

**ATTACHMENT F
COASTAL ZONE PROJECT QUESTIONNAIRE AND
CERTIFICATION STATEMENT ALONG WITH COASTAL
CONSISTENCY ANALYSIS**

Coastal Project Questionnaire and Certification Statement

Please answer all questions. To avoid a delay in processing, **please call the department if you answer "yes" to any of the questions related to that department.** Maps and plan drawings must be included with your packet.
An incomplete packet will be returned.

■ APPLICANT INFORMATION

<p>1. BP Exploration (Alaska) Inc. Name of Applicant _____ P.O. Box 196612 Address _____ Anchorage, AK 99519-661 City/State Zip Code _____ (907) 339-5067 Daytime Phone _____ (907) 339-5088 hanleypt@bp.com Fax Number E-mail Address _____</p>	<p>2. Peter T. Hanley Agent (or responsible party if other than applicant) _____ Address _____ City State Zip Code _____ Daytime Phone _____ Fax Number E-mail Address _____</p>
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■ PROJECT INFORMATION

1. This activity is a: new project modification or addition to an existing project Yes No
 If a modification, do you currently have any State, federal or local approvals related to this activity?.....
Note: Approval means any form of authorization. If "yes," please list below

Approval Type	Approval #	Issuance Date	Expiration Date

2. If a modification, has this project ever been reviewed by the State of Alaska under the ACMP.....
 Previous State I.D. Number: _____ Previous Project Name: _____

■ PROJECT DESCRIPTION

1. Provide a brief description of your entire project and ALL associated facilities and land use conversions. Attach additional sheet(s) as needed.
See Liberty Development Project Development and Production Plan and Liberty Development Project Legal Descriptions Attachment

Proposed start date for project: 2009 Proposed ending date for project: 2013

2. Attach the following: • a detailed description of the project, all associated facilities, and land use conversions, etc. (Be specific, including access roads, caretaker facilities, waste disposal sites, etc.); • a project timeline for completion of all major activities in the proposal; • a site plan depicting property boundary with all proposed actions; • other supporting documentation that would facilitate review of the project. Note: If the project is a modification, identify existing facilities as well as proposed changes on the site plan.

PROJECT LOCATION

1. Attach a copy of the topographical and vicinity map clearly indicating the location of the project. Please include a map title and scale.
2. The project is located in which region (see attached map) Northern Southcentral Southeast
 within or associated with the Trans-Alaska Pipeline corridor
3. Location of project (Include name of the nearest land feature or body of water. See Liberty Development Project Legal Descriptions Att
Township: _____ Range: _____ Section: _____ Meridian: _____ Latitude/Longitude _____ / _____ USGS Quad Map _____
4. Is the project located in a coastal district? Yes No If yes, identify: North Slope Borough
(Coastal districts are a municipality or borough, home rule or first class city, second class with planning, or coastal resource service area.) Note: A coastal district is a participant in the State's consistency review process. It is possible for the State review to be adjusted to accommodate a local permitting public hearing. Early interaction with the district is important; please contact the district representative listed on the attached contact list.
5. Identify the communities closest to your project locatio Deadhorse
6. The project is on State land or water* Federal land Private land Municipal land Mental Health Trust land

*State land can be uplands, tidelands, or submerged lands to 3 miles offshore. See Question #1 in DNR section.

Contact the applicable landowner(s) to obtain necessary authorizations

DEPARTMENT OF ENVIRONMENTAL CONSERVATION (DEC) APPROVALS

- | | Yes | No |
|---|-------------------------------------|-------------------------------------|
| 1. Will a discharge of wastewater from industrial or commercial operations occur? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Will the discharge be connected to an already approved sewer system? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Will the project include a stormwater collection/discharge system? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Do you intend to construct, install, modify, or use any part of a wastewater (sewage or grey water) disposal system? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| a) If so, will the discharge be 500 gallons per day or greater?..... | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) If constructing domestic wastewater treatment or disposal system, will the system be located within fill material requiring COE permit?..... | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| If you answered yes to a) or b), answer the following: | | |
| 1) What is the distance from the bottom of the system to the top of the subsurface water table? _____ | | |
| 2) How far is any part of the wastewater disposal system from the nearest surface water? _____ | | |
| 3) Is the surrounding area inundated with water at any time of the year? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 4) How big is the fill area to be used for the absorption system? _____
<i>(Questions 1 and 2 will be used by DEC to determine whether separation distances are being met; Questions 3 and 4 relate to the required size of the fill if wetlands are involved.)"</i> | | |
| 3. Do you expect to request a mixing zone for your proposed project?..... | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| <i>(If your wastewater discharge will exceed Alaska water quality standards, you may apply for a mixing zone. If so, please contact DEC to discuss information required under 18 AAC 70.032.)</i> | | |

- | | Yes | No |
|---|-------------------------------------|-------------------------------------|
| 4. a) Will your project result in the construction, operation, or closure of a facility for the disposal of solid waste? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| <i>(Note: Solid waste means drilling wastes, household garbage, refuse, sludge, construction or demolition wastes, industrial solid waste, asbestos, and other discarded, abandoned, or unwanted solid or semi-solid material, whether or not subject to decomposition, originating from any source. Disposal means placement of solid waste on land.)</i> | | |
| b) Will your project result in the treatment of solid waste at the site?..... | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| <i>(Examples of treatment methods include, but are not limited to: incineration, open burning, baling, and composting.)</i> | | |
| c) Will your project result in the storage or transfer of solid waste at the site?..... | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Will the project result in the storage of more than 50 tons of materials for reuse, recycling, or resource recovery? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Will any sewage solids or biosolids be disposed of or land-applied to the site?..... | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| <i>(Sewage solids include wastes that have been removed from a wastewater treatment plant system, such as a septic tank, lagoon dredge, or wastewater treatment sludge that contain no free liquids. Biosolids are the solid, semi-solid, or liquid residues produced during the treatment of domestic septage in a treatment works which are land applied for beneficial use.)</i> | | |
| 5. Will your project require the application of oil, pesticides, and/or any other broadcast chemicals?.. | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 6. a) Will you have a facility with industrial processes that are designed to process no less than five tons per hour and needs air pollution controls to comply with State emission standards?.... | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Will you have stationary or transportable fuel burning equipment, including flares, with a total fuel consumption capacity no less than 50 million Btu/hour?..... | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Will you have a facility with incinerators having a total charging capacity of no less than 1,000 pounds per hour? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Will you have a facility with equipment or processes that are subject to Federal New Source Performance Standards or National Emission Standards for hazardous air pollutants?..... | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| i) Will you propose exhaust stack injection?..... | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Will you have a facility with the potential to emit no less than 100 tons per year of any regulated air contaminant? | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| f) Will you have a facility with the potential to emit no less than 10 tons per year of any hazardous air contaminant or 25 tons per year of all hazardous air contaminants?..... | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Will you construct or add stationary or transportable fuel burning equipment of no less than 10 million Btu/hour in the City of Unalaska or the City of St. Paul?..... | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| h) Will you construct or modify in the Port of Anchorage a volatile liquid storage tank with a volume no less than 9,000 barrels, or a volatile liquid loading rack with a design throughput no less than 15 million gallons? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| i) Will you be requesting operations or physical limits designed to reduce emissions from an existing facility in an air quality nonattainment area to offset an emission increase from another new or modified facility? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 7. Will you be developing, constructing, installing, or altering a public water syste | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 8. a) Will your project involve the operation of waterborne tank vessels or oil barges that carry crude or non-crude oil as bulk cargo, or the transfer of oil or other petroleum products to or from such a vessel or a pipeline system?..... | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Will your project require or include onshore or offshore oil facilities with an effective aggregate storage capacity of greater than 5,000 barrels of crude oil or greater than 10,000 barrels of non-crude oil?..... | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

c) Will you be operating facilities on the land or water for the exploration or production of hydrocarbons? Yes No

If you answered "NO" to ALL questions in this section, continue to next section.

If you answered "YES" to ANY of these questions, contact the DEC office nearest you for information and application forms. Please be advised that all new DEC permits and approvals require a 30-day public notice period. DEC Pesticide permits take effect no sooner than 40 days after the permit is issued.

Based on your discussion with DEC, please complete the following:

Types of project approvals or permits needed	Date application submitted
<u>Air Quality Construction PSD and Minor Per</u>	<u>4/25/2007</u>
<u>ODPCP Plan Amendment for Endicott/Bada</u>	<u>12/31/2007</u>

9. Does your project qualify for a general permit for wastewater or solid waste? Yes No
Note: A general permit is an approval issued by DEC for certain types of routine activities.

If you answered "YES" to any questions in this section and are not applying for DEC permits, indicate reason:

- _____ (DEC contact) told me on _____ that no DEC approvals are required on this project because _____
- Other: _____

■ DEPARTMENT OF FISH AND GAME (DFG) APPROVALS

- | | | |
|--|--------------------------|-------------------------------------|
| | Yes | No |
| 1. Is your project located in a designated State Game Refuge, Critical Habitat Area or State Game Sanctuary? | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2. Does your project include the construction/operation of a salmon hatchery?..... | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 3. Does your project affect, or is it related to, a previously permitted salmon hatchery?..... | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 4. Does your project include the construction of an aquatic farm?..... | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

If you answered "NO" to ALL questions in this section, continue to next section.

If you answered "Yes" to ANY questions under 1-4, contact the DFG Commercial Fisheries Division headquarters for information and application forms.

If you answered YES to ANY questions under 4-6, contact the DFG Commercial Fisheries Division headquarters for information and application forms.

