

APPENDIX F

ALTERNATIVE D STIPULATIONS AND REQUIRED OPERATING PROCEDURES

Definitions

The following definitions in the context of this document, apply to general lease stipulations and site specific lease stipulations (K-Lease stipulations) and Required Operating Procedures (ROPs):

Active Floodplain: The lowland and relatively flat areas adjoining inland and coastal waters, including the flood-prone areas of offshore islands, composing, at a minimum, that area subject to a 1% or greater chance of flooding in any given year (also referred to as the 100-year or base floodplain).

Authorized Officer (AO): A position of authority for approval of various activities through delegation from the Secretary of the Interior. Currently, the designated AOs in the State of Alaska for leasing, surface use, and permitting are 1) State Director, 2) Manager of the Fairbanks District Office in Fairbanks, and 3) Deputy State Director, Division of Energy and Solid Minerals.

Body of Water or Water body: A lake, river, stream, creek, or pond that holds water throughout the summer and supports a minimum of aquatic life.

Buffer: A zone extending outward or inward from the periphery of a “protected” feature for a specified distance. Activities and development may be prohibited or limited by type or time within the buffer dependent on the goal associated with applying the buffer.

Consultation: Consultation, as it is referenced in the lease stipulations, does not infer formal consultation as required under other legal mandates such as “Section 7 Consultation” under the ESA. Rather, consultation implies that the BLM or the Lessee/Permittee will contact other agencies or entities to either inform them of potential actions and/or to seek input on noted topics. This includes informal contacts, and written, electronic, and/or verbal communication.

Development Activities: Any activity associated with construction and operation of facilities or equipment post exploration.

Field: The term used to describe the area containing surface infrastructure above one or more subsurface reservoirs. In this sense, “field” is analogous to “a Unit participating area or collection of participating areas.” The infrastructure in the field includes, but is not limited to, drilling and production pads, service roads, perhaps an airstrip, and processing and support facilities. Field infrastructure may be used in the development and production of several oil/gas accumulations in different subsurface reservoirs. Fields typically have a primary reservoir that supports initial development in addition to satellite reservoirs that are developed later and tie into the main facilities. Although oil and gas reservoirs may vary greatly in subsurface depth

and other geologic characteristics, because they are located in the same geographic area it is more efficient to coordinate and share the necessary surface infrastructure. Fields may or may not be connected by permanent roads to adjacent fields or transportation facilities outside the field area.

In-field Roads: “In-field roads” are a component of the potential “footprint” of permanent oil and gas facilities. BLM defines “in-field roads” as gravel roads utilized by industry to conduct operational activities associated with development and production activities. The actual length/width and construction details of any gravel used for roads will be required as a component of any permit application for permanent facilities.

Lease Stipulation: Mitigation developed through BLM planning process/NEPA process that is specifically attached to any lease issued in the Northeast Planning Area.

Restricted Surface Occupancy: No permanent oil and gas facilities, except pipelines and in some cases roads, will be allowed.

Permanent Oil and Gas Facilities: Permanent Facilities include production facilities, pipelines, roads, airstrips, production pads, docks and other bottom-founded structures, seawater-treatment plants, and other structures associated with an oil and gas operation that occupy land for more than one winter season; also included are material sites such as sand and gravel, and “temporary platforms” if those platforms are used for production rather than exploration. Exploration wellheads and seasonal facilities such as ice roads and ice pads are excluded, even when the pads are designed for use in successive winters. This definition does not include over-summering ice pads for exploration purposes.

Required Operating Procedure: Mitigation developed through the BLM planning process/NEPA process that is not attached to the oil and gas lease but is required, implemented and enforced at the operational level for all authorized (not just oil and gas) activities in the Planning Area.

Compliance with Required Operating Procedures: Required Operating Procedures were developed with various mechanisms in place to ensure compliance. These mechanisms include the following:

- 1) Some ROPs are pre-application requirements; therefore compliance will precede approval of the proposed activity. For example, ROP H-1 a. requires consultation with affected communities prior to submission of an application for relevant activities within the Northeast Planning Area. If consultation has not taken place, the application will be rejected or will be considered incomplete until such time that the consultation has occurred.
- 2) Other ROPs are required design features, and will have to be incorporated into the applicant’s proposal. As an integral part of the proposal and the authorization, the requirement does not need to be stipulated to be enforceable. For example, a minimum pipeline height of 7 feet for above ground pipelines is a required design of any approved above ground pipeline (ROP E-7). Since the authorization (a ROW in this case) authorizes a pipeline with a minimum height of 7 feet, anything less (unless specifically approved through additional NEPA analysis and the permit) is not in compliance and enforcement actions may be taken even if the permit does not specify a minimum of 7 feet.

- 3) Other ROPs will become conditions of approval on post oil and gas lease land use authorizations and they will be enforceable. For example, ROP C-1 prohibits heavy equipment used for cross-country moves within ½ mile of occupied grizzly bear dens.

Site Specific Lease Stipulation (K-Stipulations): A mitigation measure developed through the BLM planning process/NEPA process attached only to leases issued within spatially defined areas in the Northeast Planning Area (See Map 1).

Temporary Platform: A facility that does not require the use of an ice or gravel pad to support oil and gas and related exploration activities. An example of a temporary platform recently used on the North Slope is Anadarko Petroleum's Arctic Drilling Platform used for the company's Hot Ice Project during the winters of 2003-2004. The facility consisted of a series of platform modules joined together and supported above the tundra surface on steel legs. Once the project was completed the platform was disassembled and the support legs were removed, leaving the tundra surface undisturbed. Note: A temporary platform that is used for production, as opposed to exploration, would be considered a permanent oil and gas facility and be subject to the restrictions on placement of such structures.

Applicability of Requirements/Standards

All surface disturbing activities such as exploratory drilling, road/pipeline construction, seismic acquisition, and overland moves require additional authorization(s) issued subsequent to leasing. The stipulations and ROPs require that certain protections of resources and uses be achieved. Requirements and standards listed with the stipulations and ROPs represent BLM's current understanding of how lessees/permittees would achieve the objectives of the stipulation or ROP.

A lessee/permittee may propose a deviation from the requirements/standards of stipulations and ROPs as part of an authorization application. Prior to approving an alternative procedure as part of the authorization, BLM's staff would analyze the proposal and determine if the proposal incorporating the alternative procedure would achieve the objectives of the stipulations and ROPs. If the BLM determines that the alternative procedure proposed by the applicant would meet the stipulation's or ROP's objective, BLM could approve the alternative procedure.

If BLM determines that the alternative procedure proposed by the applicant is unlikely to meet the objectives of a stipulation or ROP, the AO may allow a deviation from the objectives and requirement/standard in a new decision document supported by additional NEPA analysis.

The BLM could independently require different actions than those listed under requirements/standards. If, after experience or additional study, BLM concludes that a requirement/standard is not achieving or is unlikely to achieve the protective objective when applied to a specific future on-the-ground action or would not do so as well as the use of recently proven technology or techniques, BLM could at the permitting stage and under the terms of the stipulation or ROP, impose other restrictions to meet the objective.

Stipulations and Required Operating Procedures

Waste Prevention, Handling, Disposal, Spills and Public Safety:

A-1 Required Operating Procedure

Objective: Protect the health and safety of oil field workers and the general public by disposing of solid waste and garbage in accordance with applicable Federal, state, and local law and regulations.

Requirement/Standard: Areas of operation shall be left clean of all debris.

A-2 Required Operating Procedure

Objective: Minimize impacts on the environment from non-hazardous and hazardous waste generation. Encourage continuous environmental improvement. Protect the health and safety of oil field workers and the general public. Avoid human-caused changes in predator populations.

Requirement/Standard: Lessees/permittees shall prepare and implement a comprehensive waste management plan for all phases of exploration and development, including seismic activities. The plan shall be submitted to the AO for approval, in consultation with Federal, state, and NSB regulatory and resource agencies, as appropriate (based on agency legal authority and jurisdictional responsibility), as part of a plan of operations or other similar permit application. Management decisions affecting waste generation shall be addressed in the following order of priority: 1) Prevention and reduction, 2) recycling, 3) treatment, and 4) disposal. The plan shall consider and take into account the following requirements:

- a) Methods to avoid attracting wildlife to food and garbage. All feasible precautions shall be taken to avoid attracting wildlife to food and garbage. (A list of approved precautions, specific to the type of permitted use, can be obtained from the AO.)
- b) Disposal of putrescible waste. Requirements prohibit the burial of garbage. Lessees and permitted users shall have a written procedure to ensure that the handling and disposal of putrescible waste will be accomplished in a manner that prevents the attraction of wildlife. All putrescible waste shall be incinerated, backhauled, or composted in a manner approved by the AO. All solid waste, including incinerator ash, shall be disposed of in an approved waste-disposal facility in accordance with USEPA and ADEC regulations and procedures. The burial of human waste is prohibited except as authorized by the AO.
- c) Disposal of pumpable waste products. Except as specifically provided, the BLM requires that all pumpable solid, liquid, and sludge waste be disposed of by injection in accordance with USEPA, ADEC, and the Alaska Oil and Gas Conservation Commission regulations and procedures. On-pad temporary muds and cuttings storage, as approved by ADEC, will be allowed as necessary to facilitate annular injection and/or backhaul operations.
- d) Disposal of wastewater and domestic wastewater. The BLM prohibits wastewater discharges or disposal of domestic wastewater into bodies of fresh, estuarine, and marine water, including wetlands, unless authorized by a NPDES or state permit.

