Chapter Eleven: Conclusion

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Chapter Eleven: Conclusion

State law (AS 38.05.035(e) and (g)) requires DO&G to determine prior to an oil and gas lease sale, whether the sale serves the state's best interests. As the director of DO&G, my responsibility is to make that determination for the Cook Inlet Areawide Oil and Gas Lease Sale. In making this decision I balanced the reasonably foreseeable positive and negative effects to determine whether the potential benefits exceed the potential negative effects and whether holding the sale is in the best interests of the state.

In this final finding analysis, DO&G considered the reasonably foreseeable potential effects, both negative and positive, that this sale could have on fish, wildlife, on human users of these resources, on the local economy and well-being, and on state revenue. DO&G analyzed the available socioeconomic, environmental, geological and geophysical data, and comments submitted by state and federal agencies, local governments, the petroleum industry, environmental organizations, and the public. The division has also considered the cumulative effects of development in the area.

A. Reasonably Foreseeable Effects of the Sale and Subsequent Activity

The discussion throughout this finding and the record compiled during this effort reflect the analysis of the issues. Below is a summary of this analysis.

1. Cumulative Effects

a. Effects on Fish and Wildlife and their Habitats

Fish: Potential impacts in the exploration phase include degradation of streambanks and overwintering areas due to erosion and sedimentation. Potential impacts in future phases include habitat loss due to gravel displacement and facilities siting; interference with migration and movement from onshore structures and impoundments; and fish kills due to industrial water use, oil spills, unregulated discharge, and seismic activities. Long term impacts may include habitat improvement due to restoration and rehabilitation of impacted sites. Fish in the immediate vicinity of platform discharges may be temporarily disturbed and displaced.

Birds: Potential impacts include habitat loss, barriers to movement, disturbance during nesting and brooding, and oil spills.

Caribou: Potential effects to caribou populations include migration disturbance and displacement from preferred calving areas due to the construction, siting and operation of onshore facilities, roads and pipelines. Oil spills might also adversely affect caribou. Potential impacts are more likely to occur after the exploration phase.

Moose: Alteration or loss of moose calving and wintering habitat could induce or contribute to a decline in moose populations. Above-ground pipelines can restrict moose movement. Oil spills could contaminate some local food sources.

Brown Bear: During exploration, this bear species is most likely to be affected by disturbances during denning. During development and production, human activity may attract foraging bears to facilities, especially refuse disposal sites. This may pose a threat to human safety and the potential need to shoot

"problem" animals. Oil spills could contaminate some local food sources. Kenai Peninsula brown bear have been classified by ADF&G as a species of special concern. ADF&G is focusing research dollars on this population and, with ADNR and other agencies, will develop a management strategy.

Marine Mammals: Oil spills, noise, disturbance and habitat loss may affect beluga whales, harbor seals, and sea otters.

b. Effects on Subsistence Uses

Potential impacts to subsistence uses include reduced or obstructed access to subsistence harvest areas, perceived or actual loss of values associated with hunting and fishing, damage to fish and wildlife habitats, and possible reductions in local fish and wildlife populations. Other potential impacts include increased access to harvest areas from new development, and an increase in available cash income.

c. Effects on Historic and Cultural Resources

Potential impacts to historic archeological resources and culturally significant sites could occur in all phases but would be most likely to occur during development. Potential impacts include disruption of culture and disturbance of historic, prehistoric, and archeological sites. Previously unidentified or undiscovered sites could be damaged if the pre-construction historic resources inventory is incomplete. They could also be damaged if project workers are not adequately trained. Alternatively, exploration and development may result in identification and inventory of previously unknown sites.

2. Effects on Municipalities and Communities

Oil and gas activities may include project development in already developed areas and in areas that do not have an existing infrastructure, roads or utility right-of-ways. There would be no direct (non-fiscal) impact to Matanuska-Susitna Borough, Municipality of Anchorage, Kenai Peninsula Borough or community operating expenses aside from normal planning and zoning responsibilities. Development projects would provide revenue to the boroughs and improve infrastructure. There may be additional employment opportunities during the exploration phase and more during development and production phases. The long-term employment benefits to boroughs and local communities would depend on the subsequent production of commercial quantities of petroleum, the hiring of local residents, and use of local service providers.

Local residents' use of the area requires access to it, and any activity, facility or structure that restricts access can have an adverse impact on local residents. Other effects include disturbance due to increased air traffic, drilling and construction machinery noise and loss of privacy due to the presence of project workers and construction camps. The extent of these effects depends on the size of development projects and the proximity of facilities, and utility, pipeline, and transportation corridors to the potentially affected community. Most disturbance effects would be temporary during development and construction. Other financial and infrastructure impacts would be more long term. Employment effects could be both short and long term.

3. Fiscal Effects

The primary source of state revenues is North Slope oil production. North Slope fields hold 98 percent of the state's known oil reserves and 90 percent of the state's known gas reserves. The remainder of state oil and gas reserves are found in Cook Inlet fields. However, oil and gas reserves are finite resources and North Slope and Cook Inlet production is declining. Regardless of the price of crude oil, general fund receipts will continue to decline (see Chapter Seven). The discovery and development of smaller, but still significant fields, may temper the anticipated decline in revenues to the state treasury. Additionally, new discoveries are needed to meet growing local energy demand.