Based on your discussion with DFG, please complete the following:

Types of project approvals or permits needed	Date application submitted
_____	_____
_____	_____

If you answered "YES" to any questions in this section and are not applying for DFG permits, indicate reason:

- _____ (DFG contact) told me on _____ that no DFG approvals are required on this project because _____
- Other: _____

■ DEPARTMENT OF NATURAL RESOURCES (DNR) APPROVALS

Yes No

1. Is the proposed project on State-owned land or water or will you need to cross State-owned land for access? ("Access" includes temporary access for construction purposes. *Note: In addition to State-owned uplands, the State owns almost all land below the ordinary high water line of navigable streams, rivers and lakes, and below the mean high tide line seaward for three miles.*) Yes No
 - a) Is this project for a commercial activity?..... Yes No

2. Is the project on Alaska Mental Health Trust land (AMHT) or will you need to cross AMHT land?.. Yes No
Note: Alaska Mental Health Trust land is not considered State land for the purpose of ACMP reviews

3. Do you plan to dredge or otherwise excavate/remove materials on State-owned land?..... Yes No
 Location of dredging site if different than the project sit _____
 Township _____ Range _____ Section _____ Meridian _____ USGS Quad Map: _____

4. Do you plan to place fill or dredged material on State-owned land?..... Yes No
 Location of fill disposal site if different than the project site _____
 Township _____ Range _____ Section _____ Meridian _____ USGS Quad Map: _____
 Source is on: State Land Federal Land Private Land Municipal Land

5. Do you plan to use any of the following State-owned resources:..... Yes No
 - Timber:** Will you be harvesting timber? Amount _____
 - Materials such as rock, sand or gravel, peat, soil, overburden, etc.:**
 Which Material? pit run gravel/riprap Amount: ~1,000,000 cubic yards
 Location of source: Project site Other, describe: _____
 Township 10N Range 16E Section 6 Meridian Umjat USGS Quad Map: _____

6. Are you planning to divert, impound, withdraw, or use any fresh water, except from an existing public water system or roof rain catchment system (regardless of land ownership)?..... Yes No
 Amount (maximum daily, not average, in gallons per day) 500,000 gpd
 Source: BPXA Permitted Sources Intended Use: Ice Roads, Drilling
 If yes, will your project affect availability of water to anyone holding water rights to that water?..... Yes No

7. Will you be building or altering a dam (regardless of land ownership)..... Yes No

8. Do you plan to drill a geothermal well (regardless of land ownership)?..... Yes No

9. At any one site (regardless of land ownership), do you plan to do any of the following?..... Yes No
 - Mine five or more acres over a year's time
 - Mine 50,000 cubic yards or more of materials (rock, sand or gravel, soil, peat, overburden, etc.) over a year's time
 - Have a cumulative unreclaimed mined area of five or more acres

If yes to any of the above, contact DNR about a reclamation plan.
 If you plan to mine less than the acreage/amount stated above and have a cumulative unreclaimed mined area of less than five acres, do you intend to file a voluntary reclamation plan for approval?.... Yes No

10. Will you be exploring for or extracting coal?..... Yes No

11. a) Will you be exploring for or producing oil and gas?..... Yes No
 b) Will you be conducting surface use activities on/within an oil and gas lease or unit?..... Yes No

12. Will you be investigating, removing, or impacting historical or archaeological or paleontological resources (anything over 50 years old) on State-owned land?..... Yes No

13. Is the proposed project located within a known geophysical hazard area?..... Yes No

Note: 6AAC80.900(9) defines geophysical hazard as "those areas which present a threat to life or property from geophysical or geological hazards, including flooding, tsunami run-up, storm surge run-up, landslides, snowslides, faults, icehazards, erosion, and littoral beach process." "known geophysical hazard area" means any area identified in a report or map published by a federal, state, or local agency, or by a geological or engineering consulting firm, or generally known by local knowledge, as having known or potential hazards from geologic, seismic, or hydrologic processes.

14. Is the proposed project located in a unit of the Alaska State Park System?..... Yes No

15. Will you be working in, removing water or material from, or placing anything in, a stream, river or lake? (This includes work or activities below the ordinary high water mark or on ice, in the active flood plain, on islands, in or on the face of the banks, or, for streams entering or flowing through tidelands, above the level of mean lower low tide.)
Note: if the proposed project is located within a special flood hazard area, a floodplain development permit may be required. Contact the affected city or borough planning department for additional information and a floodplain determination.) Yes No

Name of Waterbody: Sagavanirktok River

16. Will you do any of the following:..... Yes No

Please indicate below:

- Build a dam, river training structure, other instream impoundment, or weir
- Use the water
- Pump water into or out of stream or lake (including dry channels)
- Divert or alter the natural stream channel
- Change the water flow or the stream channel
- Introduce silt, gravel, rock, petroleum products, debris, brush, trees, chemicals, or other organic/inorganic material, including waste of any type, into the water
- Alter, stabilize or restore the banks of a river, stream or lake (provide # of linear feet affected along the bank(s) _____)
- Mine, dig in, or remove material, including woody debris, from the beds or banks of a waterbody
- Use explosives in or near a waterbody
- Build a bridge (including an ice bridge)
- Use the stream, lake or waterbody as a road (even when frozen), or cross the stream with tracked or wheeled vehicles, log-dragging or excavation equipment (backhoes, bulldozers, etc.)
- Install a culvert or other drainage structure
- Construct, place, excavate, dispose or remove any material below the ordinary high water of a waterbody
- Construct a storm water discharge or drain into the waterbody
- Place pilings or anchors
- Construct a dock
- Construct a utility line crossin
- Maintain or repair an existing structure
- Use an instream in-water structure not mentioned here.

If you answered "No" to ALL questions in this section, continue to Federal Approvals section.

If you answered "Yes" to ANY questions under 1-16, contact the Area DNR office for information and application forms.

Based on your discussion with DNR, please complete the following:

Types of project approvals or permits needed	Date application submitted
<u>LUP; 850 Easements; TWUP;</u>	<u>4/25/2007</u>
<u>Material Sale; Fish Habitat; See DPP T. 1-3</u>	<u>4/25/2007</u>

If you answered YES to any questions in this section and are not applying for DNR permits, indicate reason:

_____ (DNR contact) told me on _____ that no DNR approvals are required on this project because _____

Other: _____

FEDERAL APPROVALS

Yes No

U.S. Army Corps of Engineers (COE)

1. Will you be dredging or placing structures or fills in any of the following tidal (ocean) waters? streams? lakes? wetlands*?
 If yes, have you applied for a COE permit?.....
 Date of submittal 4/25/2007

(Note: Your application for this activity to the COE also serves as application for DEC Water Quality Certification.)

**If you are not certain whether your proposed project is in a wetlands (wetlands include muskegs), contact the COE, Regulatory Branch at (907) 753-2720 for a wetlands determination (outside the Anchorage area call toll free 1-800-478-2712).*

Bureau of Land Management (BLM)

2. Is the proposed project located on BLM land, or will you need to cross BLM land for access?.....
 If yes, have you applied for a BLM permit or approval?.....
 Date of submittal: _____

U.S. Coast Guard (USCG)

3. a) Will you be constructing a bridge or causeway over tidal (ocean) waters, or navigable rivers, streams or lakes?
 b) Does your project involve building an access to an island?
 c) Will you be siting, constructing, or operating a deepwater port?.....
 If yes, have you applied for a USCG permit?.....
 Date of submittal: 4/25/2007

U.S. Environmental Protection Agency (EPA)

4. a) Will the proposed project have a discharge to any waters?
 b) Will you be disposing of sewage sludge (contact EPA at 206-553-1941)?.....
 If you answered yes to a) or b), have you applied for an EPA National Pollution Discharge Elimination System (NPDES) permit?.....
 Date of submittal: 11/11/2004
(Note: For information regarding the need for an NPDES permit, contact EPA at (800) 424-4372.)
 c) Will construction of your project expose 5 or more acres of soil?
(This applies to the total amount of land disturbed, even if disturbance is distributed over more than one season, and also applies to areas that are part of a larger common plan of development or sale.)
 d) Is your project an industrial facility which will have stormwater discharge which is directly related to manufacturing, processing, or raw materials storage areas at an industrial plant?
 If you answered yes to c) or d), your project may require an NPDES Stormwater permit. Contact EPA at 206-553-8399.

Federal Aviation Administration (FAA)

5. a) Is your project located within five miles of any public airport?.....
 b) Will you have a waste discharge that is likely to decay within 5,000 feet of a public airport?...
 If yes, please contact the Airports Division of the FAA at (907) 271-5444.

Federal Energy Regulatory Commission (FERC)

6. a) Does the project include any of the following:
 1) a non-federal hydroelectric project on any navigable body of water
 2) a location on federal land (including transmission lines
 3) utilization of surplus water from any federal government dam
 b) Does the project include construction and operation, or abandonment of natural gas pipeline facilities under sections (b) and (c) of the Federal Power Act (FPA)?.....

Yes No

c) Does the project include construction for physical interconnection of electric transmission facilities under section 202 (b) of the FPA? Yes No

If you answered yes to any questions under number 6, have you applied for a permit from FERC? Yes No

Date of submittal: _____

(Note: For information, contact FERC, Office of Hydropower Licensing (202) 219-2668; Office of Pipeline Regulation (202) 208-0700; Office of Electric Power Regulation (202) 208-1200.)

U.S. Forest Service (USFS)

7. a) Does the proposed project involve construction on USFS land? Yes No

b) Does the proposed project involve the crossing of USFS land with a water line? Yes No

If the answer to either question is yes, have you applied for a USFS permit or approval? Yes No

Date of submittal: _____

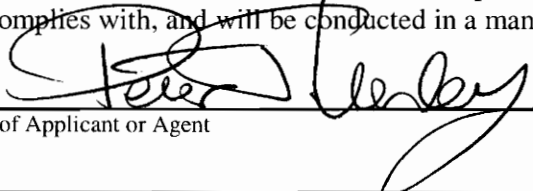
8. a) Have you applied for any other federal permits or authorizations? Yes No

AGENCY	APPROVAL TYPE	DATE SUBMITTED
USEPA See DPP Table 1-3	NPDES Amendment for LoSa	12/9/2005
_____	_____	_____
_____	_____	_____

Please be advised that the CPQ identifies permits subject to a consistency review. You may need additional permits from other agencies or the affected city and/or borough government to proceed with your activity.