A-3 Required Operating Procedure

Objective: Minimize pollution through effective hazardous-materials contingency planning.

Requirement/Standard: For oil- and gas-related activities, a Hazardous Materials Emergency Contingency Plan shall be prepared and implemented before transportation, storage, or use of fuel or hazardous substances. The plan shall include a set of procedures to ensure prompt response, notification, and cleanup in the event of a hazardous substance spill or threat of a release. Procedures applicable to fuel and hazardous substances handling (associated with transportation vehicles) shall consist of Best Management Practices (BMPs) if approved by the AO. The plan shall include a list of resources available for response (e.g., heavy-equipment

operators, spill-cleanup materials or companies), and names and phone numbers of Federal, state, and NSB contacts. Other Federal and state regulations may apply and require additional planning requirements. All appropriate staff shall be instructed regarding these procedures. In addition contingency plans related to facilities developed for oil production shall include requirements to:

- a) provide refresher spill-response training to NSB and local community spill-response teams on a yearly basis,
- b) plan and conduct a major spill-response field-deployment drill annually,
- c) prior to production and as required by law, develop spill prevention and response contingency plans and participate in development and maintenance of the North Slope Subarea Contingency Plan for Oil and Hazardous Substances Discharges/Releases for the National Petroleum Reserve - Alaska operating area. Planning shall include development and funding of detailed (e.g., 1:26,000 scale) environmental sensitivity index maps for the lessee's operating area and areas outside the lessee's operating area that could be affected by their activities. (The specific area to be mapped shall be defined in the lease agreement and approved by the AO in consultation with appropriate resource agencies). Maps shall be completed in paper copy and geographic information system format in conformance with the latest version of the U.S. Department of Commerce, National Oceanic and Atmospheric Administration's Environmental Sensitivity Index Guidelines. Draft and final products shall be peer reviewed and approved by the AO in consultation with appropriate Federal, state, and NSB resource and regulatory agencies.

A-4 Required Operating Procedure

Objective: Minimize the impact of contaminants on fish, wildlife, and the environment, including wetlands, marshes and marine waters, as a result of fuel, crude oil, and other liquid chemical spills. Protect subsistence resources and subsistence activities. Protect public health and safety.

Requirement/Standard: Before initiating any oil and gas or related activity or operation, including field research/surveys and/or seismic operations, lessees/permittees shall develop a comprehensive spill prevention and response contingency plan per 40 CFR § 112 (Oil Pollution Act). The plan shall consider and take into account the following requirements:

- a) **On-site Clean-up Materials.** Sufficient oil-spill-cleanup materials (absorbents, containment devices, etc...) shall be stored at all fueling points and vehicle-maintenance areas and shall be carried by field crews on all overland moves, seismic work trains, and similar overland moves by heavy equipment.
- b) **Storage Containers.** Fuel and other petroleum products and other liquid chemicals shall be stored in proper containers at approved locations. Except during overland moves and seismic operations, fuel, other petroleum products, and other liquid chemicals designated by the AO that in total exceed 1,320 gallons shall be stored within an impermeable lined and diked area or within approved alternate storage containers, such as over packs, capable of containing 110% of the stored volume. In areas within 500 feet of water bodies, fuel containers are to be stored within appropriate containment.
- c) **Liner Materials.** Liner material shall be compatible with the stored product and capable of remaining impermeable during typical weather extremes expected throughout the storage period.
- d) **Permanent Fueling Stations.** Permanent fueling stations shall be lined or have impermeable protection to prevent fuel migration to the environment from overfills and spills.
- e) **Proper Identification of Containers.** All fuel containers, including barrels and propane tanks, shall be marked with the responsible party's name, product type, and year filled or purchased.

f) Notice of Reportable Spills. Notice of any reportable spill (as required by 40 CFR § 300.125 and 18 AAC § 75.300) shall be given to the AO as soon as possible, but no later than 24 hours after occurrence.

g) Identification of Oil Pans (“duck ponds”). All oil pans shall be marked with the responsible party’s name.

A-5 Required Operating Procedure

Objective: Minimize the impact of contaminants from refueling operations on fish, wildlife and the environment.

Requirement/Standard: Refueling of equipment within 500 feet of the active floodplain of any water body is prohibited. Fuel storage stations shall be located at least 500 feet from any water body with the exception of small caches (up to 210 gallons) for motor boats, float planes, ski planes, and small equipment, e.g. portable generators and water pumps, will be permitted. The AO may allow storage and operations at areas closer than the stated distances if properly designed to account for local hydrologic conditions.

A-6 Required Operating Procedure

Objective: Minimize the impact on fish, wildlife, and the environment from contaminants associated with the exploratory drilling process.

Requirement/Standard: Surface discharge of reserve-pit fluids is prohibited.

A-7 Required Operating Procedure

Objective: Minimize the impacts to the environment of disposal of produced fluids recovered during the development phase on fish, wildlife, and the environment.

Requirement/Standard: Discharge of produced water in upland areas and marine waters is prohibited.

A-8 Required Operating Procedure

Objective: Minimize conflicts resulting from interaction between humans and bears during leasing and associated activities.

Requirement: Oil and gas lessees and their contractors and subcontractors will, as a part of preparation of lease operation planning, prepare and implement bear-interaction plans to minimize conflicts between bears and humans. These plans shall include measures to:

- a) Minimize attraction of bears to the drill sites.
- b) Organize layout of buildings and work areas to minimize human/bear interactions.
- c) Warn personnel of bears near or on drill sites and identify proper procedures to be followed.
- d) Establish procedures, if authorized, to discourage bears from approaching the drill site.
- e) Provide contingencies in the event bears do not leave the site or cannot be discouraged by authorized personnel.
- f) Discuss proper storage and disposal of materials that may be toxic to bears.
- g) Provide a systematic record of bears on the site and in the immediate area.
- h) Encourage lessee/permittee to participate and comply with the Incidental Take Program under the Marine Mammal Protection Act.

Water Use for Permitted Activities:

B-1 Required Operating Procedure

Objective: Maintain populations of, and adequate habitat for, fish and invertebrates.

Requirement/Standard: Water withdrawal from rivers and streams during winter is prohibited.

B-2 Required Operating Procedure

Objective: Maintain natural hydrologic regimes in soils surrounding lakes and ponds, and maintain populations of, and adequate habitat for, fish and invertebrates, and waterfowl.

Requirement/Standard: Water withdrawal from lakes may be authorized on a site-specific basis depending on water volume, and depth, and fish population and species diversification. Current water withdrawal requirements specify:

- a) Lakes that are ≥ 7 feet with sensitive fish (any fish except ninespine stickleback or Alaska blackfish), water available for withdrawal is limited to 15% of calculated volume deeper than 7 feet; lakes that are between 5 and 7 feet with sensitive fish, water available for withdrawal would be calculated on a case by case basis.
- b) Lakes that are ≥ 5 feet with only non-sensitive fish (i.e., ninespine stickleback or Alaska blackfish), water available for withdrawal is limited to 30% of calculated volume deeper than 5 feet.
- c) Any lake with no fish present, regardless of depth, water available for withdrawal is up to 35% as specified within the permit.
- d) A water-monitoring plan may be required to assess draw down and water quality changes before, during, and after pumping any fish-bearing lake or lake of special concern.
- e) The removal of naturally grounded ice may be authorized from lakes and shallow rivers on a site-specific basis depending upon its size, water volume, and depth, and fish population and species diversification.
- f) Removed ice aggregate shall be included in the 15% or 30% withdrawal limits—whichever is the appropriate case—unless otherwise approved.
- g) Any water intake structures in fish bearing or non-fish bearing waters shall be designed, operated, and maintained to prevent fish entrapment, entrainment, or injury. Note: All water withdrawal equipment must be equipped and must utilize fish screening devices approved by the Alaska Department of Natural Resources (ADNR).
- h) Compaction of snow cover or snow removal from fish-bearing water bodies shall be prohibited except at approved ice road crossings, water pumping stations on lakes, or areas of grounded ice.

