

Chapter Seven: Mitigation Measures and Licensee Advisories

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Chapter Seven: Mitigation Measures and Licensee Advisories

A. Mitigation Measures

AS 38.05.035(e) and the departmental delegation of authority provide the Director, Division of and Gas (DO&G) ["Director"], with the authority to impose conditions or limitations, in addition to those imposed by statute, to ensure that a resource disposal is in the state's best interests. Consequently, to mitigate the potential adverse social and environmental effects of specific license related activities, DO&G has developed mitigation measures and will condition plans of operation, exploration, or development, and other permits based on these mitigation measures.

Licensees must obtain approval of a detailed plan of operations from the Director before conducting exploration, development, or production activities. A plan of operations must identify the specific measures, design criteria, construction methods and operational standards to be employed to comply with the restrictions listed below. It must also address any potential geophysical hazards that may exist at the site.

These measures were developed after considering terms imposed in earlier competitive license sales and comments and information submitted by the public, local governments, environmental organizations, and other federal, state, and local agencies. Additional measures will likely be imposed when licensees submit a proposed plan of operations.

Licensees must comply with all applicable local, state and federal codes, statutes and regulations, as amended, as well as all current or future ADNR area plans and recreation rivers plans; and ADF&G game refuge plans, critical habitat area plans, and sanctuary area plans within which a licensed area is located. In particular, licensees are advised that portions of the licensed area may be subject to special area permits by ADF&G to protect areas designated by the legislature as state game refuges in AS 16.20.010 - AS 16.20.080.

The Director may grant exceptions to these mitigation measures. Exceptions will only be granted upon a showing by the licensee that compliance with the mitigation measure is not feasible or prudent, or that the licensee will undertake an equal or better alternative to satisfy the intent of the mitigation measure. Requests and justifications for exceptions must be included in the plan of operations. The decision whether to grant an exception will be made during the public review of the plan of operations. Critical habitat areas and state game refuges are jointly managed by ADNR and ADF&G; exceptions to mitigation measures in these areas must be agreed to by both agencies.

Abbreviations mean: Alaska Department of Environmental Conservation (ADEC), Alaska Department of Fish and Game (ADF&G), Alaska Department of Natural Resources (ADNR), Alaska Oil and Gas Conservation Commission (AOGCC), Director (Director, Division of Oil and Gas), Division of Mining, Land and Water (DMLW), Division of Oil and Gas (DO&G), Office of Habitat Management and Permitting (OHMP), Matanuska-Susitna Borough (MSB), and State Historic Preservation Officer (SHPO).

I. Facilities and Operations

1. A plan of operations must describe the licensee's efforts to minimize impacts on residential, commercial, and recreational areas. At the time of application, Licensees must submit a copy of the proposed plan of operations to all surface owners whose property will be entered.
2. Facilities sited in areas of high residential, commercial, or recreational use must be designed and operated to minimize sight and sound impacts to such users. Methods may include providing natural buffers and screening to conceal facilities, sound insulation of facilities, or by using alternative means approved by the Director.
3. Facilities and operations shall avoid unreasonable conflicts with subsistence harvests. When reviewing a proposed plan of operations, the Director will work with other agencies and the public to assure that unreasonable conflicts with subsistence harvests are identified and avoided.
4. The siting of facilities, other than docks, or road, utility, or pipeline crossings, will be prohibited within 500 feet of all fish bearing waterbodies. Additionally, siting of facilities will be prohibited within one-half mile of the banks of Alexander, Lake, Peters, and Cache Creeks, and the Susitna, Dshka, Kahiltna, Talachulitna, and Yentna rivers. Facilities may be sited within these buffers if the licensee demonstrates to the satisfaction of the Director, after consultation with OHMP, that site locations outside these buffers are not feasible or prudent or that a location inside the buffer is environmentally preferred. Road, utility, and pipeline crossings must be aligned perpendicular or near perpendicular to watercourses.
5. Impacts to important wetlands must be minimized to the satisfaction of the Director, in consultation with OHMP and ADEC. The Director will consider whether facilities are sited in the least sensitive areas.
6. Pipelines must utilize existing transportation corridors and be buried where conditions permit. In areas with above ground placement, they must be designed, sited, and constructed to allow for the free movement of moose and other wildlife. Pipeline gravel pads must be designed to facilitate the containment and cleanup of spilled fluids. Pipelines must be designed and constructed to assure integrity against climatic conditions and geophysical hazards.