Certification Statement

The information contained herein is true and complete to the best of my knowledge. I certify that the proposed activity complies with, and will be conducted in a manner consistent with, the Alaska Coastal Management Program.


Signature of Applicant or Agent

4/23/07
Date

Note: Federal agencies conducting an activity that will affect the coastal zone are required to submit a federal consistency determination, per 15 CFR 930, Subpart C, rather than this certification statement. ACMP has developed a guide to assist federal agencies with this requirement. Contact ACMP to obtain a copy.

This certification statement will not be complete until all required State and federal authorization requests have been submitted to the appropriate agencies.

■ To complete your packet, please attach your State permit applications and copies of your federal permit applications to this questionnaire.

**Liberty Development Project
Legal Descriptions (NAD 83)
4/25/07**

SDI Expansion (including Liberty infrastructure)

T11N R17E sections 8, 9, Umat Meridian, Beechey Point B-2
70.321886 W, 147.895631 N

Subsurface Wellbore "corridor" through state land

T11N R17E sections 8, 9, 10, 13, 14, 15, 16, 23, 24, Umat Meridian
T11N R18E sections 17, 18, 19, 20, 29, 30, Umat Meridian

MPI to SDI Liberty Pipelines

T11N R17E sections 6, 7, 8, Umat Meridian
T11N R16E section 1, Umat Meridian
T12N R16E section 36, Umat Meridian

Liberty MPI Infrastructure

T12N R16E section 36, Umat Meridian, Beechey Point B-2
70.353047 W, 147.960728 N

Sag River Bridge replacement

T10N R15E section 3, Umat Meridian, Beechey Point B-3 and A-3
70.249753 W, 148.305183 N, T10N R16E

Mine Site

T10N R16E sections 6, 7, Umat Meridian, Beechey Point A-2
70.736833 W, 148.185931 N

Ice Roads for construction

T10N R16E sections 3, 4, 5, 6, 7, 8, Umat Meridian
T11N R16E sections 13, 23, 24, 25, 26, 27, 31, 32, 33, 34, 35, Umat Meridian
T10N R17E sections 8, 9, 17, 18, 19, 20, 30, Umat Meridian

**LIBERTY DEVELOPMENT PROJECT
SUPPLEMENTAL CPQ ATTACHMENT
For ADNR-DOG**

As Requested by Steve Schmitz

04/25/07

BPXA understands that a Plan of Operations (PoO) approval cannot be issued for the Liberty Development Project activities because a PoO can only authorize surface uses that are related to specific unit activities. Although the Liberty Development Project infrastructure will be located within the Duck Island Unit (DIU) and Prudhoe Bay Unit (PBU), the Liberty reservoir is within the federal outer continental shelf (OCS). As such, there are no state subsurface leases related to the Liberty reservoir. Therefore, BPXA is applying for an early entry authorization and five Alaska Statute (AS) 38.05.850 easements to support the Liberty infrastructure.



Liberty Development Project Alaska Coastal Management Program Coastal Consistency Evaluation

**BP Exploration (Alaska) Inc.
900 East Benson Boulevard
Anchorage, AK 99519-6612**

April 2007

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ALASKA COASTAL STANDARDS

Introduction

The following Alaska Coastal Management Program (ACMP) consistency evaluation for the Liberty Development Project based within the Duck Island Unit describes proposed activities and discusses compliance with each standard of the ACMP regulation (11 AAC 112.200 through 11 AAC 112.990) and the North Slope Borough Coastal Management Program enforceable policies (NSBCMP) (Section 2.4.3, Standards For Development).

The Alaska Department of Natural Resources (ADNR) ACMP Consistency Review will satisfy the Federal Coastal Zone Management Act (1972) requirements. This evaluation supplements the BP Exploration (Alaska) Inc. (BPXA) Liberty Development Project permit applications, including the Liberty Development Project Development and Production Plan (April 2007).

Scope of Evaluation

The State of Alaska is the surface owner at this location. BPXA is the Operator of the Duck Island Unit and Operator of the Liberty facilities.

This evaluation of the project activities describes the project's consistency with the ACMP Coastal Standards of 11 AAC 112.200 through 112.990 and the Enforceable Policies of the NSBCMP 2.4. Each Standard or Enforceable Policy is followed by the applicable evaluation. The standards and enforceable policies to the extent applicable have been incorporated into the Liberty Development Project Development and Production Plan (April 2007) to ensure project consistency with the ACMP standards and NSBCMP policies. At the time of preparation of this analysis (April 2007), the NSBCMP was in revision under a legislatively granted extension to coastal districts to complete their plans to conform to the requirements of 11 AAC 114. As such the NSBCMP enforceable policies may be significantly revised from those cited in this document.

11 AAC 112.200 COASTAL DEVELOPMENT

- (a) *In planning for and approving development in coastal areas, districts and state agencies shall manage coastal land and water uses in such a manner that those uses that are economically or physically dependent on a coastal location are given higher priority when compared to uses that do not economically or physically require a coastal location.*
- (b) *Districts and state agencies shall give in the following order, priority to:*
 - (1) *water-dependent uses and activities,*
 - (2) *water-related uses and activities, and*
 - (3) *uses and activities which are neither water-dependent nor water-related for which there is no feasible and prudent inland alternative to meet the public need for the use or activity.*
- (c) *The placement of structures and the discharge of dredged or fill material into coastal water must, at a minimum, comply with the standards contained in 33 C.F.R. Parts 320-323, revised as of July 1, 2003.*

Coastal Development Standard 112.200 is applicable to this project. This project is within an existing industrial development area, and its location is determined by the fact that BPXA has elected to use existing infrastructure to develop this offshore oil field. BPXA has applied for a Section 40 permit from the U.S. Army Corps of Engineers (Corps) for discharge of fill into coastal waters for the expansion of the Endicott Satellite Drilling Island (SDI), the opening of a new gravel mine site in tundra wetlands, and potential new West Sagavinirktok (Sag) River Bridge. BPXA believes that documentation submitted with the Corps permit application including the Liberty Environmental Impact Assessment (April 2007) demonstrates compliance with the requirements of 33 CFR Parts 320-323 and the Environmental Protection Agency's 404(b)(1) Guidelines (40 CFR Part 230). See Support Facilities Section 9.2 of the Liberty Project Development and Production Plan (April 2007).

11 AAC 112.210 NATURAL HAZARD AREAS

- (a) *In addition to those identified in 11 AAC 112.990, the department, or a district in a district plan, may designate other natural processes or adverse conditions that present a threat to life or property in the coastal area as natural hazards. Such designations must provide the scientific basis for designating the natural process or adverse condition as a natural hazard in the coastal area, along with supporting scientific evidence for the designation.*
- (b) *Areas likely to be affected by the occurrence of a natural hazard may be designated as natural hazard areas by a state agency or, under 11 AAC 114.250(b), by a district.*
- (c) *Development in a natural hazard area may not be found consistent unless the applicant has taken appropriate measures in the siting, design, construction, and operation of the proposed activity to protect public safety, services, and the environment from potential damage caused by known natural hazards.*
- (d) *For purposes of (c) of this section, "appropriate measures in the siting, design, construction, and operation of the proposed activity" means those measures that, in the judgment of the coordinating agency, in consultation with the department's division of geological and geophysical surveys, the Department of Community and Economic Development as state coordinating agency for the National Flood Insurance program under 44 C.F.R. 60.25, and other local and state agencies with expertise,*
 - (1) *satisfy relevant codes and safety standards; or*
 - (2) *in the absence of such codes and standards;*
 - (A) *the project plans are approved by an engineer who is registered in the state and has engineering experience concerning the specific natural hazard; or*
 - (B) *the level of risk presented in the design of the project is low and appropriately addressed by the project plans.*

The project is not located in a designated known natural hazard area. The project will be sited in an existing industrial area - the Endicott development. The Endicott development was designed to accommodate natural hazards including winds, waves (including storm surge), and ice movement utilizing a slope protection system comprised of concrete mats and gravel bags in exposed areas. This slope protection system has proven very successful in 20 years of operations. The expansion of the SDI will employ a sheet pile wall slope protection system

that has proven successful in Arctic applications. The expanded SDI including the slope protection system was designed by engineers with arctic engineering experience. BPXA has conducted bathymetric surveys, geotechnical borings and oceanographic modelling as part of the design of the expanded SDI. Additional bathymetric surveys will be conducted in the summer of 2007.

Over 100 wells have been drilled from Endicott and no shallow hazards were identified in the vicinity of the SDI. See Section 3.3 of the Liberty Development Project Development and Production Plan (April 2007).

11 AAC 112.220 COASTAL ACCESS

Districts and state agencies shall ensure that projects maintain and, where appropriate, increase public access to, from, and along coastal water.

Standard 11 AAC 112.220 is not applicable to this project. The project area is accessible via the existing Endicott road system which connects with roads in the Prudhoe Bay Unit and with the Dalton Highway.