The following lease stipulations and ROPs apply to overland moves, seismic work, and any similar cross-country vehicle use of heavy equipment on non-roaded surfaces during the winter season. These restrictions do not apply to the use of such equipment on ice roads after they are constructed.

Winter Overland Moves and Seismic Work:***C-1 Required Operating Procedure***

Objective: Protect grizzly bear, polar bear, and marine mammal denning and/or birthing locations.

Requirement/Standard:

- a) Cross-country use of heavy equipment and seismic activities is prohibited within $\frac{1}{2}$ mile of occupied grizzly bear dens identified by the ADFG unless alternative protective measures are approved by the AO in consultation with the ADFG.
- b) Cross-country use of heavy equipment and seismic activities is prohibited within 1 mile of known or observed polar bear dens or seal birthing lairs. Operators shall consult with the USFWS and/or NOAA Fisheries, as appropriate, before initiating activities in coastal habitat between October 30 and April 15.

C-2 Required Operating Procedure

Objective: Protect stream banks, minimize compaction of soils, and minimize the breakage, abrasion, compaction, or displacement of vegetation.

Requirement/Standard:

- a) Ground operations shall be allowed only when frost and snow cover are at sufficient depths to protect the tundra. Ground operations shall cease when the spring snowmelt begins (approximately May 5 in the foothills area where elevations reach or exceed 500 feet and approximately May 15 in the northern coastal areas). The exact dates will be determined by the AO.
- b) Only low-ground-pressure vehicles shall be used for on-the-ground activities off ice roads or pads. A list of approved vehicles can be obtained from the AO. Limited use of tractors equipped with wide tracks or “shoes” will be allowed to pull trailers, sleighs or other equipment with approved undercarriage. Note: This provision does not include the use of heavy equipment such as front-end loaders and similar equipment required during ice road construction.
- c) Bulldozing of tundra mat and vegetation, trails, or seismic lines is prohibited; however, on existing trails, seismic lines or camps, clearing of drifted snow is allowed to the extent that the tundra mat is not disturbed.
- d) To reduce the possibility of ruts, vehicles shall avoid using the same trails for multiple trips unless necessitated by serious safety or superseding environmental concern. This provision does not apply to hardened snow trails for use by low-ground-pressure vehicles such as Rolligons.
- e) The location of winter ice roads shall be designed and located to minimize compaction of soils and the breakage, abrasion, compaction, or displacement of vegetation. Offsets may be required to avoid using the same route or track in the subsequent year.
- f.) Motorized ground-vehicle use within the CRSA associated with overland moves, seismic work, and any similar use of heavy equipment shall be minimized within the Colville River Raptor, Passerine, and Moose Area from April 15 through August 5, with the exception that use will be minimized in the vicinity of gyrfalcon nests beginning March 15. Such use will remain ½ mile away from known raptor nesting sites, unless authorized by the AO.

C-3 Required Operating Procedure

Objective: Maintain natural spring runoff patterns and fish passage, avoid flooding, prevent streambed sedimentation and scour, protect water quality and protect stream banks.

Requirement/Standard: Crossing of waterway courses shall be made using a low-angle approach. Snow and ice bridges shall be removed, breached, or slotted before spring breakup. Ramps and bridges shall be substantially free of soil and debris. Except at approved crossings, operators are encouraged to travel a minimum of 100 feet from known overwintering fish streams and lakes.

C-4 Required Operating Procedure

Objective: Avoid additional freeze-down of deep-water pools harboring over-wintering fish and invertebrates used by fish.

Requirement/Standard: Travel up and down streambeds is prohibited unless it can be demonstrated that there will be no additional impacts from such travel to over-wintering fish or the invertebrates they rely on. Rivers and streams shall be crossed at shallow riffles from point bar to point bar whenever possible.

Oil and Gas Exploratory Drilling:

D-1 Lease Stipulation

Objectives: Protect fish-bearing rivers, streams, and lakes from blowouts and minimize alteration of riparian habitat.

Requirement/Standard: Exploratory drilling is prohibited in rivers and streams, as determined by the active floodplain, and fish-bearing lakes.

D-2 Lease Stipulation

Objective: Minimize surface impacts from exploratory drilling.

Requirement/Standard: Construction of permanent or gravel oil and gas facilities shall be prohibited for exploratory drilling. Use of a previously constructed road or pad may be permitted if it is environmentally preferred.

Facility Design and Construction:

E-1 Required Operating Procedure

Objective: Protect subsistence use and access to traditional subsistence hunting and fishing areas and minimize the impact of oil and gas activities on air, land, water, fish and wildlife resources.

Requirement/Standard: All roads must be designed, constructed, maintained, and operated to create minimal environmental impacts and to protect subsistence use and access to traditional subsistence hunting and fishing areas. The AO will consult with appropriate Federal, state, and NSB regulatory and resources agencies prior to approving construction of roads. Subject to approval by the AO, the construction, operation and maintenance of oil field roads is the responsibility of the lessee unless the construction, operation, and maintenance of roads are assumed by the appropriate governing entity.

E-2 Lease Stipulation

Objective: Protect fish-bearing water bodies, water quality, and aquatic habitats.

Requirement/Standard: Permanent oil and gas facilities, including roads, airstrips, and pipelines, are prohibited upon or within 500 feet as measured from the ordinary high water mark. Essential pipeline and road crossings will be permitted on a case-by-case basis. Note: Also refer to Area-Specific Stipulations and ROPs for Rivers Area (Lease Stipulation K-1) and Deep Water Lakes (Lease Stipulation K-2).

Construction camps are prohibited on frozen lakes and river ice. Siting of construction camps on river sand and gravel bars is allowed and, where feasible, encouraged. Where leveling of trailers or modules is required and the surface has a vegetative mat, leveling shall be accomplished through blocking rather than use of a bulldozer.

E-3 Lease Stipulation

Objective: Maintain free passage of marine and anadromous fish and protect subsistence use and access to traditional subsistence hunting and fishing.

Requirement/Standard: Causeways and docks are prohibited in river mouths or deltas. Artificial gravel islands and bottom-founded structures are prohibited in river mouths or active stream channels on river deltas. Causeways, docks, artificial islands, and bottom-founded drilling structures shall be designed to ensure free passage of marine and anadromous fish and to prevent significant changes to nearshore oceanographic circulation patterns and water quality characteristics. A monitoring program, developed in consultation with appropriate Federal,

state, and NSB regulatory and resource agencies, shall be required to address the objectives of water quality and free passage of fish.

E-4 Required Operating Procedure

Objective: Minimize the potential for pipeline leaks, the resulting environmental damage and industrial accidents.

Requirement/Standard: All pipelines shall be designed, constructed, and operated under an AO-approved Quality Assurance/Quality Control plan that is specific to the product transported and shall be constructed to accommodate the best available technology for detecting and preventing corrosion or mechanical defects during routine structural integrity inspections.

E-5 Required Operating Procedure

Objective: Minimize impacts of the development footprint.

Requirement/Standard: Facilities shall be designed and located to minimize the development footprint to the maximum extent practicable considering environmental, economic, safety, and social impacts. Issues and methods that are to be considered include: a) use of maximum feasible extended-reach drilling for production drilling to minimize the number of pads and the network of roads between pads; b) sharing facilities with existing development when prudent and technically feasible; c) collocation of all oil and gas facilities, except airstrips, docks, and seawater-treatment plants, with drill pads; d) integration of airstrips with roads; e) use of gravel-reduction technologies, e.g., insulated or pile-supported pads. Note: Where aircraft traffic is a concern, consideration shall be given to balancing gravel pad size and available supply storage capacity with potential reductions in the use of aircraft to support oil and gas operations.

E-6 Required Operating Procedure

Objective: Reduce the potential for ice-jam flooding, impacts to wetlands and floodplains, erosion, alteration of natural drainage patterns, and restriction of fish passage.

Requirement/Standard: Stream and marsh crossings shall be designed and constructed to ensure free passage of fish, reduce erosion, maintain natural drainage, and minimize adverse effects to natural stream flow. Note: Bridges, rather than culverts, are the preferred method for crossing rivers. When necessary, culverts can be constructed on smaller streams, if they are large enough to avoid restricting fish passage or adversely affecting natural stream flow.

E-7 Required Operating Procedure

Objective: Minimize disruption of caribou movement and subsistence use.