II Fish and Wildlife Habitat

A. Fishbearing Streams

7. Detonation of explosives within or in close proximity to fishbearing waters must not produce instantaneous pressure changes that exceed 2.7 pounds per square inch in the swim bladder of a fish. Detonation of explosives within or in close proximity to a fish spawning bed during the early stages of egg incubation must not produce a peak particle velocity greater than 0.5 inches per second. Blasting criteria have been developed by ADF&G and are available upon request along with the location of fishbearing waters within the project area.
8. Compaction or removal of snow cover overlying fishbearing waterbodies is prohibited except for approved crossings. If ice thickness is not sufficient to facilitate a crossing, ice or snow bridges may be required.

9. Water intake pipes used to remove water from fishbearing waterbodies must be surrounded by a screened enclosure to prevent fish entrainment and impingement. Screen mesh size shall be no greater than 0.1 inches unless another size has been approved by OHMP. The maximum water velocity at the surface of the screen enclosure may be no greater than 0.2 feet per second.

B. Bear Habitat

10. Before commencement of any activities, licensees shall consult data provided by the ADF&G identifying the locations of bear den sites that are actually occupied in the season of the proposed activities. Exploration and development activities begun between October 15 and April 31, may not be conducted within ½-mile of occupied brown bear dens, unless alternative mitigation measures are approved by ADF&G. A licensee who encounters an occupied bear den not previously identified in the data provided by ADF&G must report it to the Division of Wildlife Conservation, ADF&G, within 24 hours. Mobile activities shall avoid such discovered occupied dens by ½-mile unless alternative mitigation measures are approved by DO&G with concurrence from ADF&G. Non-mobile facilities will not be required to be relocated.

C. Bald Eagle and Trumpeter Swan Habitats

11. Permanent facilities may be prohibited within ¼-mile and will be prohibited within 330 feet of bald eagle nests, active or inactive. Temporary activities within 330 feet of nesting sites may be allowed between September 1 and March 31 if they will not alter bald eagle habitat. Surface entry will be prohibited within 330 feet of active nests between April 1 and August 31. Maps identifying documented nest sites will be made available by ADF&G upon request.
12. If the licensee discovers a previously unreported active or inactive bald eagle nest, the licensee must report the nest location to the Director as soon as possible. Licensees are advised that activities likely to disturb nesting eagles are subject to the provisions of the Bald Eagle Act of 1940, as amended.
13. Surface entry will be prohibited within ¼-mile of trumpeter swan nesting sites from April 1 through August 31. The siting of permanent facilities, including roads, material sites, storage areas, powerlines, and above-ground pipelines are prohibited within ¼-mile of known nesting sites. ADF&G will identify trumpeter swan nesting sites at the request of the licensee.

D. Tule Goose Habitat

The special measures listed below will be imposed to preserve Tule white-fronted goose habitat along the Kahiltna and Yentna rivers. Mitigation measure 15 shall apply to activities within the "Tule Goose Habitat Area." Mitigation measure 16 shall apply to activities within the "Tule Goose Core Nesting and Molting Area."

- a. The two locations that comprise the "Tule Goose Habitat Area" are identified in Figure 3.1 in the final best interest finding and are described as:
 - ii. All of T19N R8W, T19N R9W, and T20N R9W; and the west half of T20N 8W, Seward Meridian.
 - iii. The western third of T23N R8W and T24N R8W; all of T23N R9W and T24N R9W; and the east half of T23N R10W and T24N R10W, Seward Meridian.
- b. The location that comprises the "Tule Goose Core Nesting and Molting Area" is identified in Figure 3.1 and is described as:

T25N R9W

Section 4, 5, 6, 7, 8, 9, 15, 16, 17, 18, 19, 20, 21, 22, 27, 28, 29, 30, 32, 33, 34;

T25N R10W

Section 1, 2, 3, 11, 12, 13, 24;

T26N R9W

Section 19, 29, 30, 31, 32;

T26N R10W

Section 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 16, 17, 18, 20, 21, 22, 23, 24, 25, 26, 27, 28, 33, 34, 35, 36; and

T26N R11W

Section 1, Seward Meridian.

14. Within the "Tule Goose Habitat Area":
 - a. exploratory drilling, development, and major maintenance will be allowed only between August 16 and March 31, unless an extension is approved by the Director, in consultation with OHMP;
 - b. during the production phase, routine maintenance and emergency repairs on a year-round basis will be permitted within this area, following approval of a detailed plan describing routine maintenance activities to be conducted between April 1 and August 15; the director will approve a routine maintenance plan following consultation with OHMP;
 - c. gravel pads, wellheads, pipelines and drillsite-related facilities are the only permanent aboveground structures that will be allowed;
 - d. temporary roads may be allowed as provided in Measure 17; and
 - e. permanent roads connecting pads may be allowed if the Director determines, in consultation with OHMP, that the road will have no significant impact on Tule geese during nesting and molting.