Access into the oil fields including Endicott is controlled for security and safety purposes. An increase in public access, therefore, is not applicable in this industrial area due to those safety and security concerns. 11 AAC 112.230 ENERGY FACILITIES

- (a) *The siting and approval of major energy facilities by districts and state agencies must be based, to the extent feasible and prudent, on the following standards:*
- (1) *site facilities so as to minimize adverse environmental and social effects while satisfying industrial requirements;*
 - (2) *site facilities so as to be compatible with existing and subsequent adjacent uses and projected community needs;*
 - (3) *consolidate facilities;*
 - (4) *consider the concurrent use of facilities for public or economic reasons;*
 - (5) *cooperate with landowners, developers, and federal agencies in the development of facilities;*
 - (6) *select sites with sufficient acreage to allow for reasonable expansion of facilities;*
 - (7) *site facilities where existing infrastructure, including roads, docks, and airstrips, is capable of satisfying industrial requirements;*
 - (8) *select harbors and shipping routes with least exposure to reefs, shoals, drift ice, and other obstructions;*
 - (9) *encourage the use of vessel traffic control and collision avoidance systems;*
 - (10) *select sites where development will require minimal site clearing, dredging, and construction;*
 - (11) *site facilities so as to minimize the probability, along shipping routes, of spills or other forms of contamination that would affect fishing grounds, spawning grounds, and other biologically productive or vulnerable habitats, including marine mammal rookeries and hauling out grounds and waterfowl nesting areas;*
 - (12) *site facilities so that design and construction of those facilities and support infrastructures in coastal areas will allow for the free passage and movement of fish and wildlife with due consideration for historic migratory patterns;*

- (13) *site facilities so that areas of particular scenic, recreational, environmental, or cultural value, identified in district plans, will be protected;*
- (14) *site facilities in areas of least biological productivity, diversity, and vulnerability and where effluents and spills can be controlled or contained;*
- (15) *site facilities where winds and currents disperse airborne emissions that cannot be captured before escape into the atmosphere; site facilities so that associated vessel operations or activities will not result in overcrowded harbors or interfere with fishing operations and equipment;*
- (16) *site facilities so that associated vessel operations or activities will not result in overcrowded harbors or interfere with fishing operations and equipment.*
- (b) *The uses authorized by the issuance of state and federal leases, easements, contracts, rights-of-way, or permits for mineral and petroleum resource extraction are uses of state concern.*

This standard applies throughout the coastal area. The energy facilities siting standard provides the compliance criteria for those facilities defined as a “major energy facility,” which is defined at 11 AAC 112.990(14):

- (A) *means a development of more than local concern carried out in, or in close proximity to, the coastal area, that is:*
 - (i) *required to support energy operations for exploration or production purposes;*
 - (ii) *used to produce, convert, process, or store energy resources or marketable products;*
 - (iii) *used to transfer, transport, import, or export energy resources or marketable products;*
 - (iv) *used for in-state energy use; or*
 - (v) *used primarily for the manufacture, production, or assembly of equipment, machinery, products, or devices that are involved in an activity described in (i) – (iv) of this subparagraph;*
- (B) *includes marine service bases and storage depots, pipelines and rights-of-way, drilling rigs and platforms, petroleum or coal separation, treatment, or storage facilities, liquid natural gas plants and terminals, oil terminals and other port development for the transfer of energy products, petrochemical plants, refineries and associated facilities, hydroelectric projects, other electric generating plants, transmission lines, uranium enrichment or nuclear fuel processing facilities, geothermal facilities, natural gas pipelines and rights-of-way, natural gas treatment and processing facilities, and infrastructure related to natural gas treatment and processing facilities.*

This standard is applicable to this project. The development option that BPXA selected for Liberty complies with this standard.

(a) (1) through (a) (7)

BPXA decided to develop the offshore Liberty oil field through the use of ultra-extended-reach drilling (uERD) from an existing facility (Endicott). This significant change in project scope eliminates the offshore impacts of island and pipeline construction previously considered by BPXA to develop Liberty. The decision to utilize the SDI will consolidate

facilities and facilities can be concurrently used, minimizing social and environmental impacts. BPXA is cooperating with the landowners (the State of Alaska and the U.S. Department of the Interior), developers (Duck Island Unit and Prudhoe Bay Unit owners), state and federal agencies, and the North Slope Borough in developing the facility. The placement of the facilities at the existing SDI eliminates construction of a pad on the shoreline of Foggy Island Bay and a road and pipelines across the delta of the Sagavanirktok River. Existing infrastructure is capable of satisfying the Liberty industrial requirements.

The project location is within existing oil field infrastructure that is compatible with ongoing uses and is zoned for *Resource Development* by the North Slope Borough

(a) (8) and (a) (9)

Significant marine traffic is not expected to be needed to support Liberty construction and operations. Project access will be via existing infrastructure including the Endicott road, the dock at the Endicott MPI and the Deadhorse airport. In addition, a dock will be created on the north side of the expanded SDI to provide logistical flexibility including the option to sealift the drilling rig (the current plan is to truck the rig modules to the North Slope after sealift to a southern Alaska port). Sealifts of equipment or supplies to the dock at the MPI or SDI would occur during the summer open water season in the Beaufort Sea and the timing and routing would be dependent on sea ice and weather conditions although sealifts to the central Beaufort are typically timed for arrival in August thus avoiding the main migration period of the bowhead whale and subsistence whaling. Section 4 of the *Liberty Development Project Development and Production Plan* (April 2007) provides information on project access.

(a) (10)

BPXA selected an alternative that maximizes the use of existing infrastructure and significantly minimizes the project impacts including surface disturbance that would have resulted from constructing a new drilling pad and access road for a development on the shore of Foggy Island Bay. The proposed new gravel mine site adjacent to the existing Duck Island Mine Site will disturb approximately 63 acres with a mine site excavation area of approximately 18 acres. A Mining and Rehabilitation plan has been prepared for the new Liberty mine site. Extensive dredging is not expected to occur at either the MPI or SDI dock and intake for the Seawater Treatment Plant (STP) on the MPI. Field survey may determine some localized removal (e.g., screeding) of high spots on the sea floor is required to utilize the existing dock on the MPI and new dock at the SDI. Minor dredging at the STP intake may be required.

(a) (11)

Co-locating the Liberty development project within existing infrastructure should not create new impacts related to fish and wildlife. The only sealift currently planned for the Liberty Project is a one-time delivery of the *LoSal™* (single) module and other equipment to the Endicott MPI. The routing and the timing of this sealift will be scheduled and routed to the extent ice and weather permit to avoid the fall whale migration and subsistence whaling

activities. Any sealift activities during whaling would be coordinated with the Alaska Eskimo Whaling Commission and the Barrow and Nuiqsut Whaling Captains' Associations through a Conflict Avoidance Agreement or other communication procedures. There are no major fishing grounds along the typical Beaufort Sea marine traffic routes.

(a) (12)

The expansion of the Endicott SDI will not affect the existing breaches provided at Endicott for fish passage. The Liberty project minimizes new impacts on fish and wildlife movement through the use of existing infrastructure and uERD.

(a) (13)

This is not applicable for the most part because Liberty is being developed using existing infrastructure in an existing industrial area. An archeological clearance survey will be conducted at the proposed new mine site adjacent to the existing Duck Island mine site. The project is not located in a recreational area.

(a) (14)

The project is being developed from an existing facility. BPXA will submit an amendment to the Endicott/Badami Oil Discharge Prevention and Contingency Plan. This plan amendment will detail measures to prevent spills, measures to protect sensitive coastal environments, spill response and dedicated spill response equipment.

(a) (15)

The project will be developed from an existing facility. BPXA's submission of an air quality control permit application to the Alaska Department of Environmental Conservation includes the emissions from the proposed new drilling rig and the addition of a new gas turbine generator at the MPI. The drilling rig will be fueled by natural gas. Consequently, the drilling rig emissions will be significantly less than the air emissions from current North Slope drilling rigs even though power requirements are significantly larger.

(a) (16)

This is not applicable because there are no multiple use harbors in the project area and there is no commercial fishing activity in this part of the Beaufort Sea.

In summary, BPXA is mitigating impacts through maximizing use of existing infrastructure for the Liberty Project. Environmental design and mitigation measures are more fully described in the *Liberty Environmental Impact Assessment* (April 2007).

11 AAC 112.240 UTILITY ROUTES AND FACILITIES

- (a) *Utility routes and facilities must be sited inland from beaches and shorelines unless*
 - (1) *the route or facility is water-dependent or water related; or*
 - (2) *no practicable inland alternative exists to meet the public need for the route or facility.*
- (b) *Utility routes and facilities along the coast must avoid, minimize, or mitigate*
 - (1) *alterations in surface and ground water drainage patterns;*
 - (2) *disruption in known or reasonably foreseeable wildlife transit;*
 - (3) *blockage of existing or traditional access.*

For the most part these policies are not applicable to the Liberty Project. Production from the Liberty wells will be routed through an existing three phase flow pipeline from the SDI to the MPI. After processing on the MPI, Liberty oil will be transported through the existing Endicott sales oil pipeline to Pump Station No. 1 (PS 1) of the Trans-Alaska Pipeline System (TAPS). A ten-inch *LoSal™* water pipeline and 6-inch gas pipeline will be constructed on new vertical support members (VSM's) along the inter-island causeway between the MPI and SDI parallel to existing pipelines. In addition, due to the additional power requirements for this project at the SDI, a buried power cable will be installed from the MPI to the SDI for the additional load along existing utility routes. See Section 9.1 of the *Liberty Project Development and Production Plan (April 2007)*. In summary, the Liberty Project will not construct new utility routes, and the new pipelines and power cable will be located along an existing man-made gravel causeway.

11 AAC 112.250 TIMBER HARVEST AND PROCESSING

AS 41.17, (Forest Resources and Practices Act) and the regulations adopted under that chapter with respect to the harvest and processing of timber are incorporated into the program and constitute the components of the program with respect to those purposes.

This standard is not applicable to this project. There are no timber resources on the Arctic Coastal Plain.