Requirement/Standard: Pipelines and roads shall be designed to allow the free movement of caribou and the safe, unimpeded passage of the public while participating in traditional subsistence activities. Listed below are the accepted design practices:

- a. Above ground pipelines shall be elevated a minimum of 7 feet as measured from the ground to the bottom of the pipeline at vertical support members.
- b. In areas where facilities or terrain may funnel caribou movement, ramps over pipelines, buried pipelines, or pipelines buried under roads may be required by the AO after consultation with Federal, state, and NSB regulatory and resource agencies (as appropriate, based on agency legal authority and jurisdictional responsibility).
- c. A minimum distance of 500 feet between pipelines and roads shall be maintained. Separating roads from pipelines may not be feasible within narrow land corridors between lakes and where pipelines and roads converge on a drill pad. Where it is not feasible to separate pipelines and roads, alternative pipeline routes, designs and possible burial within the road will be considered by the AO.

E-8 Required Operating Procedure

Objective: Minimize the impact of mineral materials mining activities on air, land, water, fish, and wildlife resources.

Requirement/Standard: Gravel mine site design and reclamation will be in accordance with a plan approved by the AO. The plan shall be developed in consultation with appropriate Federal, state, and NSB regulatory and resource agencies and consider:

- a. Locations outside the active flood plain.
- b. Design and construction of gravel mine sites within active flood plains to serve as water reservoirs for future use.
- c. Potential use of the site for enhancing fish and wildlife habitat.

E-9 Required Operating Procedure

Objective: Avoidance of human-caused increases in populations of predators of ground nesting birds.

Requirement/Standard:

- a. Lessee shall utilize best available technology to prevent facilities from providing nesting, denning, or shelter sites for ravens, raptors, and foxes. The lessee shall provide the AO with an annual report on the use of oil and gas facilities by ravens, raptors and foxes as nesting, denning, and shelter sites.
- b. Feeding of wildlife is prohibited and will be subject to non-compliance regulations.

E-10 Required Operating Procedure

Objective: Prevention of migrating waterfowl, including species listed under the Endangered Species Act, from striking oil and gas and related facilities during low light conditions.

Requirement/Standard: Except for safety lighting, illumination of higher structures shall be designed to direct artificial exterior lighting inward and downward, rather than upward and outward. All drilling structures, production facilities, and other structures that exceed 20 feet in height shall be illuminated as outlined above.

E-11 Required Operating Procedure

Objective: Minimize the take of species listed under the Endangered Species Act and minimize the disturbance of other species of interest from direct or indirect interaction with oil and gas facilities.

Requirement/Standard: In accordance with the guidance below, before the approval of facility construction, aerial surveys of the following species shall be conducted within any area proposed for development.

Special Conditions in Spectacled and/or Steller's Eiders Habitats:

- a. Surveys shall be conducted by the lessee for at least 3 years before authorization of construction, if such construction is within the USFWS North Slope eider survey area and at least 1 year outside that area. Results of aerial surveys and habitat mapping may require additional ground nest surveys. Spectacled and/or Steller's eider surveys shall be conducted following accepted BLM-protocol during the second week of June.
- b. If spectacled and/or Steller's eiders are determined to be present within the proposed development area, the applicant shall consult with the USFWS and BLM in the design and placement of roads and facilities in order to minimize impacts to nesting and brood-rearing eiders and their preferred habitats. Such consultation shall address timing restrictions and other temporary mitigating measures, construction of permanent facilities, placement of fill, alteration of eider habitat, aircraft operations, and introduction of high noise levels.
- c. To reduce the possibility of spectacled and/or Steller's eiders striking above ground utility lines (power and communication), such lines shall either be buried in access roads, or suspended on vertical support members, to the extent practicable. Support wires associated

with communication towers, radio antennas, and other similar facilities, shall be clearly marked along their entire length to improve visibility for low flying birds. Such markings shall be jointly developed through consultation with the USFWS. Overhead power and/or communication lines for oil and gas activities will be limited to the following circumstances.

1. Overhead power or communication lines may be allowed when located entirely within the boundaries of a facility pad;
2. Overhead power or communication lines may be allowed when engineering constraints at the specific location make it unfeasible to bury or connect them to a vertical support member, or
3. Overhead power or communication lines may be allowed when human safety would be compromised by other methods. (Note: Unlike the case with the first two circumstances listed immediately above, this circumstance may justify overhead power or communications lines over a larger portion of the Planning Area).

Special Conditions in Yellow-billed Loon Habitats:

- a. Aerial surveys shall be conducted by the lessee for at least 3 years before authorization of construction of facilities proposed for development which are within 1 mile of a lake 25 acres or larger in size. These surveys along shorelines of large lakes shall be conducted following accepted BLM protocol during nesting in late June and during brood rearing in late August.
- b. Should yellow-billed loons be present, the design and location of facilities must be such that disturbance is minimized. The default standard mitigation is a 1-mile buffer around all recorded nest sites and a minimum 1,625-foot (500-meter) buffer around the remainder of the shoreline. Development will generally be prohibited within buffers unless no other option exists.

E-12 Required Operating Procedure

Objective: Use ecological mapping as a tool to assess wildlife habitat before development of permanent facilities, to conserve important habitat types during development.

Requirement/Standard: An ecological land classification map of the development area shall be developed before approval of facility construction. The map will integrate geomorphology, surface form, and vegetation at a scale, level of resolution, and level of positional accuracy adequate for detailed analysis of development alternatives. The map shall be prepared in time to plan one season of ground-based wildlife surveys, if deemed necessary by the AO, before approval of the exact facility location and facility construction.

E-13 Required Operating Procedure

Objective: Protect cultural and paleontological resources.

Requirement/Standard: Lessees shall conduct a cultural and paleontological resources survey prior to any ground-disturbing activity. Upon finding any potential cultural or paleontological resource, the lessee or their designated representative shall notify the AO and suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the AO.

Use of Aircraft for Permitted Activities:

F-1 Required Operating Procedure

Objective: Minimize the effects of low-flying aircraft on wildlife, traditional subsistence activities, and local communities.

Requirement/Standard: The lessee shall ensure that aircraft used for permitted activities maintain altitudes according to the following guidelines (Note: This ROP is not intended to restrict flights necessary to survey wildlife to gain information necessary to meet the stated

objective of the stipulations and ROPs. However, flights necessary to gain this information will be restricted to the minimum necessary to collect such data):

- a) Aircraft shall maintain an altitude of at least 1,500 feet above ground level (AGL) when within ½ mile of cliffs identified as raptor nesting sites from April 15 through August 15 and within ½ mile of known gyrfalcon nest sites from March 15 to August 15, unless doing so would endanger human life or violate safe flying practices. Permittees shall obtain information from the BLM necessary to plan flight routes when routes may go near falcon nests.
- b) Aircraft shall maintain an altitude of at least 1,000 feet AGL (except for takeoffs and landings) over caribou winter ranges from December 1 through May 1, unless doing so would endanger human life or violate safe flying practices. Caribou wintering areas will be defined annually by the AO. The AO will consult directly with the Alaska Department of Fish and Game in annually defining caribou winter ranges.
- c) Land user shall submit an aircraft use plan as part of an oil and gas exploration or development proposal. The plan shall address strategies to minimize impacts to subsistence hunting and associated activities, including but not limited to the number of flights, type of aircraft, and flight altitudes and routes, and shall also include a plan to monitor flights. Proposed aircraft use plans should be reviewed by appropriate Federal, State, and Borough agencies. Consultations with these same agencies will be required if unacceptable disturbance is identified by subsistence users. Adjustments, including possible suspension of all flights, may be required by the AO if resulting disturbance is determined to be unacceptable. The number of takeoffs and landings to support oil and gas operations with necessary materials and supplies should be limited to the maximum extent possible. During the design of proposed oil and gas facilities, larger landing strips and storage areas should be considered so as to allow larger aircraft to be employed, resulting in fewer flights to the facility.
- d) Use of aircraft, especially rotary wing aircraft, near known subsistence camps and cabins or during sensitive subsistence hunting periods (spring goose hunting and fall caribou and moose hunting) should be kept to a minimum.
- e) Aircraft used for permitted activities shall maintain an altitude of at least 2,000 feet AGL (except for takeoffs and landings) over the Teshekpuk Lake Caribou Habitat Area (Map 2-4) from May 20 through August 20, unless doing so would endanger human life or violate safe flying practices. Aircraft use (including fixed wing and helicopter) by oil and gas lessees in the Goose Molting Area (Map 2-5) should be minimized from May 20 through August 20, unless doing so would endanger human life or violate safe flying practices.

Oil Field Abandonment:

G-1 Lease Stipulation

Objective: Ensure the final disposition of the land meets the current and future needs of the public.

