

# STATE OF ALASKA

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### **Final ACMP Consistency Determination for Susitna Basin Exploration Licenses**

The Alaska Department of Natural Resources, Division of Oil and Gas (DO&G), has coordinated a review of the Susitna Basin Exploration Licenses for consistency with the Alaska Coastal Management Program (ACMP), which includes the Matanuska-Susitna Borough Coastal Management Program (MSBCMP). This final consistency determination is being issued in compliance with 6 AAC 50.070 and represents a consensus of the state resource agencies and the Matanuska-Susitna Borough.

DO&G issued a proposed consistency determination on July 14, 2003. There were no requests for elevation from the review participants. Therefore DNR has independently determined that the issuance of the exploration licenses in the Susitna Basin Study Area, conditioned by the mitigation measures and licensee advisories is consistent with the standards of the ACMP including the MSBCMP, as discussed in the consistency analysis attached. The final consistency analysis and mitigation measures were edited to correct an error in numbering and other typographical errors found in the proposed consistency determination. However, no substantive changes were made and no mitigation measures were added, deleted, or modified.

This final consistency determination constitutes a final agency action and a final administrative order and decision for purposes of an appeal to the Superior Court. A person adversely affected by this final order and decision may appeal to the Superior Court within 30 days in accordance with the rules of the court, and to the extent permitted by applicable law.

Sincerely,



James Hansen  
Leasing Manager

Attachments

# Alaska Coastal Management Program Consistency Analysis for Susitna Basin Exploration Licenses

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## Introduction

The Susitna Basin exploration licenses lie predominantly within Alaska's coastal zone within the Matanuska-Susitna Borough (MSB). Even though no exploration or development/production activities on these licenses will be authorized as a result of license issuance, DNR is performing a forward-looking analysis of the potential effects of oil and gas related activities so that future proposals to perform work on these licenses will be framed with coastal zone protection in mind. Consequently, the licenses must comply with the ACMP and the MSB Coastal Management Program (MSBCMP). Further, any future activities will undergo separate coastal zone consistency analyses when they are actually proposed.

All information available to the division was reviewed during this ACMP analysis and considered in the preparation of this final consistency determination. That information included the comments of state resource agencies, federal agencies, the affected borough, public interest groups, and the public.

This consistency analysis is a phased review. AS 46.40.094 (Chapter 38 SLA 1994) allows phasing in ACMP consistency reviews. Oil and gas activities may be separated into three distinct phases: license/lease issuance, exploration, and development/production. The beginning phase of oil and gas activities is license/lease issuance. For these purposes, a license is similar to a lease in that it gives an entity an exclusive right to explore for oil and gas on a particular area of land. In the case of a license, the licensee has the option at any time of converting the license into a lease. However, a lease is required prior to development or production of any oil and gas. Therefore, we review a license issuance as we would a lease.

At the time of license issuance, it is impossible to reasonably foresee specific exploration or development projects or the effects of those projects. Each phase of oil and gas activities builds on the previous phase. That is, exploration cannot take place before license/lease issuance. Depending on the information gathered at the exploration phase, development may or may not take place. Before development may occur, exploration must show and confirm through drilling a well not only the existence of oil and/or gas but that the oil/gas exists in economically producible quantities. Therefore, at the initial disposal stage, there is insufficient information to render a consistency determination for the future exploration and development/production phases. At each phase, proposed site specific and project specific activities will be analyzed for consistency based on developing information gathered at the previous stage. Further, each of these subsequent phases, exploration and development/production, is subject to discretion to implement alternative decisions based upon this developing information.

During the exploration and development/production phases, licensees submit a proposed plan of operations for permit approval. During this time, agency staff reviews information developed from the previous phase along with new technological developments and other site-specific data, and implements any needed alternative mitigation measures when determining whether the permit request complies with the ACMP.

Under AS 46.40.094(b), when an activity is authorized or developed in phases (such as oil and gas license issuance, exploration, and development/production), and each phase requires decisions relating to that particular phase, the agency responsible for the consistency determination for the particular phase may limit the consistency review to that particular phase if,

- A) the agency or another state agency must carry out a subsequent consistency review and make a consistency determination before a later phase may proceed; and

- B) the agency responsible conditions its consistency determination for that phase on a requirement that a use or activity authorized in a subsequent phase be consistent with the Alaska Coastal Management Program.

Each licensee who proposes to conduct activities related to exploration will be required to submit a plan of operations to DNR for review and approval. Each plan of operations must be site specific and tailored to the exploration activity for which the permit is requested. The plan of operations request must contain sufficient information based on data reasonably available at the time to determine the surface use requirements and impacts directly associated with the proposed operations (11 AAC 83.158(d)). All plan of operations for activities within the coastal zone will be reviewed by DNR for consistency with the ACMP, including the enforceable coastal management policies of the MSB. As a condition for consistency approval of the license operations, the division will require such modifications as may be necessary to ensure consistency with the ACMP, including the MSBCMP. Alternative measures in addition to the mitigation measures imposed at license issuance may be added to address site-specific resource values and activities directly associated with the proposed project. Similarly, if the licensee converts the license into a lease, any activities associated with development or production will need to be submitted as a plan of operations request, and will go through an ACMP review.