11 AAC 112.260 SAND AND GRAVEL EXTRACTION

Sand and gravel may be extracted from coastal waters, intertidal areas, barrier islands, and spits, if there is no practicable alternative to coastal extraction that will meet the public need for the sand or gravel.

No gravel for the Liberty Project will be obtained from these areas. The source of gravel will be a new mine site adjacent to the existing Duck Island mine sit. The mine site is approximately 9 miles south of the coastline on a partially vegetated gravel bench adjacent to the Sagavanirktok River. See Section 9.2.2 of the Liberty Project Development and Production Plan (April 2007).

11 AAC 112.270 SUBSISTENCE

- (a) *A project within a subsistence use area designated by the department or under 11 AAC 114.250(g) must avoid or minimize impacts to subsistence uses of coastal resources.*

The project area is located in an existing industrial area which is generally not an area of significant subsistence use.

11 AAC 112.280 TRANSPORTATION ROUTES AND FACILITIES

Transportation routes and facilities in the coastal area must avoid, minimize, or mitigate alterations in surface and ground water drainage patterns; disruption in known or reasonable foreseeable wildlife transit; and blockage of existing or traditional access.

The project will be located within an area that was developed for and used by industry. The project will utilize existing road corridors, pipelines and pipeline routes. As noted elsewhere, two new pipelines will be constructed between the MPI and SDI along the inter-island causeway parallel to existing pipelines.

Ice roads will be built to support development construction and to transport gravel from a site near the Duck Island Mine Site on the west side of the Endicott Road. The temporary winter ice roads will not alter drainage patterns. The temporary ice roads will not disrupt wildlife transit. The ice roads will be located in an industrial development area not typically used for traditional access. Ice road mitigation such as breaching upon completion of construction at river crossings will be addressed in Alaska Department of Natural Resources / Office of Habitat Management and Permitting Title 41 fish habitat permits. See Sections 4 and 9.2.1 of the Liberty Project Development and Production Plan (April 2007).

11 AAC 112.300 HABITATS

- (a) *Habitats in the coastal area that are subject to the program are:*
- (1) *offshore areas;*
 - (2) *estuaries;*
 - (3) *wetlands;*
 - (4) *tideflats;*
 - (5) *rocky islands and seacliffs;*
 - (6) *barrier islands and lagoons;*
 - (7) *exposed high energy coasts;*
 - (8) *rivers, streams, and lakes and the active floodplains and riparian management areas of those rivers, streams, and lakes; and*
 - (9) *important upland habitat.*

The project activities will take place within an existing industrial area. Existing infrastructure including gravel roads will be used to access the area. Ice roads will be used to support the construction activities. The West Sagavanirktok Bridge connecting the Endicott Road to the Prudhoe Bay road system provides access to the MPI and SDI from Deadhorse and Prudhoe Bay infrastructure. In view of the increased traffic and project design load requirements, a new bridge may be constructed upstream to avoid unscheduled closures and delays.

Construction of a potential new bridge would be done in the winter. The bridge pier spacing would replicate those of the downstream pipeline bridge for hydrology and river ice considerations. Surveys will be conducted in the affected Sagavanirktok River channel to assess fish habitat. Habitat issues will be addressed in Alaska Department of Natural Resources / Office of Habitat Management and Permitting Title 41 fish habitat permits for the bridge replacement project See Section 9.2 of the Liberty Development Project Development and Production Plan (April 2007).

(b) *The following standards apply to the management of the habitats identified in (a) of this section:*

- (1) *offshore areas must be managed to avoid, minimize, or mitigate significant adverse impacts to competing uses such as commercial, recreational, or subsistence fishing, to the extent that those uses are determined to be in competition with the proposed use;*
- (2) estuaries must be managed to avoid, minimize or mitigate significant adverse impacts to
 - (A) adequate water flow and natural circulation patterns; and
 - (B) competing uses such as commercial, recreational, or subsistence fishing, to the extent that those uses are determined to be in competition with the proposed use;
- (3) wetlands must be managed to avoid, minimize, or mitigate significant adverse impacts to water flow and natural drainage patterns;
- (4) tideflats must be managed to avoid, minimize, or mitigate significant adverse impacts to
 - (A) water flow and natural drainage patterns; and
 - (B) competing uses such as commercial, recreational, or subsistence uses, to the extent that those uses are determined to be in competition with the proposed use;
- (5) rocky islands and sea cliffs must be managed to
 - (A) *avoid, minimize, or mitigate significant adverse impacts to habitat used by coastal species; and*
 - (B) *avoid the introduction of competing or destructive species and predators;*
- (6) barrier islands and lagoons must be managed to avoid, minimize or mitigate significant adverse impacts
 - (A) *to flows of sediments and water;*
 - (B) *from the alteration or redirection of wave energy or marine currents that would lead to the filling in of lagoons or the erosion of barrier islands; and*
 - (C) *from activities that would decrease the use of barrier islands by coastal species, including polar bears and nesting birds;*
- (7) exposed high energy coasts must be managed to avoid, minimize, or mitigate significant adverse impacts
 - (A) *to the mix and transport of sediments; and*
 - (B) *from redirection of transport processes and wave energy;*
- (8) rivers, streams, and lakes must be managed to avoid, minimize, or mitigate significant adverse impacts to
 - (A) *natural water flow;*
 - (B) *active floodplain; and*
 - (C) *natural vegetation within riparian management areas; and*
- (9) *important habitat*

(b) (1)

There are no competing commercial fishing, recreational or subsistence uses in the Liberty Project area.

(b) (2)

The expansion of the SDI should not impede existing water flow. Previous breaching of the Endicott causeway was installed to address water flow and fish migration concerns. There is no competing commercial fishing, recreational or subsistence uses in the Liberty Project area.

(b) (3)

Impacts to tundra wetlands for the Liberty Project will be confined to the development of a new mine site (excavated area approximately 18 acres adjacent to the existing Duck Island mine site). A mining and rehabilitation plan has been prepared for the new mine site with the goal of rehabilitating the site to productive habitat (fish and waterfowl) to mitigate the loss of tundra wetlands.

(b) (5)

No permanent facilities will be constructed on the tideflats at the mouth of the Sagavanirktok River delta. A temporary ice road will be constructed from the new mine site to the SDI which will cross a portion across the tideflats at the mouth of the delta.

(b) (6)

No construction on barrier islands is required for the Liberty Project.

(b) (7)

The expanded SDI will have a sheet pile slope protection system along the exposed northern and eastern sides of the expanded island to protect against waves, storm surges and ice and to minimize erosion and sediment transport around the expanded island.

(b) (8)

As noted above the installation of a new bridge, if BPXA decides to construct, across the Sagavanirktok River will not affect the existing water flow at this location. The bridge will be approximately the same length as the existing bridge and the pier spacing will replicate that of the downstream pipeline bridge. BPXA does not propose to significantly alter the road approaches on either side of the bridge structure.

No other project construction will involve riparian habitat.

This project will expand the existing offshore facility, the Endicott SDI. The main impact of the Liberty Project will be from the SDI expansion and opening a new mine site adjacent to the existing Duck Island mine site. However, the gravel mining, hauling and placement will be done in the winter. See Section 10.1 of the Liberty Development Project Development and Production Plan (April 2007). The winter construction project will be located in an existing industrial area and based on existing infrastructure that will avoid disturbing water quality, natural vegetation, fish or wildlife habitats and natural water flow.

The DNR surface use approvals (Easements and Land Use), Temporary Water Use, Use and Fish Habitat permit conditions are planned, coordinated and drafted to demonstrate compliance with this standard.

There will be no direct and significant impact on coastal water except for a new footprint covering approximately 20 acres of shallow seabed for the expansion of the SDI. The project is not within a state game refuge, sanctuary, range area, or fish and game critical habitat area described in AS 16.20. The project is not within a riparian management area.

11 AAC 112.310 AIR, LAND, AND WATER QUALITY

Notwithstanding any other provision of this chapter, the statutes pertaining to and the regulations and procedures of the Department of Environmental Conservation with respect to the protection of air, land, and water quality, in AS 46.40.040(b) are incorporated into the program and, as administered by that department, constitute the exclusive components of the program with respect to those purposes.

The Liberty project will significantly reduce or avoid environmental impacts by use of existing Endicott infrastructure. The potential impacts of the project with respect to air, land and water quality and the mitigation of those impacts are detailed in the Liberty Project Environmental Impact Assessment (April 2007). A waste management plan, which includes details on waste minimization is contained in the Liberty Development Project Development and Production Plan (April 2007) – see Section 10. Environmental mitigation features of the Liberty Project related to air, land and water quality include (as examples):

No surface disposal of drilling wastes – Liberty drilling wastes will be backhauled to Prudhoe Bay for treatment and disposal well injection at the Drill Site 4 facility.

Use of the Endicott infrastructure significantly reduces the project footprint (land use) compared with alternatives considered for a new drilling pad on the shore of Foggy Island Bay.

Use of natural gas to power the drilling rig significantly reduces air emissions.

BPXA is applying for the following ADEC permit approvals/certifications and issuance of those permits provides consistency with the ACMP:Air quality control permit (drilling rig and Endicott power upgrade)

Sec. 401 Water Quality Certification (Sec. 404 permit)

Oil Discharge Prevention and Contingency Plan (amendment to the Badami and Endicott ODPCP)

11 AAC 112.320 HISTORIC, PREHISTORIC, AND ARCHAEOLOGICAL RESOURCES

- (a) The department will designate areas of the coastal zone that are important to the study; understanding, or illustration of national, state, or local history or prehistory, including natural processes.*
- (b) A project within an area designated under (a) of this section shall comply with the applicable requirements of AS 41.35.010 - 41.35.240 and 11 AAC 16.010 - 11 AAC 16.900.*

This project will occur within an existing industrial area. However archaeological and cultural resources clearance surveys will be completed for this project including onshore areas (ice road locations and mine site).