Requirement/Standard: Upon abandonment or expiration of the lease, all oil- and gas-related facilities shall be removed and sites rehabilitated to as near the original condition as practicable, subject to the review of the AO. The AO may determine that it is in the best interest of the public to retain some or all facilities. Within the Goose Molting Area, the AO, when determining if it is in the best interest of the public to retain a facility, will consider the impacts of retention to molting geese and goose molting habitat.

Subsistence Consultation for Permitted Activities:

H-1 Required Operating Procedure

Objective: Provide opportunities for participation in planning and decision making to prevent unreasonable conflicts between subsistence uses and oil and gas and related activities.

Requirement/Standard: Lessee/permittee shall consult directly with affected communities using the following guidelines:

a) Before submitting an application to the BLM, the applicant shall consult with directly affected subsistence communities, the NSB, and the National Petroleum Reserve - Alaska Subsistence Advisory Panel to discuss the siting, timing and methods of their proposed operations to help discover local traditional and scientific knowledge, resulting in measures that minimize impacts to subsistence uses. Through this consultation, the applicant shall make every reasonable effort, including such mechanisms as conflict avoidance agreements and mitigating measures, to ensure that proposed activities will not result in unreasonable interference with subsistence activities.

b) The applicant shall submit documentation of consultation efforts as part of its operations plan. Applicants should submit the proposed plan of operations to provide an adequate time for review and comment by the National Petroleum Reserve - Alaska Subsistence Advisory Panel and to allow time for formal Government-to-Government consultation with Native Tribal governments. The applicant shall submit documentation of its consultation efforts and a written plan that shows how its activities, in combination with other activities in the area, will be scheduled and located to prevent unreasonable conflicts with subsistence activities. Operations plans must include a discussion of the potential effects of the proposed operation, and the proposed operation in combination with other existing or reasonably foreseeable operations.

c) A subsistence plan addressing the following items must be submitted:

1. A detailed description of the activity(ies) to take place (including the use of aircraft).
2. A description of how the lessee/permittee will minimize and/or deal with any potential impacts identified by the AO during the consultation process.
3. A detailed description of the monitoring effort to take place, including process, procedures, personnel involved and points of contact both at the work site and in the local community.
4. Communication elements to provide information on how the applicant will keep potentially affected individuals and communities up-to-date on the progress of the activities and locations of possible, short-term conflicts (if any) with subsistence activities. Communication methods could include holding community meetings, open house meetings, workshops, newsletters, radio and television announcements, etc.
5. Procedures necessary to facilitate access by subsistence users to conduct their activities.

In the event that no agreement is reached between the parties, the AO shall consult with the directly involved parties and determine which activities will occur, including the timeframes. During development, monitoring plans must be established for new permanent facilities, including pipelines, to assess an appropriate range of potential effects on resources and subsistence as determined on a case-by-case basis given the nature and location of the facilities. The scope, intensity, and duration of such plans will be established in consultation with the AO and Subsistence Advisory Panel.

Permittees that propose barging facilities, equipment, supplies, or other materials to NPR-A in support of oil and gas activities in the planning area shall notify, confer, and coordinate with the Alaska Eskimo Whaling Commission, the appropriate local community whaling captains' associations, and the NSB to minimize impacts from the proposed barging on subsistence whaling activities.

H-2 Required Operating Procedure

Objective: Prevent unreasonable conflicts between subsistence activities and geophysical (seismic) exploration.

Requirement/Standard: In addition to the consultation process described in ROP H-1 for permitted activities, before applying for permits to conduct geophysical (seismic) exploration, the applicant shall 1) consult with local communities and residents and 2) notify the local Search and Rescue organizations of current and recent seismic surveys. For the purpose of this standard, a potentially affected cabin/campsite is defined as any camp or campsite within the boundary of the area subject to proposed geophysical exploration and/or within 1 mile of actual or planned travel routes used to supply the seismic operations while it is in operation.

- Because of the large land area covered by typical geophysical operations and the potential to impact a large number of subsistence users during the exploration season, the permittee/operator will notify in writing all potentially affected long-term cabin and camp users.
- The official recognized list of cabin and campsite users is the NSB's 2001 (or most current) inventory of cabins and campsites.
- A copy of the notification letter and a list of potentially affected users shall also be provided to the office of the appropriate Native Tribal government.
- The AO will prohibit seismic work within 1 mile of any known, long-term, cabin or campsite unless an alternate agreement between the cabin/campsite owner/user is reached through the consultation process and presented to the AO. (Regardless of the consultation outcome, the AO will prohibit wintertime seismic work within 300 feet of a known long-term cabin or campsite.)
- The permittee shall notify the appropriate local Search and Rescue (e.g., Nuiqsut Search and Rescue, Atqasuk Search and Rescue) of their current operational location within the NPR-A on a weekly basis. This notification should include a map indicating the current extent of surface use and occupation, as well as areas previously used/occupied during the course of the operation in progress. The purpose of this notification is to allow hunters up-to-date information regarding where seismic exploration is occurring, and has occurred, so that they can plan their hunting trips and access routes accordingly. Identification of the appropriate Search and Rescue offices to be contacted can be obtained from the NPR-A Subsistence Advisory Panel.

Orientation Programs Associated with Permitted Activities:***I-1 Required Operating Procedure***

Objective: Minimize cultural and resource conflicts.

Requirement/Standard: All personnel involved in oil and gas and related activities shall be provided information concerning applicable stipulations, ROPs, standards, and specific types of environmental, social, traditional, and cultural concerns that relate to the region. The lessee/permittee shall ensure that all personnel involved in permitted activities shall attend an orientation program at least once a year. The proposed orientation program shall be submitted to the AO for review and approval and should:

- a. provide sufficient detail to notify personnel of applicable stipulations and ROPs as well as inform individuals working on the project of specific types of environmental, social, traditional and cultural concerns that relate to the region.
- b. Address the importance of not disturbing archaeological and biological resources and habitats, including endangered species, fisheries, bird colonies, and marine mammals, and provide guidance on how to avoid disturbance.

- c. Include guidance on the preparation, production, and distribution of information cards on endangered and/or threatened species.
- d. Be designed to increase sensitivity and understanding of personnel to community values, customs, and lifestyles in areas in which personnel will be operating.
- e. Include information concerning avoidance of conflicts with subsistence, commercial fishing activities, and pertinent mitigation.
- f. Include information for aircraft personnel concerning subsistence activities and areas/seasons that are particularly sensitive to disturbance by low-flying aircraft. Of special concern is aircraft use near traditional subsistence cabins and campsites, flights during spring goose hunting and fall caribou and moose hunting seasons, and flights near North Slope communities.
- g. Provide that individual training is transferable from one facility to another except for elements of the training specific to a particular site.
- h. Include on-site records of all personnel who attend the program for so long as the site is active, though not to exceed the 5 most recent years of operations. This record shall include the name and dates(s) of attendance of each attendee.
- i. Include a module discussing bear interaction plans to minimize conflicts between bears and humans.
- j. Provide a copy of 43 CFR 3163 regarding Non-Compliance Assessment and Penalties to on-site personnel.

Endangered Species Act—Section 7 Consultation Process:

J. The lease areas may now or hereafter contain plants, animals, or their habitats determined to be threatened, endangered, or to have some other special status. The BLM may recommend modifications to exploration and development proposals to further its conservation and management objective to avoid BLM-approved activities that will contribute to the need to list such a species or their habitat. The BLM may require modifications to or disapprove a proposed activity that is likely to result in jeopardy to the continued existence of a proposed or listed threatened or endangered species or result in the destruction or adverse modification of a designated or proposed critical habitat. The BLM will not approve any activity that may affect any such species or critical habitat until it completes its obligations under applicable requirements of the Endangered Species Act as amended, 16 USC § 1531 et seq., including completion of any required procedure for conference or consultation.

Lease Stipulations that Apply in Biologically Sensitive Areas:

K-1 Lease Stipulation - Rivers

Objective: Minimize the disruption of natural flow patterns and changes to water quality; the disruption of natural functions resulting from the loss or change to vegetative and physical characteristics of floodplain and riparian areas; the loss of spawning, rearing or over-wintering habitat for fish; the loss of cultural and paleontological resources; the loss of raptor habitat; impacts to subsistence cabin and campsites; the disruption of subsistence activities; and impacts to scenic and other resource values.