This consistency review for the Susitna Basin exploration licenses is based on applicable statutes and regulations; facts that are known and material to this consistency review; and reasonably foreseeable significant effects of the Susitna Basin exploration licenses. In analyzing the Susitna Basin exploration licenses against the standards of the ACMP, including the enforceable policies of the MSBCMP, DNR has conditioned the license issuance through mitigation measures and licensee advisories to ensure that the license issuance is consistent with the ACMP.

Following is a discussion, by topic, of the Susitna Basin exploration licenses' consistency with the ACMP, including the MSBCMP. The mitigation measures, licensee advisories and applicable license terms are identified under the each district policy and ACMP standard to ensure that consistency is achieved. A complete list of permitting terms (mitigation measures and licensee advisories) is found in Appendix A to this document and a sample license form is found in Appendix B.

There are a number of ACMP and MSBCMP policies that are not applicable at the license issuance phase. These standards and policies will be applied when specific activities are proposed for specific locations in the licensees' plan of operations. Licensees will be required to comply with all applicable ACMP standards and district CMP policies before a plan of operations is approved.

## ACMP Standards

The following discussion addresses the consistency of Susitna Basin exploration licenses by reviewing the applicable ACMP standards and MSBCMP enforceable policies. Issuance of an exploration license does not authorize the use of or approve activities on a license. While license issuance does not authorize any activity and does not in itself negatively impact the licensed area, there is a likelihood that some licenses will be explored and a remote possibility that one of those explored licenses will actually go into production. The mitigation measures discussed within this document were designed to minimize the impact of post-license issuance exploration activities on the coastal zone. Mitigation Measures, Licensee Advisories and applicable license terms are listed under the applicable ACMP standards. Following discussion of the statewide ACMP standards are individual discussions of the relevant MSBCMP policies.

### 6 AAC 80.040 Coastal Development.

- (a) In planning for and approving development in coastal areas, districts and state agencies shall give in the following order, priority to:
  - (1) water-dependent uses and activities;
  - (2) water-related uses and activities; and
  - (3) uses and activities which are neither water-dependent nor water-related for which there is no feasible and prudent inland alternative to meet the public need for the use or activity.
- (b) The placement of structures and the discharge of dredged or fill material into coastal waters must, at a minimum, comply with the standards contained in Parts 320-323, Title 33, Code of Federal Regulations (Vol. 42 of the Federal Register, pp. 37133 - 47 (July 19, 1977)).

Primarily, Mitigation Measure 4 ensures consistency with this standard. No facility can be placed within 500 feet of a fishbearing waterbody unless it is not feasible and prudent to place it outside (inland) of this buffer.

### 6 AAC 80.050 Geophysical Hazard Areas.

- (a) Districts and state agencies shall identify known geophysical hazard areas and areas of high development potential in which there is a substantial possibility that geophysical hazards may occur.
- (b) Development in areas identified under (a) of this section may not be approved by the appropriate state or local authority until siting, design and construction measures for minimizing property damage and protecting against loss of life have been provided.

Geophysical hazard areas are defined in the coastal management standards at 6 AAC 80.900. They are areas that present a threat to life or property from geophysical or geological conditions, including flooding, tsunamis, storm surges, landslides, snowslides, faults, ice hazards and littoral beach processes.

There are a number of geophysical hazards that pose potential problems to future installations. However, oil and gas exploration and development/production have been conducted safely in the area for over thirty years. The risks from earthquake damage can be minimized by siting major facilities away from

potentially active faults and unstable areas and by designing them to meet or exceed Uniform Building Code specifications for seismic zone 4 (the highest earthquake hazard). Additional precautions can be taken to identify and accommodate such site-specific conditions as unstable ground, flooding, and other localized hazards. Proper siting and engineering will minimize the detrimental effects of these natural processes.

Because an exploration license does not authorize development, the only requirement at this time is to identify known geophysical hazard areas and areas of high development potential where there is a substantial possibility that geophysical hazard may occur.

At license issuance stage, it is impossible to predict with any credibility what areas being licensed have high development potential; as a result, these cannot be identified at this time.

## 6 AAC 80.060 Recreation.

- (a) Districts shall designate areas for recreational use. Criteria for designation of areas of recreational use are
  - (1) the area receives significant use by persons engaged in recreational pursuits or is a major tourist destination; or
  - (2) the area has potential for high quality recreational use because of physical, biological or cultural factors.
- (b) Districts and state agencies shall give high priority to maintaining and, where appropriate, increasing public access to coastal water.