NSB COASTAL MANAGEMENT PROGRAM (NSBCMP) ENFORCEABLE POLICIES

NSBCMP Policy 2.4.3 Standards for Development

NSBCMP Policy 2.4.3 (a)

When extensive adverse impacts to a subsistence resource are likely and cannot be avoided or mitigated, development shall not deplete subsistence resources below the subsistence needs of local residents of the borough.

Intent: The impacts addressed in this policy may result from a single project or from a series of projects. To implement this policy, the NSB would need to establish:

1. *Documentation of subsistence needs.*
2. *A preponderance of the evidence indicating that the project will deplete a subsistence resource below the level necessary to meet those needs.*

None of the activities associated with construction and operation of the Liberty facilities should have adverse impacts on subsistence resources. As a result of locating the Liberty facilities in an existing industrial area and use of the existing Endicott infrastructure, subsistence resources should not be depleted and the project should not interfere with the ability of North Slope Borough residents to gain access to subsistence resources.

NSBCMP Policy 2.4.3 (b)

Offshore drilling and other development within the area of bowhead whale migration during the migration seasons shall not significantly interfere with subsistence activities nor jeopardize the continued availability of whales for subsistence purposes.

Intent: The area of the bowhead whale migration will be determined annually on the basis of best scientific information available, including that provided by the North Slope Borough and National Marine Fisheries Service monitoring programs. With respect to seismic exploration, the policy will be implemented by prohibiting seismic exploration in the vicinity of migrating whales when the exploration is likely to significantly interfere with subsistence activities or to jeopardize the continued availability of whales for subsistence purposes.

Liberty will be developed through use of the existing Endicott infrastructure and expansion of the SDI which is located in 4-10 feet of water inside the Barrier Islands. Endicott and all of the Liberty facilities are located about 7-10 miles south of the main migration corridor for bowhead whales. In addition, the Liberty drilling activity that will occur from the Endicott SDI is located about 12 miles southeast of Cross Island, the main hunting camp for the Nuiqsut whalers. Because of the distances of the Liberty facilities from the whale migration corridor and from Cross Island, no impacts to subsistence activities or to subsistence resources are anticipated to result from the Liberty development project.

The Liberty project currently envisages a single sealift in 2013 of the *LoSalTM*

module and other equipment to the Endicott MPI. This sealift will likely be scheduled in August prior to the fall subsistence whaling season depending upon ice and weather conditions. Should the sealift be delayed into the whaling season, this activity will be coordinated with the whalers through a Conflict Avoidance Agreement or other communication process. Also, the sealift could be routed, if necessary, inshore of the main migration path of the bowhead whale and Nuiqsut subsistence whaling activities to the extent allowed by safe navigation, weather and ice conditions. The base case for transportation of the new drilling rig to the North Slope is by truck. However, there is an option to consider sealift of the rig to Endicott.

NSBCMP Policy 2.4.3 (c)

Development on barrier islands and in the marine and estuarine waters within 3 miles of the passes of Kasegaluk Lagoon intensively used by beluga whales shall not significantly interfere with subsistence use of beluga whales; shall not cause the whales to be displaced from these passes; and shall not jeopardize the continued use of these passes and lagoon system by beluga whales. The passes intensively utilized by beluga whales are Kukpowruk Pass, Akunik Pass, Utukok Pass, Icy Cape Pass, and Alokiakatat Pass (see Map 11 of the NSB Resource Atlas).

Not applicable. This enforceable policy is applicable to regions outside the project area.

NSBCMP Policy 2.4.3 (d)

Development shall not preclude reasonable subsistence user access to a subsistence resource.

Intent: The intent of this policy is to ensure that development will not preclude reasonable subsistence user access to a subsistence resource on which they depend. "Reasonable access" is access using means generally available to subsistence users. Reasonable opportunities for access to customary subsistence resources must not be precluded. "Precluding access" addresses not only means of access, but access to areas where resources are present and can be used by subsistence users.

Policy 2.4.3.(e) [sic] should be distinguished from Policy 2.4.5.1(b). Policy 2.4.3.(e) [sic] requires that access to a subsistence resource not be precluded. Policy 2.4.5.1(b) applies when access is diminished or restricted. Policy 2.4.5.1(b) provides that access to subsistence resources be restricted only when there are no feasible and prudent alternatives. This is intended to discourage restrictions on subsistence, but it does not absolutely prohibit such restrictions.

The Liberty Project will be developed in an existing industrial area, not typically an area of significant subsistence activities. BPXA's decision to expand Endicott SDI and use existing transportation and utility routes and uERD should minimize effects on subsistence user access to subsistence resources.

NSBCMP Policy 2.4.3 (e)

Development which is likely to disturb cultural or historic sites listed on the National Register of Historic Places; sites eligible for inclusion in the National Register; or sites identified as important to the study, understanding, or illustration of national, state, or local history or prehistory shall 1) be required to avoid the sites; or 2) be required to consult with appropriate local, state and federal agencies and survey and excavate the site prior to disturbance. (Descriptions of sites identified to date are contained in Appendix C of the North Slope Borough Coastal Management Program Background Report and referenced on Map 2 of the NSB Resource Atlas).

No effects to cultural or historic sites are expected from the proposed activities. An archeological/cultural clearance of the proposed Liberty facilities (ice roads, mine site, expanded SDI), will be conducted and will be supported by field work if necessary.

NSBCMP Policy 2.4.3 (f)

Development shall not significantly interfere with traditional activities at cultural or historic sites identified in the coastal management program.

No effects to cultural or historic sites are expected from the proposed activities. An archeological and cultural resources survey will be conducted at the new mine site location. Sites will be avoided.

NSBCMP Policy 2.4.3 (g)

Development shall not cause surface disturbance of newly discovered historic or cultural sites prior to archaeological investigation.

An archeological and cultural and resources field survey will be completed for this project prior to construction.

NSBCMP Policy 2.4.3 (h)

Development shall comply with state or federal land, air and water quality standards or regulations.

BPXA will apply for state and federal land, air and water quality permits and is mandated to comply with those permit conditions and other environmental laws and regulations. A list of permits required for the project is provided in Section 1 of the Liberty Development Project Development and Production Plan (April 2007). The Liberty Project is included in BPXA's Environmental Management System which is designed along with training programs and dedicated field Health, Safety and Environment (HSE) personnel to implement compliance with state and federal land, air, and water quality standards. Compliance with state and federal land, air and water quality standards will be demonstrated by federal, state and NSB approvals of the project and implementation of an environmental management system (EMS) and field HSE monitoring. The project was designed to minimize waste generation, minimize air emissions, and have zero surface discharges of drilling wastes. As described in Section

10.3 of the Liberty Development Project Development and Production Plan (April 2007), all wastes will be transported to existing North Slope facilities, over existing roads.

NSBCMP Policy 2.4.4 Required Features for Applicable Development

NSBCMP Policy 2.4.4 (a)

Vehicles, vessels, and aircraft that are likely to cause significant disturbance must avoid areas where species that are sensitive to noise or movement are concentrated at times when such species are concentrated. Concentrations may be seasonal or year-round and may be due to behavior (e.g., flocks or herds) or limited habitat (e.g., polar bear denning, seal haul-outs). Horizontal and vertical buffers will be required where appropriate. Concern for human safety will be given special consideration when applying this policy.

The Liberty Project will be developed from the existing Endicott infrastructure. The existing road system will provide access to Liberty facilities throughout the project. Vehicles used during construction should not disturb concentrated species, sensitive to noise because the gravel haul will be conducted in winter. Road traffic during the drilling phase will consider wildlife disturbance issues. No regularly scheduled helicopter access to the Liberty area is required as the project is road accessible. Significant marine traffic is not required to support Liberty construction and operation (see response to 2.4.3.b). No significant impacts on caribou or molting birds are expected from routine onshore operations. Gravel mining and haul operations, placement of gravel to expand the SDI and installation of slope protection (the major project construction activities) will occur in a single winter season when most wildlife species are absent from the area. Standard BPXA policies will be adhered to regarding wildlife interaction and avoidance. See Section 4 of the *Liberty Development Project Development and Production Plan* (April 2007).

NSBCMP Policy 2.4.4 (b)

Offshore structures must be able to withstand geophysical hazards and forces, which may occur while at the drill site. Design criteria must be based on actual measurements or conservative estimates of geophysical forces. In addition, structures must have monitoring programs and safety systems capable of securing wells in case unexpected geophysical hazards or forces are encountered.

The project is not located in a known designated natural hazard area. The project will be sited in an existing industrial area - the Endicott development. The Endicott development was designed to accommodate natural hazards including winds, waves (including storm surge), and ice movement utilizing, in exposed areas, a slope protection system comprising concrete mats and gravel bags. This slope protection system has proven very successful in its 20 years of operation. The expansion of the SDI will employ a sheet pile wall slope protection system, which has also proven successful in Arctic applications. The expanded SDI including the slope protection system was designed by engineers with arctic engineering experience. BPXA completed bathymetric surveys, geotechnical borings and oceanographic modelling as part of the design of the expanded SDI. Additional bathymetric surveys will be conducted during summer 2007.

Over 100 wells have been drilled from Endicott and no shallow hazards were identified in the vicinity of the Endicott Satellite Drilling Island (SDI). See Section 3.3 of the Liberty Development Project Development and Production Plan (April 2007).

Provisions for well capping, well control response and an emergency countermeasures plan will be discussed in detail in the Oil Discharge Prevention and Contingency Plan (amendment to the Endicott/Badami Oil Discharge Prevention and Contingency Plan)

NSBCMP Policy 2.4.4 (c)

Development resulting in water or airborne emissions must comply with all state and federal regulations.