15. Within the "Tule Goose Core Nesting and Molting Area":
 - a. surface entry for drilling, and above ground license-related facilities and structures, with the exception of pipelines, will be prohibited;
 - b. seismic exploration will be allowed only between August 16 and March 31;
 - c. geologic fieldwork may be conducted year round;
 - d. helicopter landings within this area during the nesting and molting season may be restricted; and
 - e. pipelines may be sited within this area only if the Director determines, in consultation with OHMP, that the proposed pipeline will have no significant impact on Tule geese (buried pipelines are preferred).

III Access

16. Exploration activities must utilize existing road systems, ice roads, air or boat service, or vehicles that do not cause significant damage to the ground surface or vegetation. Construction of temporary roads may be allowed. Construction of permanent roads will be prohibited during the exploration phase.

17. Public access to, or use of, the licensed area may not be restricted except within the immediate vicinity of drill sites, buildings, and other related facilities. Areas of restricted access must be identified in the plan of operations.

IV Fuel and Hazardous Substances

18. Secondary containment shall be provided for the storage of fuel or hazardous substances.
19. Containers with a total storage capacity of greater than 55 gallons which contain fuel or hazardous substances shall not be stored within 100 feet of a waterbody.
20. During equipment storage or maintenance, the site shall be protected from leaking or dripping fuel and hazardous substances by the placement of drip pans or other surface liners designed to catch and hold fluids under the equipment, or by creating an area for storage or maintenance using an impermeable liner or other suitable containment mechanism.
21. During fuel or hazardous substance transfer, secondary containment or a surface liner must be placed under all container or vehicle fuel tank inlet and outlet points, hose connections, and hose ends. Appropriate spill response equipment, sufficient to respond to a spill of up to five gallons, must be on hand during any transfer or handling of fuel or hazardous substances. Transfer operations shall be attended by trained personnel at all times.
22. Vehicle refueling shall not occur within the annual floodplain. This measure does not apply to water-borne vessels, provided no more than 30 gallons of fuel is transferred at any give time.
23. All independent fuel and hazardous substance containers shall be marked with the contents and the licensee's name using paint or a permanent label.

V Waste Disposal

24. Waste from operations must be reduced, reused, or recycled to the maximum extent practicable. Garbage and domestic combustibles must be incinerated whenever possible or disposed of at an approved site in accordance with 18 AAC 60.
25. New solid waste disposal sites, other than for drilling waste, will not be approved or located on state property during the exploration phase of license activities. Disposal sites may be provided for drilling waste if the facility complies with 18 AAC 60.
26. Drilling mud and cuttings cannot be discharged into lakes, streams, rivers, or important wetlands. On pad temporary cuttings storage will be allowed. Impermeable lining and diking, or equivalent measures, will be required for reserve pits. Injection of non-hazardous oilfield wastes is regulated by AOGCC through its Underground Injection Control (UIC) Program for oil and gas wells.

VI Prehistoric, Historic and Archeological Sites

27. Before commencing construction or placement of a road, structure, or facility, the licensee must conduct an inventory of prehistoric, historic, and archeological sites within the area affected by the activity. The inventory must include consideration of literature provided by the MSB and local residents; documentation of oral history regarding prehistoric and historic uses of such sites;

evidence of consultation with the Alaska Heritage Resources Survey and the National Register of Historic Places; and site surveys. The inventory must include an analysis of the effects on any prehistoric, historic, and archeological site that might result from the proposed activity.

28. The inventory of prehistoric, historic, and archeological sites must be submitted to the Director and SHPO for review and comment. If a prehistoric, historic, or archeological site or area could be adversely affected by a license activity, the Director, after consultation with SHPO and the MSB, will direct the licensee as to the course of action to take to avoid or minimize adverse effects.
29. If a site, structure, or object of prehistoric, historic, or archaeological significance is discovered during license operations, the licensee must report the discovery to the Director as soon as possible. The licensee must make reasonable efforts to preserve and protect the discovered site, structure, or object from damage until the Director, after consultation with the SHPO, has directed the licensee as to the course of action to take for its preservation.