Issuance of an exploration license does not authorize any activities that could restrict the recreational use of areas within the coastal zone.

Mitigation Measures 1, 2, & 17, and Licensee Advisory 2 are intended to protect recreational values and provide access.

## 6 AAC 80.070 Energy Facilities.

- (a) Sites suitable for the development of major energy facilities must be identified by districts and the state in cooperation with districts.
- (b) The siting and approval of major energy facilities by districts and state agencies must be based, to the extent feasible and prudent, on the following standards:
  - (1) site facilities so as to minimize adverse environmental and social effects while satisfying industrial requirements;
  - (2) site facilities so as to be compatible with existing and subsequent adjacent uses and projected community needs;
  - (3) consolidate facilities;
  - (4) consider the concurrent use of facilities for public or economic reasons;

- (5) cooperate with landowners, developers and federal agencies in the development of facilities;
  - (6) select sites with sufficient acreage to allow for reasonable expansion of facilities;
  - (7) site facilities where existing infrastructure, including roads, docks and airstrips is capable of satisfying industrial requirements;
  - (8) select harbors and shipping routes with the least exposure to reefs, shoals, drift ice and other obstructions;
  - (9) encourage the use of vessel traffic control and collision avoidance systems;
  - (10) select sites where development will require minimal site clearing, dredging and construction in productive habitats;
  - (11) site facilities so as to minimize the probability, along shipping routes, of spills or other forms of contamination, which would affect fishing grounds, spawning grounds and other biologically productive or vulnerable habitats, including marine mammal rookeries and hauling out grounds and waterfowl nesting areas;
  - (12) site facilities so that design and construction of those facilities and support infrastructures in coastal areas of Alaska will allow for the free passage and movement of fish and wildlife with due consideration for historic migratory patterns and so that areas of particular scenic, recreational, environmental or cultural value will be protected;
  - (13) site facilities in areas of least biological productivity, diversity and vulnerability and where effluent and spills can be controlled or contained;
  - (14) site facilities where winds and air currents disperse airborne emissions, which cannot be captured before escape into the atmosphere;
  - (15) select sites in areas which are designated for industrial purposes and where industrial traffic is minimized through population centers; and
  - (16) select sites where vessel movements will not result in overcrowded harbors or interfere with fishing operations and equipment.
- (c) Districts shall consider that the uses authorized by the issuance of state and federal licenses for mineral and petroleum resource extraction are uses of state concern.

An exploration license does not authorize energy facilities and at license issuance stage it cannot reasonably be foreseen if a developable deposit might be discovered that might warrant an energy facility. Until a specific energy facility is proposed there is no opportunity for siting a facility under 6 AAC 80.070(b). However, if and when such a project is proposed, it will be measured against this standard as well as the rest of the ACMP. The energy facility standards include sixteen criteria which, to the extent feasible and prudent, will regulate the location of energy-related facilities.

Mitigation Measures 1, 2, 4, 5, 6, 11, 12, 13, 14, 15, 16, 17, 27, 28, & 29 will help ensure that future energy facility development complies with the ACMP.

## 6 AAC 80.080 Transportation And Utilities.

- (a) Transportation and utility routes and facilities in the coastal area must be sited, designed and constructed so as to be compatible with district programs.
- (b) Transportation and utility routes and facilities must be sited inland from beaches and shorelines unless the route or facility is water-dependent or no feasible and prudent inland alternative exists to meet the public need for the route or facility.

An exploration license does not authorize transportation and utility routes and facilities and at the license issuance stage it cannot reasonably be foreseen if a developable deposit might be discovered that might warrant the siting, design and construction of a transportation or utility route or facility. Until a specific route or facility is proposed there is no opportunity for siting under 6 AAC 80.080(b). However, if and when such a project is proposed, it will be measured against this standard as well as the rest of the ACMP.

Mitigation Measures 1 – 6, & 13 – 17 will help ensure that a future transportation and utility route and facility development complies with the ACMP.

## 6 AAC 80.110 Mining And Mineral Processing.

- (a) Mining and mineral processing in the coastal area must be regulated, designed and conducted so as to be compatible with the standards contained in this chapter, adjacent uses and activities, statewide and national needs and district programs.
- (b) Sand and gravel may be extracted from coastal waters, intertidal areas, barrier islands and spits, when there is no feasible and prudent alternative to coastal extraction which will meet the public need for sand or gravel.

The mining and minerals processing standard requires mining and mineral processing activities to be designed, conducted and regulated in a manner that will make them compatible with adjacent uses, all affected district programs, and statewide and national needs.

It also provides for the extraction of sand and gravel from coastal waters, intertidal areas, barrier islands and spits when there is no feasible and prudent alternative.

The issuance of these Susitna Basin exploration licenses does not authorize the extraction or processing of minerals or sand and gravel within the coastal zone. The issuance of these licenses only conveys the exclusive right to extract oil and gas from state-owned lands should that activity be authorized in later phases.

