176: Ambient water quality data must be acquired prior to construction and production.

Response: To develop an effective monitoring program and establish effluent limitations, ambient water quality data are required (as is correctly suggested by the Comment). With the expected marine discharges being from Outfalls 001, 002, and 005 (see Appendix G of the Draft EIS), the following ambient water

quality parameters are required: dissolved oxygen, total suspended solids, turbidity, pH (a measure of acidity), temperature, and salinity. In addition, oceanographic data on current direction and magnitude (average and maximum), pycnocline depth, and ice thickness must be available. Ambient concentrations of phosphate/silicate/ nitrogen/trace metal contents and hydrocarbon concentrations are also useful. Data on these parameters for the Beaufort Sea are available in sufficient detail to support the development of the discharge limitations for the above outfalls. For details on these pre-construction/production parameters and other oceanographic conditions, the reader is referred to Section IV of the Draft EIS Appendix G. The final permit does require pre-construction sediment sampling in order to further develop a sediment analysis baseline (see response to comment F357-13).

Comment F404-177: Public oversight requires regular monitoring of the water around the reconstructed Seal Island. This monitoring should look for industrial pollutants, sedimentation, and water temperature. Due to the nature of the project, there will be significantly large mixing zones around the island and they need to be monitored.

Response: The Comment author is correct in stating that adequate public oversight requires regular monitoring of the environment, including the water and sediment around the reconstructed Seal Island. The Final NPDES Permit addresses this concern by a multicomponent process, including:

1. Effluent monitoring of Outfalls 001, 002, and 005;
2. Performance of Whole Effluent Toxicity (WET) tests;
3. Water monitoring; and
4. Sediment monitoring.

The effluent monitoring component provides data collected on effluents from each of the three outfalls (001, 002, and 005). Part of this data is collected continuously, while other portions are collected periodically as grab samples. The WET tests assess the effects of collected effluents, in varying concentrations, on both finfish and sediment-dwelling organisms.

The water monitoring component examines water temperature, total suspended solids, total residual chlorine, biological oxygen demand, fecal coliform bacteria, pH, and salinity in the vicinity of the principal discharge port (Outfall 001) and at other points around the island. The above constituents were selected because they represent the possible pollutants from this outfall. In addition, ambient water temperature will also be monitored. The sediment monitoring component examines sediments near the island for ammonia, cadmium, total residual chlorine, chromium, manganese, mercury, nickel, vanadium, polynuclear aromatic hydrocarbons (PAH), and sulfides. Far-field sediment monitoring will be accomplished as a component of the Section 103 permit associated with the Northstar Development and pursuant to the Marine Protection, Research, and Sanctuaries Act of 1972 (MPRSA) for the transport of dredged materials for ocean disposal. Unlike the constituents sampled for in the water monitoring component, the above sediment constituents are not expected to be routinely discharged from Seal Island. However, they represent the type of pollutants that could be discharged by neglect or improper design from an oil production facility and could thereafter have an effect on sediment quality. In addition, the sediment monitoring component includes a benthic abundance and community structure study.

All of data collected and the subsequent analyzes are reported to both the EPA and ADEC on a periodic basis. These governing agencies can require additional monitoring based on the results of any of the above monitoring components.

There is no provision for “significantly large mixing zones around the island;” only one small mixing zone is needed (5 m in semiradius). The water monitoring program will collect water samples from the edge of this mixing zone to ensure water quality standards are complied with outside of this zone.

Comment F404-178: As a model facility for future offshore arctic operations, it is imperative that as much information be gathered as possible to assess negative impacts on marine life.

Response: While it is true that sedimentation from the island’s reconstruction and from the dewatering outfall (005) will have negative impacts on marine life around the island, the durations of these impacts are expected to be short because these two activities are one-time events. The remaining and primary outfall (001) is not expected to generate sedimentation, nor is it expected to create open water near its discharge port during the ice season. As a result, this discharge is not expected to result in marine mammal harassment.

Comment F404-179: Sufficient storage capacity for discharge water must be available during times in which the disposal well is inoperable.

Response: During the comment period for the Draft NPDES Permit, the permittee submitted a letter to the EPA stating their intention to eliminate Outfalls 003, 004 (North and South Deck Drainage Sump Effluent), and 006 (Seawater Treatment Plant Filter Backwash). Deck drainage will continue to be collected within the sump system, but the fluids will be pumped to the Class I industrial waste disposal well and not discharged through the outfalls as outlined in the NPDES Fact Sheet and Draft Permit. Outfall 006 has been eliminated altogether. Outfalls 001, 002, and 005 have not been eliminated and authorization to discharge from these outfalls, together with effluent limitations, monitoring, and other requirements, are contained in the final permit. The Comment’s reference to elimination of the discharge, storage, and reinjection suggest the commentor was raising concern over adequate storage of fluids collected in the deck sumps.

With the exception of snow removal, all requirements related to deck drainage (Outfalls 003 and 004) have been removed from the NPDES Permit. The NPDES Permit does not authorize the discharge of deck drainage fluids under any circumstances. Fluids collected in the sump system are to be pumped to the Class I industrial waste disposal well for reinjection, with the exception of those determined to be hazardous. Any fluids not injectable, will be transported to an appropriate onshore disposal location.

With regards to adequate storage of deck drainage should the disposal well be out of service, the permittee has outlined options that may be followed to contain the fluids (see August 27, 1998 letter to Mr. Robert Robichaud, EPA from Mr. Peter Hanley, BP, Northstar Development Project Sump Water Storage, Disposal and Control Options). These options include, storage in the sumps; storage in the Well Clean Out Tank; storage in a vac truck; and storage in a barge or other storage available for liquids recovered from spill response activities, such as temporary tankage or bladders. The Northstar Project is

required to have an approved Oil Discharge Prevention and Contingency Plan prior to commencement of operations. As part of that plan, the facility must demonstrate the ability to contain and recover 36,000 barrels of oil. This storage would be available for storage of liquids being routed to the 500 barrels Well Clean Out Tank via the sumps. The combined volume of the North and South sumps is 194 barrels.

Should the disposal well be out of service during precipitation, the fluids collected in the sump would have to be contained for later injection or transported off the island and disposed at another authorized facility. Except for snow removal, discharge of deck drainage to marine waters for the Northstar facility is not authorized by the NPDES Permit.