BPXA is mandated to comply with federal and state permits issued for the project and environmental laws and regulations as noted in the response to NSBCMP Policy 2.4.3 (h) (above). The Liberty Project was designed to minimize water or airborne emissions and will have zero discharges of drilling wastes. See Section 10.2 of the Liberty *Development* Project Development and Production Plan (April 2007).

The drilling rig will be powered by natural gas, thus significantly reducing air emissions compared with older (and smaller) North Slope drilling rigs. A list of permits required for the Liberty Project is provided in Section 1 of the Liberty Project Development and Production Plan (April 2007).

NSBCMP Policy 2.4.4 (d)

Industrial and commercial development must be served by solid waste disposal facilities, which meet state and federal regulations.

BPXA will use existing permitted solid waste disposal facilities.

NSBCMP Policy 2.4.4 (e)

Development not on a central sewage system is required to impound and process effluent to state and federal quality standards.

Sewage sludge generated from camp operations will be backhauled to existing North Slope facilities for treatment and disposal. See Sections Sections 10.2 and 10.3 of the Liberty Development Project Development and Production Plan (April 2007).

NSBCMP Policy 2.4.4 (f)

Plans for offshore drilling activities are required to include a relief well drilling plan and an emergency countermeasure plan. The relief well drilling plan must identify suitable alternative drilling rigs and their location; identify alternative relief well drilling sites; identify support equipment and supplies including muds; casing, and gravel supplies which could be used in an emergency; and specify the estimated time required to commence drilling and complete a relief well. The emergency countermeasures plan must identify the steps which

will be taken to protect human life and minimize environmental damage in the event of 1) loss of a drilling rig; 2) ice override; or 3) loss or disablement of support craft or other transportation systems.

All drilling activities will occur from the expanded Endicott SDI, which is connected to roads in Prudhoe Bay and with the Dalton Highway via the existing Endicott road system. The Liberty project amendment to the existing Badami and Endicott/*Badami* Oil Discharge Prevention and Contingency Plan submission to the Alaska Department of Environmental Conservation (ADEC) and the Minerals Management Service (MMS) for review and approval will contain information on response to well control incidents (well surface blowout scenario). Under ADEC requirements, Best Available Technology (BAT) for a blowout is well capping, not relief well drilling.

NSBCMP Policy 2.4.4 (g)

Offshore drilling operations and offshore petroleum storage and transportation facilities are required to have an oil spill control and clean-up plan. The plan must contain a risk analysis indicating where oil spills are likely to flow under various sets of local meteorological or oceanographic conditions. Impact areas must be identified and strategies fully developed to protect environmentally sensitive areas; the spill control and clean-up equipment, which is available to the operator and the response time required to deploy this equipment under the various scenarios, must be contained in the risk analysis.

Intent: Policies 2.4.4.(f) and 2.4.4.(g) are not intended to establish new regulations for offshore facilities. They restate and highlight requirements of existing regulations. Industry will not be required to go to considerable additional effort as a result of these policies.

The Liberty Project will comply with NSB Policy 2.4.4 (g). As noted in our response to NSBCMP Policy 2.4.4 (f), the amendment to the Endicott/Badami Oil Discharge Prevention and Contingency Plan to cover the Liberty Project will provide the information required by this policy.

NSBCMP Policy 2.4.4 (h)

Offshore oil transport systems (e.g., pipelines) must be specially designed to withstand geophysical hazards, specifically sea ice.

NSB Policy 2.4.4 (h) is not applicable to the Liberty Project. BPXA elected to drill uERD wells from the SDI by expanding the Endicott SDI to support Liberty Drilling. Production from the Liberty project will be transported by the existing Endicott production flowline system from the Endicott SDI to the MPI for processing and via the Endicott oil sales line to Pump Station No. 1 of TAPS. See Section 8.1 of the Liberty Development Project Development and Production Plan (April 2007).

NSBCMP Policy 2.4.4 (i)

All causeways are required to be sited and designed to allow free passage of fish, marine mammals, and molting birds with due consideration for migration patterns; to prevent

changes in water circulation patterns that would have significant adverse impacts on fish and wildlife; and to ensure adequate sediment transport.

NSB Policy 2.4.4 (g) is not applicable to the Liberty Project. The Liberty development does not include construction of new causeways and will not alter the existing Endicott causeway.

NSBCMP Policy 2.4.4 (j)

Residential development associated with industrial and resource extraction development must be removed and the area rehabilitated to standards consistent with the coastal management program when the industrial or extractive use is completed, unless removal is more environmentally harmful than nonremoval.

Residential development is not planned for this project. Existing or temporary housing *may* be used for project personnel. The Liberty facilities will be abandoned and rehabilitated in conformance with applicable state, federal and North Slope Borough requirements (lease terms, permit conditions etc.) as described in Section 13 of the Liberty Project Development and Production Plan (April 2007). The wells will be abandoned in accordance with North Slope operations practices and in compliance with Alaska Oil and Gas Conservation Commission (AOGCC) and MMS regulations. The Liberty mine site will be rehabilitated according to the Mining and Rehabilitation Plan submitted with the material sales contract application to DNR *and to the U.S. Army Corps of Engineers*.

NSBCMP Policy 2.4.4 (k)

Impermeable lining and diking is required for fuel storage facilities with a capacity greater than 660 gallons.

No fuel storage specific to Liberty will involve tankage greater than 660 gallons.

NSBCMP Policy 2.4.5 *Best Effort Policies*

All development must comply with each of the policies set out in sections 2.4.5.1 and 2.4.5.2 unless 1) the following criteria have been established; or 2) the policy is not applicable to the development.

- (1) *There is a significant public need for the proposed use and activity; and*
- (2) *The development has rigorously explored and objectively evaluated all feasible and prudent alternatives to the proposed use or activity and cannot comply with the policy. When alternatives are eliminated from consideration, the reasons for their elimination shall be briefly documented by the developer.*

The proposed Liberty development will provide economic benefits to the residents of the North Slope Borough through additional taxes and the programs they support. As discussed in other responses, BPXA elected to develop Liberty from an existing facility thus avoiding or

minimizing potential impacts of an offshore development involving a production island and sub-sea pipeline.

NSBCMP Policy 2.4.5.1

Development of the following categories or types will be allowed only if the development has met the criteria under 2.4.5 above, and the developer has taken all feasible and prudent steps to avoid the adverse impacts the policy was intended to prevent.

- (a) *Development that will likely result in significantly decreased productivity of subsistence resources of their ecosystems.*

The Liberty Project will be developed from the existing Endicott infrastructure. Further, the footprint of the project will be significantly reduced from an offshore project located along Foggy Island Bay, to an approximate 20 acre expansion (to sea bottom) of the Endicott SDI and new 63acre mine site (18 acres excavated area). As a result, impacts on subsistence resources and their ecosystems have been avoided.

- (b) *Development which restricts subsistence user access to a subsistence resource.*

Subsistence hunter access will not be restricted. Further, the project is not located in an area of significant subsistence activities.

- (c) *Development activities from June 15 to July 31 that will likely displace beluga whales from Kasegaluk Lagoon. These development activities may include, but are not limited to, extensive barge or boat traffic; low altitude or frequent plane and helicopter traffic; and other activities resulting in excessive noise or other forms of disturbance.*

Not applicable. The project area is not near the Kasegaluk Lagoon.

- (d) *Development on or near a shoreline that has the potential of adversely impacting water quality (e.g., landfills, or hazardous material storage areas, dumps, etc.). (Near, as used in the phrase "near the shoreline," is defined as that area within a 1,500 foot setback from the mean high water mark along the coast, lakeshore, or river).*

Not applicable. The Liberty Project does not involve the installation of landfills or hazardous material storage areas, dumps etc. near the shoreline. Drilling materials (mud, chemicals, etc.) will be stored on the SDI during the drilling phase but drilling wastes will be backhauled to the Prudhoe Bay Drill Site 4 Grind and Injection facility for disposal.

- (e) *Public highway development, except for village roads and streets and highways indicated in the state and/or local capital improvements program.*

Not applicable, no public highways will be developed in conjunction with this project.

- (f) *Transportation development, including pipelines, which significantly obstructs wildlife migration.*

Not applicable to this project. The existing road system will provide access to Liberty facilities throughout the project life. The two new *elevated* pipelines will be routed along the existing Endicott gravel causeway between the MPI and SDI parallel to the existing pipelines. The existing Endicott sales oil line will be used to transport Liberty production to Pump Station No. 1. of TAPS from the Endicott MPI. See Section 4.4 and 8.1 of the Liberty Development Project Development and Production Plan (April 2007).

- (g) *Development to accommodate large scale movement of crude oil or natural gas via marine tankers.*

Intent: The intent of this policy is to limit development to accommodate large scale movement of crude oil or natural gas via marine tankers to instances where no feasible and prudent alternatives exist; recognizing that development of marine tanker facilities is a use of state concern.

Not applicable to this project.

- (h) *Duplicative transportation corridors from resource extraction sites.*

Not applicable to this project. The source of gravel for the expansion of SDI is a new mine site adjacent to the existing Duck Island Mine Site. The gravel extraction and hauling will take place in a single winter season and will utilize ice roads between the mine site and the SDI. Liberty production after processing at the MPI will be transported via the existing Endicott oil sales line to Pump Station No. 1 of TAPS.

- (i) *Mining of beaches, barrier islands or offshore shoals. In those circumstances where no feasible and prudent alternatives exist, substantial alteration of shoreline dynamics is prohibited.*

Not applicable to this project.