Licensee Advisory 1 helps ensure that oil and gas exploration or development meets the requirements of this standard.

## 6 AAC 80.120 Subsistence.

- (a) Districts and state agencies shall recognize and assure opportunities for subsistence usage of coastal areas and resources.
- (b) Districts shall identify areas in which subsistence is the dominant use of the coastal resources.
- (c) Districts may, after consultation with appropriate state agencies, Native corporations and any other person or groups, designate areas identified under (b) of this section as subsistence zones in which subsistence uses and activities have priority over all nonsubsistence uses and activities.
- (d) Before a potentially conflicting use or activity may be authorized within areas designated under (c) of this section, a study of the possible adverse impacts of the proposed potentially conflicting use or activity upon subsistence usage must be conducted and appropriate safeguards to assure subsistence usage must be provided.

- (e) Districts sharing migratory fish and game resources must submit compatible plans for habitat management.

This standard requires districts and state agencies to recognize and assure opportunities for subsistence usage of coastal areas and resources.

Issuance of an exploration license does not authorize any activities that could restrict the subsistence usage of coastal areas and resources.

Mitigation Measure 3 helps protect subsistence uses and resources.

## 6 AAC 80.130 Habitats.

- (a) Habitats in the coastal area that are subject to the Alaska coastal management program include
  - (1) offshore areas;
  - (2) estuaries;
  - (3) wetlands and tideflats;
  - (4) rocky islands and sea cliffs;
  - (5) barrier islands and lagoons;
  - (6) exposed high-energy coasts;
  - (7) rivers, streams and lakes; and
  - (8) important upland habitat
- (b) The habitats contained in (a) of this section must be managed so as to maintain or enhance the biological, physical and chemical characteristics of the habitat which contribute to its capacity to support living resources,
- (c) In addition to the standard contained in (b) of this section, the following standards apply to the management of the following habitats:
  - (1) offshore areas must be managed as a fisheries conservation zone so as to maintain or enhance the state's sport, commercial and subsistence fishery;
  - (2) estuaries must be managed so as to assure adequate water flow, natural circulation patterns, nutrients and oxygen levels and avoid the discharge of toxic wastes, silt, and destruction of productive habitat;
  - (3) wetlands and tideflats must be managed so as to assure adequate water flow, nutrients and oxygen levels, and avoid adverse effects on natural drainage patterns, the destruction of important habitat and the discharge of toxic substances;
  - (4) rocky islands and sea cliffs must be managed so as to avoid the harassment of wildlife, destruction of important habitat and the introduction of competing or destructive species and predators;
  - (5) barrier islands and lagoons must be managed so as to maintain adequate flows of sediments, detritus and water, and avoid the alteration or redirection of wave energy which would lead to the filling in of lagoons or the erosion of barrier islands, and discourage activities which would decrease the use of barrier islands by coastal species, including polar bears and nesting birds;

- (6) high energy coasts must be managed by assuring the adequate mix and transport of sediments and nutrients and avoiding redirection of transport processes and wave energy; and
  - (7) rivers, streams and lakes must be managed to protect natural vegetation, water quality, important fish or wildlife habitat and natural water flow.
- (d) Uses and activities in the coastal areas which will not conform to the standards contained in (b) and (c) of this section may be allowed by the district or appropriate state agency if the following are established:
- (1) there is a significant public need for the proposed use or activity;
  - (2) there is no feasible prudent alternative to meet the public need for the proposed use or activity which would conform to the standards contained in (b) and (c) of this section; and
  - (3) all feasible and prudent steps to maximize conformance with the standards contained in (b) and (c) of this section will be taken.
- (e) In applying this section, districts and state agencies may use appropriate expertise, including regional programs referred to in 6 AAC 80.030 (b).

This standard contains requirements for the administration of the eight acknowledged habitats of coastal areas. It states the management requirements that will maintain or enhance the biological, physical and chemical characteristics of the habitat which contribute to its capacity to support living resources.

Issuance of an exploration license does not authorize any activities. While a license does not authorize any activity and does not in itself negatively impact the license area, there is a likelihood that some licenses will be explored and a possibility that one of those explored licenses will actually go into production. Therefore, a license issuance and the potential future activities will not maintain or enhance the habitats under 6 AAC 80.130(a). The habitat standard provides for uses and activities that fail to conform to the standards contained in (b) and (c) above by permitting the district or appropriate agency to grant approvals only when they meet the three part test found in subsection (d).

With respect to the Susitna Basin exploration licenses, there is a significant public need to issue the licenses. The majority of the state's revenue and much of the state's economic base are generated from oil and gas exploration and development/production. Over the long-term, the revenue and employment generated by it is expected to decline. Current reserves and income projections suggest that future production and state revenues will decline as well. If these anticipated declines are to be minimized, new areas for exploration and development/production must be made available now. Issuance of these Susitna Basin exploration licenses can help meet the public need for continuing economic stability.