VII Local Hire, Communication, and Training

30. To the extent available and qualified, the licensee is encouraged to employ local and Alaska residents and contractors for work performed on the licensed area. Licensees shall submit, as part of a plan of operations application, a proposal detailing the means by which the licensee will comply with this measure. The proposal must include a description of the operator's plans for partnering with local communities to recruit and hire local and Alaska residents and contractors. The licensee is encouraged, in formulating this proposal, to coordinate with employment services offered by the state of Alaska and local communities and to recruit employees from local communities.
31. A plan of operations application must describe the licensee's past and prospective efforts to communicate with local communities and interested local community groups.
32. A plan of operations application must include a training program for all personnel including contractors and subcontractors. The program must be designed to inform each person working on the project of environmental, social, and cultural concerns that relate to that person's job. The program must use methods to ensure that personnel understand and use techniques necessary to preserve geological, archeological, and biological resources. In addition, the program must be designed to help personnel increase their sensitivity and understanding of community values, customs, and lifestyles in areas where they will be operating.

VIII Definitions

33. In this document
 - a. "Facilities" means any structure, equipment, or improvement to the surface, whether temporary or permanent, including, but not limited to, roads, pads, pits, pipelines, power lines, generators, utilities, airstrips, wells, compressors, drill rigs, camps and buildings;
 - b. "Feasible and prudent" means consistent with sound engineering practice and not causing environmental, social, or economic costs that outweigh the public benefit to be derived from compliance with the standard;
 - c. "Important wetlands" means those wetlands that are of high value to fish, waterfowl, and shorebirds because of their unique characteristics or scarcity in the region or that have been determined to function at a high level using the hydrogeomorphic approach;

- d. "Minimize" means to reduce adverse impacts to the smallest amount, extent, duration, size, or degree reasonable in light of the environmental, social, or economic costs of further reduction;
- e. "Plan of operations" means a license plan of operations under 11 AAC 83.158 and a unit plan of operations under 11 AAC 83.346;
- f. "Secondary containment" means an impermeable diked area or portable impermeable containment structure capable of containing 110 percent of the volume of the largest independent container plus 12 inches of freeboard. Double walled tanks do not qualify as secondary containment unless an exception is granted for a particular tank.

B. Licensee Advisories

Licensee Advisories are intended to alert licensees to possible additional restrictions that may be imposed at the permitting stage of a proposed project or activity in certain leasehold areas, especially where entities other than DO&G have permitting authority.

- 1. Gravel mining within an active floodplain may be prohibited. Upland sites will be restricted to the minimum area necessary to develop the field in an efficient manner.
- 2. Facilities and operations shall not be located so as to block access to or along navigable and public waters in violation of AS 38.05.127.

DNR/OHMP

- 3. Under the provisions of Title 41 of the Alaska Statutes, the measures listed below may be imposed by OHMP below the ordinary high water mark to protect designated anadromous streams and to ensure the free and efficient passage of fish in all fishbearing waterbodies. Specific information on the location of anadromous waterbodies in and near the area may be obtained from OHMP.
 - a. Alteration of riverbanks may be prohibited.
 - b. The operation of equipment, excluding boats, in open water areas of rivers and streams may be prohibited.
 - c. Bridges or non-bottom founded structures may be required for crossing fish spawning and important rearing habitats.
 - d. culverts or other stream crossing structures must be designed, installed, and maintained to provide free and efficient passage of fish.
- 4. Removal of water from fishbearing waterbodies requires prior written approval by DMLW and OHMP.
- 5. For projects in close proximity to areas frequented by bears, licensees are encouraged to prepare and implement bear interaction plans designed to minimize conflicts between bears and humans. Plans should include measures to:
 - a. minimize attraction of bears to drill sites;
 - b. organize layout of buildings and work areas to minimize interactions between humans and bears;
 - c. warn personnel of bears near or on drill sites and the proper procedures to take;
 - d. if authorized, deter bears from the drill site;
 - e. provide contingencies in the event bears do not leave the site;
 - f. discuss proper storage and disposal of materials that may be toxic to bears; and

- g. provide a systematic record of bears on site and in the immediate area.
- 6. Aircraft flying over the important and core Tule goose nesting and molting areas along the Kahiltna and Yentna Rivers must maintain a minimum altitude of 1500 feet above ground level or a horizontal distance of one mile from April 1 to July 31. Human safety and air traffic control requirements will take precedence over this provision.

ADEC

- 7. Pursuant to regulations 18 AAC 75 administered by ADEC, licensees are required to have an approved oil discharge prevention and contingency plan (c-Plan) prior to commencing operations. The plan must include a response action plan to describe how a spill response would occur, a prevention plan to describe the spill prevention measures taken at the facility, and supplemental information to provide background and verification information.
- 8. Unless authorized by an ADEC permit, surface discharge of reserve pit fluids is prohibited.
- 9. Unless authorized by NPDES or state permits, disposal of wastewater into freshwater bodies is prohibited.