- (j) *Placement of structures in floodplains subject to a 50-year recurrence level and in geologic hazard areas as identified on the following coastal management maps in the NSB Resource Atlas: Map 6 - Areas of moderate and severe ridging and historic ice override. Map 7 and 22 - Areas of moderate and severe ice ridging.*

BPXA is considering the constructing a new Sagavanirktok River Bridge in the Sagavanirktok River floodplain to accommodate increased traffic and vehicular loads. However a new bridge will be designed to withstand a 100-year flood recurrence.

Please note that Maps 6 and 7 of the NSB Resource Atlas apply to the Point Hope/Point Lay Region. Map 22 applies to the Mid-Beaufort Region but maps the area of the Endicott SDI as “Generally ridge free”.

NSBCMP Policy 2.4.5.2

The following are required of applicable development except where the development has met the criteria of 2.4.5 above, and the developer has taken all feasible and prudent steps to maximize conformance with the policy.

NSBCMP Policy 2.4.5.2 (a)

Mining (including sand and gravel extraction) in the coastal area shall be evaluated with respect to type of extraction operation, location, possible mitigation measures, and season so as to lessen, to the maximum extent practicable, environmental degradation of coastal lands and waters (e.g., siltation of anadromous rivers and streams).

The source of gravel for the SDI expansion is a new mine site adjacent to the existing Duck Island Mine Site inland from the coast. Snow clearance and removal of unusable overburden will take place in January 2009. The gravel mining and hauling activities will take place during a single winter season and will be in accordance with an approved Mining and Rehabilitation Plan submitted to DNR. See Section 2.1.2 of the Liberty Development Project Development and Production Plan (April 2007) and the *Liberty Gravel Mining and Rehabilitation Plan*.

NSBCMP Policy 2.4.5.2 (b)

Development is required to be located, designed, and maintained in a manner that prevents significant adverse impacts on fish and wildlife and their habitat, including water circulation and drainage patterns and coastal processes.

BPXA’s decision to expand Endicott SDI and use existing transportation and utility routes for the Liberty Development project will minimize adverse impacts on fish and wildlife resources. The winter schedule for *the major construction activities (gravel mining, SDI expansion)* will also minimize potential impacts to fish and wildlife resources. See Section 10.1 of the Liberty Development Project Development and Production Plan (April 2007).

NSBCMP Policy 2.4.5.2 (c)

Resource extraction support facilities, including administration offices, operations, residences, and other uses not absolutely required in the field, must be located in a designated service base which is sited, designed, constructed, and maintained to be as compact as possible and to share facilities to the maximum extent possible.

Liberty will mainly utilize existing support facilities located on Endicott MPI, Prudhoe Bay, and in Anchorage.

NSBCMP Policy 2.4.5.2 (d)

Gravel extraction activities within floodplains shall maintain buffers between active channels and the work area, avoid instream work, permanent channel shifts and ponding of water, clearing of riparian vegetation, and disturbance to natural banks.

The gravel mine development site adjacent to the Duck Island mine site is not located in an active channel and there will be no instream work. The mine site is on a partially vegetated gravel bench and mining will occur in the winter months. The Liberty Mining and Rehabilitation Plan was developed in consultation with the state and federal agencies. Gravel will be removed from an area of approximately 18 acres, with the primary excavation area developed as a single cell. The mining plan will minimize disturbance to riparian vegetation and disturbance of natural banks. See Section 9.2.2 of the Liberty Project Development and Production Plan (April 2007) and the Liberty Gravel Mining and Rehabilitation Plan.

NSBCMP Policy 2.4.5.2 (e)

New subdivisions or other residential development must provide state-approved water and sewer service to prevent damage to fish and wildlife and their habitat.

Not applicable to this project.

NSBCMP Policy 2.4.5.2 (f)

Transportation facilities and utilities must be consolidated to the maximum extent possible.

BPXA's decision to utilize the *Endicott infrastructure* and use existing transportation and utility routes for the *Liberty Project* consolidates transportation facilities and utilities to the maximum extent possible.

NSBCMP Policy 2.4.5.2 (g)

Development within the ACMP-defined coastal habitats must be conducted in accordance with ACMP Standard 6 AAC 80.130(b), (c), and (d), and applicable policies of the North Slope Borough Coastal Management Program. These habitats include the following:

1. *offshore areas;*
2. *estuaries;*
3. *wetlands and tideflats;*
4. *rocky Islands and seacliffs;*
5. *barrier Islands and lagoons;*
6. *exposed high-energy coasts;*
7. *rivers, streams and lakes; and*
8. *important upland habitat.*

The Habitats standard, 11 AAC 112.300 (formerly 6 AAC 80.130(b)(c) and (d), discussion addresses this policy. Other NSB enforceable policies related to habitat include NSBCMP 2.4.5.2(b), 2.4.6(c) and 2.4.6(e). The decision to pursue use of uERD and utilize the existing

infrastructure at Endicott with support from existing facilities in Prudhoe Bay significantly mitigated the potential environmental impacts *from an offshore development in the OCS* related to the Boulder Patch, marine mammals, and concerns of the North Slope Inupiat communities related to the bowhead whale and subsistence whaling. The decision to use uERD and existing infrastructure at Endicott further mitigates impacts by avoiding construction of a pad on the shoreline of Foggy Island Bay and an access road and pipelines crossing the Sagavanirktok River delta. See Section 10.1 of the Liberty Development Project Development and Production Plan (April 2007).

NSBCMP Policy 2.4.5.2 (h)

Development is required to be located, designed, and maintained in a manner that does not interfere with the use of a site that is important for significant cultural uses or essential for transportation to subsistence use areas.

The Liberty project will not interfere with sites that are important for significant cultural uses or essential transportation to subsistence use. As noted above, the Liberty Project area is not located in an area of high subsistence use or transit to subsistence sites or cultural sites.

NSBCMP Policy 2.4.6 *Minimization of Negative Impacts*

Applicable development is required to minimize its impact as follows:

NSBCMP Policy 2.4.6 (a)

Development associated with purely recreational uses of land and wildlife habitat (i.e., commercial hunting and fishing camps and recreational second-home subdivisions) shall minimize adverse impacts on subsistence activities.

This policy is not applicable to the Liberty Development Project.

NSBCMP Policy 2.4.6 (b)

Siting, design, construction, and maintenance of transportation and utility facilities (including the ice roads) are required to minimize alteration of shorelines, water courses, wetlands, tidal marshes, and significant disturbance to important habitat and to avoid critical fish migration periods.

The Liberty Project maximizes use of existing transportation and utility facilities through use of the Endicott infrastructure. The expansion of the SDI does not involve alteration of the above noted coastal habitats.

NSBCMP Policy 2.4.6 (c)

Development is required to maintain the natural permafrost insulation quality of existing soils and vegetation.

The SDI expansion that will be used to support the Liberty project *should* maintain natural (*subsea*) permafrost conditions *except there may be local thaw around the well conductors*. A geotechnical boring program was conducted to assess foundation conditions for the design of the Endicott SDI expansion.

NSBCMP Policy 2.4.6 (d)

Airports and helicopter pads are required to be sited, designed, constructed, and operated in a manner that minimizes their impact upon wildlife.

This project will use existing gravel road infrastructure and will supplement with ice roads *for construction*. The project will utilize the existing airport at Deadhorse for aviation support.

NSBCMP Policy 2.4.6 (e)

A means of providing for unimpeded wildlife crossing shall be included in the design and construction of structures such as roads and pipelines that are located in areas used by wildlife. Pipeline design shall be based on the best available information and include adequate pipeline elevation, ramping, or burial to minimize disruptions of migratory patterns and other major movements of wildlife. Aboveground pipelines shall be elevated a minimum of 5 feet from the ground to the bottom of the pipe, except at those points where the pipeline intersects a road, pad, or caribou ramp, or is constructed within 100 feet of an existing pipeline that is elevated less than 5 feet. Temporary pipelines (not to exceed 6 months) are exempt from this policy.

Intent: In areas used by wildlife, this policy establishes a five-foot minimum pipeline elevation where elevation is the preferred means of providing for unimpeded wildlife crossings. Best available information will be evaluated during project review to determine if pipeline burial, ramping, elevation, or a combination thereof, will be employed.

No new permanent roads are required for this project *except for a short access road to the mine site from the Endicott Road*. The routing of the proposed 10-inch diameter LoSal™ water injection pipeline and 6-inch-diameter gas-lift pipeline will be along the existing Endicott gravel causeway between the SDI and MPI and adjacent to the existing pipelines. The inter-island causeway is not a path for wildlife migration such as caribou.

NSBCMP Policy 2.4.6 (f)

Development in floodplains, shoreline areas, and offshore areas is required to be sited, designed, and constructed to minimize loss of life or property due to riverine flooding, icings, streambank erosion, oceanic storms, sea waves, ice gouging and override, and shore erosion.

This development will occur from the expanded Endicott SDI. In accordance with the Department of Army Permit for the Endicott Development Project issued on January 29, 1985, BPXA developed a shoreline protection plan for the Endicott production facility to control erosion along the shoreline. As described in the Liberty Project Development and Production Plan (April 2007), the expanded Endicott SDI has been designed for wave action, storm surges and ice forces utilizing a sheet pile slope protection system on the exposed northern and

eastern sides of the SDI expansion. The SDI is located in very shallow water (4 - 10 feet) in the land fast ice zone. The potential *new* bridge across the Sagavanirktok River has been designed for flooding events (100-year recurrence) and ice impacts (for example, ice breaking piers will be located in line and upstream of the new bridge piers).

NSBCMP Policy 2.4.6 (g)

Seismic exploration must be conducted in a manner that minimizes its impact on fish and wildlife.

A seismic survey may be conducted in 2008 to provide information for designing the uERD wells and depletion planning. Information on minimizing impacts to fish and wildlife will be included in permit applications for that project.