In the Cook Inlet area, oil and gas development peaked in the 1970's. No significant new gas discoveries have been made since the 1960's. Existing industrial users, such as Unocal's urea and ammonia plant, Phillip's LNG plant, and Enstar will need gas to meet future energy and processing needs. As a result, significant benefits could result from these Susitna Basin exploration licenses at the local level.

There is no feasible or prudent alternative to offering lands in the coastal zone that would meet the public need for these Susitna Basin exploration licenses. Applications lie predominantly in the coastal zone.

DNR has taken all feasible and prudent steps at the license issuance stage to maximize conformance with the standards contained in 6 AAC 80.130(b) and (c); that is, to maintain the biological, physical and

chemical characteristics of coastal habitats and the sport, commercial and subsistence fisheries in the issuance area. DNR has attached a number of mitigation measures and licensee advisories to license issuance in order to maximize conformance with these standards. Further, it has ensured that all feasible and prudent steps to maximize conformance will be taken in the future since in the later stages, exploration and development/production, the project will once again be measured against the standards of the ACMP, including the habitat standard. If further steps are necessary to maintain habitat or the fisheries conservation zone, the reapplication of the ACMP will ensure that more steps are taken. The mitigation measures and licensee advisories for these Susitna Basin exploration licenses represent feasible and prudent steps to meet the requirements of 6 AAC 80.130(b) and (c) at license issuance stage. In addition, other measures may be imposed when time-certain, site-specific activities are reviewed for consistency with the ACMP throughout the permitting process.

Management of habitat that could be affected by the Susitna Basin exploration licenses is addressed by Mitigation Measures 1 thru 33, and Licensee Advisories 1 thru 9.

## **6 AAC 80.140 Air, Land And Water Quality.**

Notwithstanding any other provision of this chapter, the statutes pertaining to and the regulations and procedures of the Alaska Department of Environmental Conservation with respect to the protection of air, land and water quality are incorporated into the Alaska coastal management program and, as administered by that agency, constitute the components of the coastal management program with respect to those purposes. These statutes and regulations are found in Title 46 of the Alaska Statutes and Chapter 18 of the Alaska Administrative Code.

This standard provides for the statutes, regulations and procedures of ADEC (with respect to protection of air, land and water quality) to be incorporated into the ACMP.

Issuance of these Susitna Basin exploration licenses authorizes no activities that may negatively impact air, land, and water quality. All activities authorized in later phases will be reviewed against these standards and appropriate restrictions will be imposed by ADEC at the time of approval for time-certain, site-specific activities.

## **6 AAC 80.150 Historic, Prehistoric And Archaeological Resources.**

Districts and appropriate state agencies shall identify areas of the coast which are important to the study, understanding or illustration of national, state or local history or prehistory.

ADNR researched available sources and found 40 known historic and archaeological sites within the study area. The majority of the reported sites within the area exist along the Susitna River, its tributaries, and the lakes of the region. The setting of the area, however, suggests a high potential for the discovery of additional sites. Sites date back to prehistoric periods of Dena'ina and Eskimo occupations, as well as historic periods of Russian and Euroamerican occupations. Sites may be listed as historic if they are 50 or more years old. Sites may include house pits, burial grounds, cache pits, fish camps, culturally modified trees, rock shelters, stone and bone tools, middens, petroglyphs and pictographs, settlement sites, trapping and mining cabins, trading centers, forts, and military sites. Identification of these sites is largely driven by development projects, such as road and highway construction or community expansion.

Sites are often clustered near natural features, such as river mouths, bluffs, and natural transportation routes. Numerous sites are scattered along the east bank of the Susitna River and along the Iditarod trail route.

Mitigation Measures 27 – 29 have been designed to comply with the Historic, Prehistoric and Archaeological Resources standard or will assist in its enforcement.

## **Matanuska-Susitna Borough Coastal Management Program**

The major purpose of the MSBCMP is the balanced management of coastal land and water resources. The MSBCMP identifies issues, goals and objectives and then sets forth enforceable policies that are specific courses of action designed to “influence and determine decisions and actions in such a way as to help achieve one or more of a plan’s objectives.”

The goals of the MSBCMP include: (1) to maximize local control over coastal land and water resource uses and development; (2) to reserve and develop adequate and appropriate space for water dependent activities adjacent to coastal waters; (3) to incorporate design requirements for geophysical and other hazards; (4) to develop public recreational facilities which are adequate to meet local, regional and tourist demand ensuring public access to coastal land and water resources; (5) the development of energy facilities within the district for local, regional and national needs; (6) continued economic development and coordination of short and long term transportation and utility plans for the borough; (7) to identify and designate areas suitable for location and development of facilities related to fisheries and hatcheries; (8) develop sound economic timber management practices; (9) development of mining and mineral processing activities while reducing the potential for conflicting environmental concerns; (10) identify, establish and develop an economically viable agricultural industry; (11) recognize and protect the subsistence way of life; (12) manage habitats so as to maintain or enhance their biological, physical and chemical characteristics; (13) recognize and protect air, land and water quality; (14) identify historic resources and ensure their protection, development and management; and, (15) private sector initiative in helping to establish a viable economic base.