Requirement/Standard: Permanent oil and gas facilities, including gravel pads, roads, airstrips, and pipelines, are prohibited in the streambed and adjacent to the rivers listed below at the distances identified. (Gravel mines may be located within the active flood plain consistent with ROP E-8). With the exception of the Ikpiqpuq River, these setbacks are measured from the bank of the river as determined by the hydrology at the time of application. The standard

setback is ½ mile (from the bank's highest high water mark) and increased to ¾ mile (from the bank's highest high water mark) where subsistence cabin and campsites are numerous. Along the Colville River and a portion of the Ikpikpuk a 1-mile (from the bank's highest high water mark) setback is required to protect important raptor habitat (for locations along rivers where setback distances change). On a case-by case basis, and in consultation with Federal, state, and NSB regulatory and resource agencies (as appropriate, based on agency legal authority and jurisdictional responsibility), essential pipeline and road crossings to the main channel will be permitted through setback areas. The above setbacks may not be practical within river deltas. In these situations, permanent facilities shall be designed to withstand a 200-year flood event.

a) **Colville River:** a 1-mile setback from the boundary of NPR-A along the Colville River as determined by cadastral survey to be the highest high watermark on the left (western or northern) bank extending the length of that portion of the river located within the Planning Area. Note: The Planning Area excludes conveyed Native lands along the lower reaches of the Colville River. Development of road crossings intended to support oil and gas activities shall be consolidated with other similar projects and uses to the maximum extent possible. Note: This provision does not apply to intercommunity or other permanent roads constructed with public funds for general transportation purposes. This preserves the opportunity to plan, design, and construct public transportation systems to meet the economic, transportation, and public health and safety needs of the State of Alaska and/or communities within National Petroleum Reserve - Alaska.

b) **Ikpikpuk River:** a ¾-mile setback from each side of the centerline (1½ miles total) of the Ikpikpuk River extending from the mouth south to Sec. 19, T. 7 N., R. 11 W., U.M. (Umiat Meridian). From Sec. 19, T. 7 N., R. 11 W., U.M., to Sec. 4, T. 3 N., R. 12 W., U.M., a 1-mile setback is required. Beginning at Sec. 4, T. 3 N., R. 12 W., U.M., a ½-mile setback from the centerline (1 mile total) will be required to the confluence of the Kigalik River and Maybe Creek. Note: The setback distances only apply to the east bank where the Ikpikpuk River is the Planning Area boundary.

c) **Miguakiak River:** a ½-mile setback from the bank's highest high water mark.

d) **Kikiakrorak and Kogosukruk Rivers:** Note: The following discussion refers only to portions of the Kikiakrorak River downstream from T. 2 N., R. 4 W., U.M. and the Kogosukruk River (including the four tributaries off the southern bank) downstream from T. 2 N., R. 3 W., U.M.. No permanent oil and gas surface facilities, except essential transportation crossings, would be allowed within 1 mile of the top of the bluff (or bank if there is no bluff) on either side of the rivers and several of the Kogosukruk tributaries.

e) **Fish Creek:** No permanent oil and gas surface facilities, except essential transportation crossings, would be allowed within 3 miles (from the bank's highest high water mark) of the creek downstream from the eastern edge of Sec. 31, T. 11 N., R. 1 E., U.M. or within ½ mile (from the bank's highest high water mark) of the creek farther upstream.

f) **Judy Creek:** a ½-mile setback from the banks' highest high water mark extending from the mouth to the confluence of an unnamed tributary in Sec. 8, T8N., R.2W., Umiat Meridian.

g) **Tingmiaksiqvik River:** No permanent oil and gas surface facilities, except essential transportation crossings, would be allowed within ½ mile (from the bank's highest high water mark) of this river from its headwaters within Sec. 13, T. 7 N., R. 1 W., U.M. downstream to its confluence with Fish Creek.

K-2 Lease Stipulation—Deep Water Lakes

Objective: Minimize the disruption of natural flow patterns and changes to water quality; the disruption of natural functions resulting from the loss or change to vegetative and physical characteristics of deep water lakes; the loss of spawning, rearing or over wintering habitat for fish; the loss of cultural and paleontological resources; impacts to subsistence cabin and campsites; and the disruption of subsistence activities.

Requirement/Standard: Generally, permanent oil and gas facilities, including gravel pads, roads, airstrips, and pipelines, are prohibited on the lake or lakebed and within ¼ mile of the ordinary high water mark of any deep lake as determined to be in lake zone III (i.e., depth greater than 13 feet [4 meters]; Mellor 1985). On a case-by-case basis in consultation with Federal, State and NSB regulatory and resource agencies (as appropriate based on agency legal authority and jurisdictional responsibility), essential pipeline(s), road crossings, and other permanent facilities may be considered through the permitting process in these areas where the lessee can demonstrate on a site-specific basis that impacts will be minimal and if it is determined that there is no feasible or prudent alternative.

K-3 Stipulation - Teshekpuk Lake Shoreline

(Note: Teshekpuk Lake and islands within the lake (approximately 219,000 acres) will not be available for oil and gas leasing.)

Objective: Minimize the disruption of natural flow patterns and changes to water quality; the disruption of natural functions resulting from the loss or change to vegetative and physical characteristics of this large and regionally significant deep water lake; the loss of cultural and paleontological resources; impacts to subsistence cabins, campsites and associated activities; and to protect fish and wildlife habitat including important insect relief areas.

Requirement/Standard: Permanent oil and gas facilities, including gravel pads, roads, airstrips, and pipelines, are prohibited within ¼ mile of the ordinary high water mark of Teshekpuk Lake. (No alternative procedures will be approved.)

K-4 Lease Stipulation - Goose Molting Area

Objective: Minimize disturbance to molting geese and loss of goose molting habitat in and around lakes in the Goose Molting Area.

Requirement/Standard (General): Within the Goose Molting Area no permanent oil and gas facilities, except for pipelines will be allowed on the approximately 240,000 acres of lake buffers illustrated in lavender on Map 2-5. No alternative procedures will be considered. Prior to the permitting of a pipeline in the Goose Molting Area, a workshop will be convened to determine the best corridor for pipeline construction in efforts to minimize impacts to wildlife and subsistence resources. The workshop participants will include but will not be limited to Federal, State, and NSB representatives. In addition, only “In Field” roads will be authorized as part of oil and gas field development.

Requirement/Standard (Exploration): In goose molting habitat area exploratory drilling shall be limited to temporary facilities such as ice pads, ice roads, and ice airstrips, unless the lessee demonstrates that construction of permanent facilities (outside the identified Goose Molting Restricted Surface Occupancy Areas) such as gravel airstrips, storage pads, and connecting roads is environmentally preferable (Also see *Stipulation K-11* regarding allowable surface disturbance). In addition, the following standards will be followed for permitted activities:

- a) From June 15 through August 20 exploratory drilling and associated activities are prohibited. The intent of this rule is to restrict exploration drilling during the period when geese are present.
- b) Water extraction from any lake used by molting geese shall not alter hydrological conditions that could adversely affect identified goose-feeding habitat along lakeshore margins. Considerations will be given to seasonal use by operators (generally in winter) and geese (generally in summer), as well as recharge to lakes from the spring snowmelt.
- c) Oil and gas exploration activities will avoid alteration (e.g., damage or disturbance of soils, vegetation, or surface hydrology) of critical goose-feeding habitat types along lakeshore margins (grass/sedge/moss), as identified by the AO in consultation with the USFWS.

Requirement/Standard (Development): In Goose Molting Area, the following standards will be followed for permitted activities:

- a) Within the Goose Molting Area from June 15 through August 20, all off-pad activities and major construction activities using heavy equipment (e.g., sand/gravel extraction and transport, pipeline and pad construction, but not drilling from existing production pads) shall be suspended (see also Lease Stipulation K-5-d), unless approved by the AO in consultation with the appropriate Federal, State, and NSB regulatory and resource agencies. The intent of this requirement is to restrict activities that will disturb molting geese during the period when geese are present.
- b) Water extraction from any lakes used by molting geese shall not alter hydrological conditions that could adversely affect identified goose-feeding habitat along lakeshore margins. Considerations will be given to seasonal use by operators (generally in winter) and geese (generally in summer), as well as recharge to lakes from the spring snowmelt.
- c) Oil and gas activities will avoid altering (i.e., damage or disturbance of soils, vegetation, or surface hydrology) critical goose-feeding habitat types along lakeshore margins (grass/sedge/moss) and salt marsh habitats.
- d) Permanent oil and gas facilities (including gravel roads, pads, and airstrips, but excluding pipelines) and material sites will be sited outside the identified buffers and RSO areas. Additional limits on development footprint apply; (also see Lease Stipulation K-11.)
- e) Between June 15 and August, 20 within the Goose Molting Area, oil and gas facilities shall incorporate features (e.g., temporary fences, siting/orientation) that screen/shield human activity from view of any Goose Molting Area lake, as identified by the AO in consultation with appropriate Federal, State, and NSB regulatory and resource agencies.
- f) Strategies to minimize ground traffic shall be implemented from June 15 through August 20. These strategies may include limiting trips, use of convoys, different vehicle types, etc. to the extent practicable. The lessee shall submit with the development proposal a vehicle use plan that considers these and any other mitigation. The vehicle use plan shall also include a vehicle-use monitoring plan. Adjustments will be required by the AO if resulting disturbance is determined to be unacceptable.
- g) Within the Goose Molting Area aircraft use (including fixed wing and helicopter) shall be restricted from June 15 through August 20 unless doing so endangers human life or violates safe flying practices. Restrictions may include: 1) limiting flights to two round-trips/week, and 2) limiting flights to corridors established by the BLM after discussions with appropriate Federal, State, and NSB regulatory and resource agencies. The lessee shall submit with the development proposal an aircraft use plan that considers these and other mitigation. The aircraft use plan shall also include an aircraft monitoring plan. Adjustments, including perhaps suspension of all aircraft use, will be required by the AO if resulting disturbance is determined to be unacceptable. Note: This site-specific lease stipulation is not intended to restrict flights necessary to survey wildlife to gain information necessary to meet the stated objective of the stipulations and ROPs. However, flights necessary to gain this information will be restricted to the minimum necessary to collect such data.
- h) Any permit for development issued under this IAP/EIS will include a requirement for the lessee to conduct monitoring studies necessary to adequately determine consequences of development and any need for change to mitigations. Monitoring studies will be site- and development-specific within a set of over-arching guidelines developed by the BLM after conferring with appropriate Federal, State, NSB agencies. The study(s) will include the construction period and will continue for a minimum of 3 years after construction has been completed and production has begun. The monitoring studies will be a continuation of evaluating the effectiveness of the K-4 Lease Stipulation requirements in meeting the objective of K-4 and determine if any changes to the lease stipulation or any project specific mitigation(s) are necessary. If changes are determined to be necessary, the BLM, with the lessee and/or their representative, will conduct an assessment of the feasibility of altering development operation (e.g. reduced human activity, visibility barriers, noise abatement). Any

changes determined necessary will be implemented prior to authorization of any new construction.

K-5 Lease Stipulation - Teshekpuk Lake Caribou Habitat Area

Objective: Minimize disturbance and hindrance of caribou, or alteration of caribou movements through portions the Teshekpuk Lake Caribou Habitat Area that are essential for all season use, including calving and rearing, insect-relief, and migration.

Requirement/Standard: In the Teshekpuk Lake Caribou Habitat Area the following standards will be applied to permitted activities:

- a) Before authorization of construction of permanent facilities (limited as they may be by RSO areas established in other lease stipulations), the lessee shall design and implement and report a study of caribou movement unless an acceptable study(s) specific to the Teshekpuk Lake Caribou Herd (TLCH) has been completed within the last 10 years. The study shall include a minimum of four years of current data on the TLCH movements and the study design shall be approved by the AO in consultation with the appropriate Federal, State, and NSB wildlife and resource agencies. The study should provide information necessary to determine facility (including pipeline) design and location. Lessees may submit individual study proposals or they may combine with other lessees in the area to do a single, joint study for the entire TLCHA. Study data may be gathered concurrently with other activities as approved by the AO and in consultation with the appropriate Federal, State, and NSB wildlife and resource agencies. A final report of the study results will be prepared and submitted. Prior to the permitting of a pipeline in the TLCHA, a workshop will be convened to identify the best corridor for pipeline construction in efforts to minimize impacts to wildlife (specifically the TLCH) and subsistence resources. The workshop participants will include but will not be limited to Federal, State, and NSB representatives. All of these modifications will increase protection for caribou and other wildlife that utilize the TLCHA during all seasons.
- b) Within the TLCHA, lessees shall orient linear corridors when laying out oil field developments to the extent practicable, to address migration and corralling effects and to avoid loops of road and/or pipeline that connect facilities.
- c) Ramps over pipelines, buried pipelines, or pipelines buried under the road may be required by the AO, after consultation with appropriate Federal, State, and NSB regulatory and resource agencies, in the TLCHA where pipelines potentially impede caribou movement.
- d) Major construction activities using heavy equipment (e.g., sand/gravel extraction and transport, pipeline and pad construction, but not drilling from existing production pads) shall be suspended within TLCHA from May 20 through August 20, unless approved by the AO in consultation with the appropriate Federal, State, and NSB regulatory and resource agencies. The intent of this requirement is to restrict activities that will disturb caribou during calving and insect-relief periods. If caribou arrive on the calving grounds prior to May 20, major construction activities will be suspended. The lessee shall submit with the development proposal a “stop work” plan that considers this and any other mitigation related to caribou early arrival. The intent of this latter requirement is to provide flexibility to adapt to changing climate conditions that may occur during the life of fields in the region.
- e) The following ground and air traffic restrictions shall apply to permanent oil and gas-related roads in the areas and time periods indicated:
 1. Within the TLCHA, from May 20 through August 20, traffic speed shall not exceed 15 miles per hour when caribou are within ½ mile of the road. Additional strategies may include limiting trips, using convoys, using different vehicle types, etc., to the extent practicable. The lessee shall submit with the development proposal a vehicle use plan that considers these and any other mitigation. The vehicle use plan shall also include a vehicle-use monitoring plan. Adjustments will be required by the AO if resulting disturbance is determined to be unacceptable.

2. The lessee or a contractor shall observe caribou movement from May 20 through August 20, or earlier if caribou are present prior to May 20. Based on these observations, traffic will be stopped temporarily to allow a crossing by 10 or more caribou. Sections of road will be evacuated whenever an attempted crossing by a large number of caribou appears to be imminent. The lessee shall submit with the development proposal a vehicle use plan that considers these and any other mitigation. The vehicle use plan shall also include a vehicle-use monitoring plan. Adjustments will be required by the AO if resulting disturbance is determined to be unacceptable.
3. Major equipment, materials, and supplies to be used at oil and gas work sites in the TLCHA shall be stockpiled prior to or after the period of May 20 through August 20 to minimize road traffic during that period.
4. Within the TLCHA aircraft use (including fixed wing and helicopter) shall be restricted from May 20 through August 20 unless doing so endangers human life or violates safe flying practices. Restrictions may include prohibiting the use of aircraft larger than a Twin Otter by authorized users of the Planning Area, including oil and gas lessees, from May 20 through August 20 within the TLCHA, except for emergency purposes. The lessee shall submit with the development proposal an aircraft use plan that considers these and other mitigation. The aircraft use plan shall also include an aircraft monitoring plan. Adjustments, including perhaps suspension of all aircraft use, will be required by the AO if resulting disturbance is determined to be unacceptable. This lease stipulation is not intended to restrict flights necessary to survey wildlife to gain information necessary to meet the stated objective of the stipulations and ROPs. However, flights necessary to gain this information will be restricted to the minimum necessary to collect such data.
5. Within the TLCHA aircraft use (including fixed wing and helicopter) shall be restricted from May 20 through June 20 unless doing so endangers human life or violates safe flying practices. Restrictions may include limiting fixed-wing aircraft takeoffs and landings by authorized users of the Planning Area to an average of one round-trip flight per day from May 20 through June 20, at aircraft facilities within the TLCHAs. The lessee shall submit with the development proposal an aircraft use plan that considers these and other mitigation. The aircraft use plan shall also include an aircraft monitoring plan. Adjustments, including perhaps suspension of all aircraft use, will be required by the AO if resulting disturbance is determined to be unacceptable.
6. Aircraft shall maintain a minimum height of 1,000 feet AGL (except for takeoffs and landings) over caribou winter ranges from December 1 through May 1, and 2,000 feet AGL over the TLCHA from May 20 through August 20, unless doing so endangers human life or violates safe flying practices. Caribou wintering ranges will be defined annually by the AO in consultation with the Alaska Department of Fish and Game. This lease stipulation is not intended to restrict flights necessary to survey wildlife to gain information necessary to meet the stated objective of the stipulations and ROPs. However, flights necessary to gain this information will be restricted to the minimum necessary to collect such data.

K-6 Stipulation - Coastal Area

Objective: Minimize hindrance or alteration of caribou movement within caribou coastal insect-relief areas; to prevent contamination of marine waters; loss of important bird habitat; alteration or disturbance of shoreline marshes; and impacts to subsistence resources activities.

Requirement/Standard: In the Coastal Area, permanent oil and gas facilities, including gravel pads, roads, airstrips, and pipelines established to support exploration and development activities shall be located at least $\frac{3}{4}$ mile inland from the coastline to the extent practicable. Where, as a result of technological limitations, economics, logistics, or other factors, a facility must be located within $\frac{3}{4}$ mile inland of the coastline, the practicality of locating the facility at previously occupied sites such as Camp Lonely, various Husky/USGS drill sites, and Distant

Early Warning (DEW)-Line sites, shall be considered. Use of existing sites within $\frac{3}{4}$ mile of the coastline shall also be acceptable where it is demonstrated that use of such sites will reduce impacts to shorelines or otherwise be environmentally preferable. All lessees/permitees involved in activities in the immediate area must coordinate use of these new or existing sites with all other prospective users. Before conducting open water activities, the lessee shall consult with the Alaska Eskimo Whaling Commission, the Nuiqsut Whaling Captains' Association, and the NSB to minimize impacts to the fall and spring subsistence whaling activities of the communities of the North Slope.