The enforceable policies of the MSBCMP and the Susitna Basin exploration licenses mitigation measures licensee advisories, and license terms that address those policies are discussed below. In the event a district policy is more stringent than an exploration license’s mitigation measure, the district policy will prevail.

### **Coastal Development Policies**

MSB Policy 1 requires that in planning for and approving development in coastal areas, the district gives priority to (a) water dependent uses and activities in or adjacent to rivers, lakes, streams and uses and activities along its coastline; (b) water related uses and activities in or adjacent to rivers, lakes, streams and uses and activities along its coastline; and (c) uses and activities which are neither water dependent nor water related for which there is no feasible and prudent inland alternative to meet the public need for the use or activity.

This policy provides requirements to be implemented by the Matanuska-Susitna Borough rather than the exploration licensees. However, the mitigation measures listed in this analysis under 6 AAC 80.040 were designed to protect water-dependent and water-related uses and activities.

MSB Policy 2 requires the placement of structures and the discharge of dredged or fill material into coastal waters to comply with the standards in Parts 320-33, Title 33, Code of Federal Regulations.

MSB Policy 3 prohibits dredging and filling in tideflats and wetlands, submerged lands and waterbodies important for migration, spawning or rearing of anadromous or resident fish, unless no feasible and prudent alternative exists.

MSB Policy 4 requires that development be sensitive to the ecosystem in which it is located and incorporate mitigating measures into its design to minimize adverse impacts on the ecosystem.

MSB Policy 5 requires that development be sited, designed, constructed and managed to preserve natural and cultural features that are valuable or scarce in the district, and that public access to valuable and scarce natural and cultural features be preserved and maintained and where appropriate, increased.

MSB Policy 6 requires that the type and concentration of development be dictated by the physical limitations and opportunities of the area, and that physical conditions such as soil characteristics, slopes, geological features, surface and subsurface drainage, water tables, floodplains and shoreforms be taken into consideration when planning development.

MSB Policy 7 recognizes existing areas of development and nonconforming uses within the coastal management boundary, but does not imply the allowance of similar uses and activities in the future.

This policy provides a requirement to be implemented by the Matanuska-Susitna Borough.

*In addition, the MSBCMP Coastal Development category contains policies and enforceable rules specifically for industrial, commercial and port development.*

Policy 1 requires that port, dock, commercial and industrial facilities be sited, designed, constructed and operated to minimize excavation and disturbance to anadromous and resident fish and wildlife, and to minimize the alteration of the shoreline, tideflats and wetlands.

Policy 2 requires industrial users of the shoreline to minimize the negative aesthetic impact of their use and activities, to enhance and maintain the positive visual aspects of their development, and to provide recreational opportunities for public viewing of such positive aspects whenever practical and safe. Aesthetic values include scenic corridors, areas and vistas, open space, parks and recreation.

Policy 3 requires design criteria and performance standards in order to maintain a high aesthetic appeal and prevent unsightly incompatible development.

Policy 4 gives preferences to uses that promote physical and visual access to the shoreline, when such access does not cause interference with operation or hazards to lives and property.

*The MSBCMP also contains policies and enforceable rules specifically for residential coastal development. These policies and rules are not applicable to the Susitna Basin exploration licenses.*

Licensees will be required to comply with these Coastal Development Policies in order for their activities to be consistent with the ACMP and the MSBCMP. Mitigation Measures 1 – 6, & 16 – 17 and Licensee Advisories 1 – 3 support these policies.

## Energy Facilities Policies

MSB Policies 1(a) through (p) repeat verbatim the Energy Facilities standards contained in 6 AAC 80.070. The only exception is Policy 1(g) that requires that facilities be sited where existing or planned infrastructure, including roads, docks and airstrips, is capable of satisfying industrial requirements.

MSB Policy 2 requires that energy facilities be sited, designed, developed and operated to minimize impacts on, and ensure continued use of, aquatic and terrestrial fish and wildlife habitats; and, that energy facilities be developed and operated in a manner that ensures fish passage and minimizes alteration of fish and wildlife habitat and instream flows.

MSB Policy 3 requires developers to provide to the district, in a timely manner, nonproprietary information, reports, transportation and logistics plans and summaries of studies in sufficient detail for the district's planning purposes.

Licensees will be required to comply with these Energy Facilities Policies in order for their activities to be consistent with the ACMP and the MSBCMP. Mitigation Measures 1 – 34 address these policies and Licensee Advisories 1 – 9 address these policies.

## Mining and Mineral Processing Policies

MSB Policy 1 adopts the state ACMP standard, 6 AAC 80.070, as part of the district plan.

MSB Policy 2 allows the extraction of sand and gravel from coastal waters, riverbeds, floodplains of rivers, and intertidal areas provided there is no significant impact on fish productivity, there is no feasible and prudent alternative to coastal extraction which will meet the public need for sand and gravel and the activity is not in conflict with established borough code.

MSB Policy 3 requires that gravel extraction sites be consolidated where feasible and practical.

MSB Policy 4 requires that mining and mineral processing activities be planned and managed so as to minimize degradation of fish and wildlife habitat, air and water quality and recreational values.

MSB Policy 5 requires reclamation plans for all gravel extraction activities.

MSB Policy 6 subjects all gravel extraction parcels to Borough Ordinance 74-52 which states that Borough land in parcels forty acres or larger and which consist of forty percent or more Soil Conservation Service capability classes II and III shall be classified agricultural unless the Assembly finds that such land is unsuitable for agricultural purposes.

MSB Policy 7 requires that access to viable mining and mineral-processing activities within the borough shall be maintained, or where appropriate, provided for.

Consistent with the Alaska constitution's requirement of reasonable concurrent use, exploration licensees will be required to comply with this policy.

Licensees will be required to comply with these Mining and Mineral Processing Policies in order for their activities to be consistent with the ACMP and the MSBCMP. Licensee Advisories 1 and 3 address these policies.

## Transportation Policies

MSB Policy 1 adopts the state ACMP standard, 6 AAC 80.080, as part of the district plan.

MSB Policy 2 requires that transportation routes be sited inland from the shoreline and avoid important fish and wildlife habitat areas unless no feasible or prudent alternative exists to meet the public need for the route.

MSB Policy 3 requires that highway, road and airport design and construction minimize alteration of fish and wildlife habitat, water courses, wetlands, aesthetic and recreational resources.

MSB Policy 4 requires adequate provisions for maintenance of natural drainage, fish and wildlife habitat and viewshed protection. Viewshed includes all those land surfaces that are visible from a given viewpoint.

MSB Policy 5 requires design criteria and performance standards for transportation development in order to maintain a high aesthetic appeal and to prevent unsightly incompatible development. Aesthetic values include scenic corridors, areas, vistas, open space, parks and recreation.

Licensees will be required to comply with these Transportation Policies in order for their activities to be consistent with the ACMP and the MSBCMP. Mitigation Measures 1 – 6, & 14 – 17, and Licensee Advisory 3 support these policies.

## Utilities Policies

MSB Policy 1 adopts the state ACMP standard, 6 AAC 80.080, as part of the district plan.

MSB Policy 2 requires that utility corridors be consolidated; that in establishing corridors adequate space be reserved to allow additional projected use; that in evaluating options for consolidation of utility corridors each applicant shall document said options during the planning process; and, requires a documented visual impact analysis.

MSB Policy 3 requires that where feasible and prudent, important fish and wildlife habitat and scenic and recreational values be retained when establishing utility corridors. Additionally, a documented mitigation plan for these resources is required.

Licensees will be required to comply with these Utilities Policies in order for their activities to be consistent with the ACMP and the MSBCMP. Mitigation Measures 1 – 6, & 14 – 17 support these policies.

## Recreation Policies

MSB Policy 1 adopts the state ACMP standard, 6 AAC 80.060, as part of the district plan.

MSB Policy 2 designates the following areas as recreational areas: (a) Susitna Flats State Game Refuge, (b) Palmer Hay Flats State Game Refuge, (c) Goose Bay State Game Refuge, (d) Nancy Lake Recreation Area, (e) Willow Creek Corridor, (f) Knik Arm Wetlands Area, (g) Jim/Swan Lake Area, (h) Little Susitna River Corridor, (I) Iditarod Trail, and (j) State waysides and campgrounds.

MSB Policy 3 gives priority to maintaining, and where appropriate, increasing public access to coastal waters, wetlands, rivers, lakes, streams and uplands for fishing, hunting, scenic viewing and other recreational activities.

MSB Policy 4 gives priority to developing and maintaining multi-use trail systems. Easements, rights-of-way and other means shall be used in acquiring and maintaining trail access during land transfers.

This policy is designed to be administered by the Matanuska-Susitna Borough.

MSB Policy 5 gives priority to the recreational development of areas having potential for high quality recreational use because of physical, biological, cultural or historical features.

This policy is designed to be administered by the Matanuska-Susitna Borough.

Licensees will be required to comply with these Recreation Policies in order for their activities to be consistent with the ACMP and the MSBCMP. Mitigation Measures 1, 2 4 & 17 and Licensee Advisory 2 address these policies.