K-7 Lease Stipulation - Colville River Special Area

Objective: Prevent or minimize loss of raptor foraging habitat. (also see Lease Stipulation K-1; Rivers Area).

Requirement/Standard for Facilities: If necessary to construct permanent facilities within the Colville River Special Area, all reasonable and practicable efforts shall be made to locate permanent facilities as far from raptor nests as feasible. Additionally, within 15 miles of raptor nest sites, significant alteration of high quality foraging habitat shall be prohibited unless the lessee can demonstrate on a site-specific basis that impacts would be minimal or it is determined that there is no feasible or prudent alternative. Of particular concern are ponds, lakes, wetlands, and riparian habitats. Note: On a case-by case basis, and in consultation with appropriate Federal and state regulatory and resource agencies, essential pipeline and road crossings will be permitted through these areas where no other feasible or prudent options are available.

Requirement/Standard for Activities: Restriction applies to overland moves, seismic work, and any similar use of heavy equipment (other than actual excavations as part of construction) on tundra surfaces.

K-8 Lease Stipulation - Pik Dunes

Objective: Retain unique qualities of the Pik Dunes, including geologic and scenic uniqueness, insect-relief habitat for caribou, and habitat for several uncommon plant species.

Requirement/Standard: Surface structures, except approximately perpendicular pipeline crossings and ice pads, are prohibited within the Pik Dunes.

K-9 Lease Stipulation - Caribou Movement Corridor

Objective: Minimize disturbance and hindrance of caribou, or alteration of caribou movements (that are essential for all season use, including calving and rearing, insect-relief, and migration) in the area extending from the eastern shore of Teshekpuk Lake to approximately 6 miles eastward towards the Kogru Inlet and 2) the area adjacent to the northwest corner of Teshekpuk Lake.

Requirement/Standard: Within the Caribou Movement Corridors, no permanent oil and gas facilities, except for pipelines, will be allowed on the approximately 54,700 (approximately 45,000 acres east of Teshekpuk Lake, and approximately 9,700 acres northwest of Teshekpuk Lake) illustrated on Map 2-4. Prior to the permitting of a pipeline in the Caribou Movement Corridors, a workshop will be convened to identify the best corridor for pipeline construction in efforts to minimize impacts to wildlife and subsistence resources. The workshop participants will include but will not be limited to Federal, State, and NSB representatives. Note: In addition to the general lease stipulations and ROPs, site-specific lease stipulations, i.e. K-3, K-4, K-5, and K-11 will also apply.

K-10 Lease Stipulation – Southern Caribou Calving Area

Objective: Minimize disturbance and hindrance of caribou, or alteration of caribou movements (that are essential for all season use, including calving and post calving, and insect-relief) in the area south/southeast of Teshekpuk Lake:

Requirement/Standard: Within the Southern Caribou Calving Area, no permanent oil and gas facilities, except pipelines, would be allowed on the approximately 240,000 acres illustrated on Map 2-4. Prior to the permitting of a pipeline in the Southern Caribou Calving Area, a workshop will be convened to identify the best corridor for pipeline construction in efforts to minimize impacts to wildlife and subsistence resources. The workshop participants will include but will not be limited to Federal, State, and NSB representatives. Note: In addition to the general stipulations and ROPs, site specific *Stipulations K-4, K-5, K-6, and K-11* would also apply.

K-11 Lease Stipulation: Lease Tracts A-G

Objective: To protect key surface resources and subsistence resources/activities resulting from permanent oil and gas development and associated activities.

Requirement Standard: Permanent surface disturbance resulting from oil and gas activities is limited to 300 acres within the following described lease tracts (Map 2-4); this does not include surface disturbance activities from pipeline construction. Existing gravel pads within these tracts would not count against the 300-acre limit. A pipeline will be considered after a workshop is convened to identify the best corridor for pipeline construction in efforts to minimize impacts to wildlife and subsistence resources. The workshop participants will include but will not be limited to Federal, State, and NSB representatives. (No alternative procedures will be approved). (Acreages are based on GIS calculations and are approximate):

A. Total Acreage: approximately 52,700:

- 26,500 acres = RSO for Permanent Oil and Gas facilities excluding pipelines (the 23,350 acres includes 5,605 acres of overlap with the Coastal area restrictions).
- 26,200 acres = Area open to development subject to general and site specific lease stipulations and required operating procedures.

The total new development footprint cannot exceed 300 acres (0.6 % of total acreage).

B. Total Acreage: approximately 55,000:

- 38,200 acres = RSO for Permanent Oil and Gas facilities, excluding pipelines (the 33,478 acres includes 5,131 acres of overlap with the Coastal Area restrictions).
- 16,800 acres = Area open to development subject to general and site specific lease stipulations and required operating procedures.

The total new development footprint cannot exceed 300 acres (0.5 % of total acreage).

C. Total Acreage: approximately 46,100:

- 32,500 acres = RSO for Permanent Oil and Gas facilities, excluding pipelines.
- 13,600 acres = Area open to development subject to general and site specific lease stipulations and required operating procedures.

The total new development footprint cannot exceed 300 acres (0.7 % of total acreage).

D. Total Acreage: approximately 54,500:

- 46,900 acres = RSO for Permanent Oil and Gas facilities excluding pipelines.
- 7,700 acres = Area open to development subject to general and site specific lease stipulations and required operating procedures.

The total new development footprint cannot exceed 300 acres (0.6% of total acreage).

E. Total Acreage: approximately 56,500:

- 32,200 acres = RSO for Permanent Oil and Gas facilities, excluding pipelines.
- 24,300 acres = Area open to development subject to general and site specific lease stipulations and required operating procedures.

The total new development footprint cannot exceed 300 acres (0.5% of total acreage).

F. Total Acreage: approximately 57,100:

- 43,200 acres = RSO for Permanent Oil and Gas facilities, excluding pipelines.
- 4,900 acres = Restricted area open to development subject to the results of 3 year study requirement to determine appropriate placement of permanent facility(s) (Map 2-5)
- 9,000 acres = Area open to development subject to general and site specific lease stipulations and required operating procedures.

The total new development footprint cannot exceed 300 acres (0.5 % of total acreage).

G. Total Acreage: approximately 56,800:

- 48,700 acres = RSO for Permanent Oil and Gas facilities excluding pipelines
- 300 acres = Restricted area open to development subject to the results of 3 year study requirement to determine appropriate placement of permanent facility(s) (Map 2-5)
- 7,800 acres = Area open to development subject to general and site specific lease stipulations and required operating procedures.

The total new development footprint cannot exceed 300 acres (0.5 % of total acreage).

Summer Vehicle Tundra Access:

L-1 Required Operating Procedure

Objective: Protect stream banks and water quality; minimize compaction and displacement of soils; minimize the breakage, abrasion, compaction, or displacement of vegetation; protect cultural and paleontological resources; maintain populations of, and adequate habitat for birds, fish, and caribou and other terrestrial mammals; and minimize impacts to subsistence activities.

Requirement/Standard: On a case-by-case basis, BLM may permit low-ground-pressure vehicles to travel off of gravel pads and roads during times other than those identified in ROP C-2a. Permission for such use would only be granted after an applicant has:

- a. Submitted studies satisfactory to the AO of the impacts on soils and vegetation of the specific low-ground-pressure vehicles to be used. These studies should reflect use of such vehicles under conditions similar to those of the route proposed for use and should demonstrate that the proposed use would have no more than minimal impacts to soils and vegetation.
- b. Submitted surveys satisfactory to the AO of subsistence uses of the area as well as of the soils, vegetation, hydrology, wildlife and fish (and their habitats), paleontological and archaeological resources, and other resources as required by the AO.
- c. Designed and/or modified the use proposal to minimize impacts to the AO's satisfaction. Design steps to achieve the objectives and based upon the studies and surveys may include, but not be limited to, timing restrictions (generally it is considered inadvisable to conduct tundra travel prior to August 1 to protect ground-nesting birds), shifting of work to winter, rerouting, and not proceeding when certain wildlife are present or subsistence activities are occurring. At the discretion of the AO, the plan for summer tundra vehicle access may be included as part of the spill prevention and response contingency plan required by 40 CFR 112 (Oil Pollution Act) and ROP A-4.