## Subsistence Policies

MSB Policy 1 adopts the state ACMP standard, 6 AAC 80.120, as part of the district plan. There are no other subsistence policies in the MSBCMP.

Licensees will be required to comply with this Subsistence Policy in order for their activities to be consistent with the ACMP and the MSBCMP. A list of the exploration license mitigation measures that address the ACMP subsistence standards is found under the discussion of 6 AAC 80.120 in this analysis.

## Coastal Habitats Policies

MSB Policy 1 adopts the state ACMP standard, 6 AAC 80.130, as part of the district plan. The policy further defines applicable habitats subject to the policy as (a) offshore areas and estuaries, (b) wetlands and tideflats, (c) vegetated bluffs, (d) rivers, streams and lakes including all major anadromous drainages and their primary tributaries up to the 1000-foot elevation contour -- the width of this extended coastal area is the width of the water course and 200 feet on each side measured from the ordinary high water line -- and, (e) important upland habitat.

MSB Policy 2 requires that development maintain a minimum 75-foot setback from the high water mark of any watercourse except sewerage disposal system development, which requires a 100-foot setback from any watercourse.

Mitigation Measure 4, with its 500 foot setback from any fishbearing water satisfies this policy.

MSB Policy 3 requires that the standards for coastal habitats are those contained in 6 AAC 80.130, and that coastal habitats be managed to maintain and enhance the physical, biological and chemical characteristics that contribute to the maintenance of their integrity.

MSB Policy 4 requires that upland habitats be managed to (1) protect important fish and wildlife production and harvest areas, surface water quality, and natural groundwater recharge areas, (2) maintain habitat productivity and diversity, natural drainage patterns, and vegetative cover on steep slopes and along streambanks and shorelines, (3) prevent excessive runoff and erosion, and (4) provide for open space and scenic and recreational values.

MSB Policy 5 requires activities in wetlands to be conducted in a manner that will maintain natural drainage patterns and wetlands productivity.

MSB Policy 6 states that mitigation techniques for activities along and in rivers, lakes and streams shall include replacing stream bank vegetation where possible, creation of settlement systems prior to development runoff entering stream corridors thereby decreasing sedimentation, and mitigation of any changes in stream flow regions.

Licensees will be required to comply with these Coastal Habitats Policies in order for their activities to be consistent with the ACMP and the MSBCMP. A discussion of how the mitigation measures protect habitat values can be found in the discussion above for 6 AAC 80.130. In addition, Mitigation Measures 1 – 33, and Lessee Advisories 1 – 9 support these policies.

## Air, Land and Water Quality Policies

MSB Policy 1 incorporates into the district plan the statutes pertaining to and the regulations and procedures of the Alaska Department of Environmental Conservation with respect to the protection of air, land and water quality.

MSB Policy 2 requires that land clearing, grading, filling and alteration of natural drainage features be minimized. Areas cleared of vegetation and not developed shall be revegetated with native plants to deter erosion and to restore pre-alteration habitat productivity.

Licensees will be required to comply with these Air, Land and Water Quality Policies in order for their activities to be consistent with the ACMP and the MSBCMP. In addition to the discussion of 6 AAC 80.140, Mitigation Measures 1 – 6, & 14 – 17 support these policies.

## Historic, Prehistoric and Archaeological Resources Policies

MSB Policy 1 adopts state ACMP standard 6 AAC 80.150 as part of the district plan.

MSB Policy 2 requires all development to meet the historic preservation objectives of the district as outlined in the district's 1981 Historic Preservation Survey.

Licensees will be required to comply with these Historic, Prehistoric and Archaeological Policies in order for their activities to be consistent with the ACMP and the MSBCMP. Mitigation Measures 27 – 29 address these policies.

## Hazardous Areas Policies

MSB Policy 1 adopts state ACMP standard 6 AAC 80.050 as part of the district plan.

MSB Policy 2 identifies known geophysical hazard areas and areas of high development potential in which there is a substantial possibility that geophysical hazards may occur as (a) Knik/Matanuska River Floodplains, (b) Susitna and Little Susitna River Floodplains, and (c) Point MacKenzie vegetated bluffs and coastline.

MSB Policy 3 requires that development in areas identified in Policy 2 not be approved by the appropriate state authority or district until siting, design and construction measures for minimizing property damage and protecting against loss of life have been provided.

MSB Policy 4 states that development will typically be precluded in rapidly eroding, slide prone or geologically unstable shorelines, and further states that any development proposed for those areas be based upon a geotechnical investigation attesting to the safety of the area and specific engineering practices or structures that would alleviate or mitigate the hazard.

MSB Policy 5 states that surface modification that would induce excessive erosion, undermine the support of nearby land or unnecessarily scar the landscape shall be limited.

Licensees will be required to comply with these Hazardous Areas Policies in order for their activities to be consistent with the ACMP and the MSBCMP. Mitigation Measures 1 – 6, & 18 – 23 support these policies.

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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.