Most revenues generated from oil and gas activities go into the state's general fund, while some are set aside for the state Permanent Fund. Many funds, including oil and gas property taxes, are passed directly through to borough and municipal governments. Statewide, Alaskans receive direct and indirect benefits derived from General Fund spending. General fund receipts are allocated to local governments and all state agencies, including the University of Alaska. Funds can be passed directly to local governments through programs, while others are authorized specifically by the state legislature.

If the lease sale proceeds, there will be a one-time increase in state income from bonus payments at the time of the lease sale and a longer term increase from annual rental payments. The potential for additional revenue from royalties and taxes is unpredictable, because at the time of the lease sale no one knows what reserves may be found in the area. The overall petroleum potential for the area is estimated to be low to moderate. As exploration takes place, the sale would add jobs to the state and regional economy. These jobs would not be limited to the petroleum industry but would be spread throughout the trade, transportation, service, and construction industries. The number of jobs produced would depend on whether commercial quantities of oil and gas are discovered, and whether projects to develop those resources. Discovery and development of commercial quantities of petroleum or natural gas as a result of this Cook Inlet Areawide Sale would bring direct economic benefits to the affected boroughs in the form of additions to local property tax revenue. Additionally, industry investment in environmental and wildlife studies, planning and design activities, materials acquisition, facility construction, seismic surveys, drilling, transportation, and logistics contributes to the well being of both the state and local economy.

B. Specific Issues Related to Oil and Gas Exploration, Development, Production, and Transportation

1. Geophysical Hazards

Geophysical hazards that must be considered during development of production and transportation facilities are faults and earthquakes, tsunamis, volcanic hazards, marine and seafloor hazards, seasonal flooding and icing, and coastal and riverbank erosion.

2. Likely Methods of Transportation

Onshore: Elevated or buried flow, gathering, and common carrier pipelines would carry petroleum or natural gas from wellheads to processing centers. Elevated pipelines can restrict wildlife movements, especially if accompanied by a road with regular vehicle traffic. Buried pipelines have little impact on wildlife, but cannot be visually inspected and spill response is more difficult.

Offshore: The primary potential effect on subsea pipelines is damage due to ice scouring. Under water pipelines cannot be visually inspected unless they are fixed to the bottom and not buried in the seafloor. Pipelines must be sited so as not to become navigational hazards.

Tanker traffic carries oil in and out of Cook Inlet. Some oil is exported. Specially designed tankers transport LNG to Japan.

3. Oil Spill Risk, Prevention, and Response

Exploration and development of the Cook Inlet area will expose the area to a greater potential for oil spills. The likelihood of a large onshore oil spill is small, but an incident could impact habitat and fish and wildlife populations in the immediate vicinity of the spill. A major offshore spill could affect large areas of coastline, wildlife and other uses of the area, especially in summer when salmon are migrating.

4. Water Quality

Byproducts of drilling and production activities include muds and cuttings, produced water and associated wastes. These must be handled, stored and disposed of properly to avoid contaminating water resources. Sources of surface and groundwater contamination include petroleum products, industrial wastes, and landfill or dump leachate. Concern exists that wells may be affected by drilling and seismic surveys. Saltwater intrusion due to pumping may also contaminate groundwater supplies where wells are near the ocean. Studies indicate only low levels of sediment hydrocarbons are present in Cook Inlet waters, that sources are varied, and not attributed to oil and gas operations. A recent EPA study also indicates that subsistence resources have not been adversely impacted by Cook Inlet water quality.

5. Conflicts with Commercial Fishing

Activities associated with exploration, development and production of oil and gas may utilize portions of fisheries harvest zones. Offshore platforms may create an obstacle to drift net fishing. Semi-submersible drill rigs and anchoring systems could cause a temporary loss of fishing space or impede access to the water column.

C. Mitigation Measures

Mitigation measures and lessee advisories (listed in Chapter Nine) in addition to other regulatory requirements have been designed to mitigate the previously described potential impacts if exploration and subsequent development should occur following this sale. Measures and advisories include:

1. Municipalities and Communities

- Increased employment opportunities -- lessees are encouraged to employ local and Alaska residents and contractors.
- Compliance with coastal management plans -- all proposed activities must be reviewed for consistency with the approved state and district coastal management program standards.
- Impacts to private land owners -- lessees must submit a plan of operations for surface activities to private surface owners. Lessees will minimize sight and sound impacts for new facilities sited less than one-half mile from river banks and in areas of high recreational use
- Unrestricted public access -- public access to the leased land can be restricted only within 1,500 feet of onshore drill sites, buildings, and other related structures.
- Consultation with communities -- plans of operation must describe the lessee’s efforts to involve local communities and interested local groups in the development of such plans.

2. Fish

- Protection of fish habitat, including fish overwintering areas -- explosives must not be detonated within, in or near fishbearing waters. Lessees must avoid altering streambanks and obtain approval for the location of crossings on fish streams. Lessees may be required to construct ice and/or snow bridges if ice thickness at a crossing is insufficient to protect the streambed and the streambank. Lessees must not operate

equipment (except boats) in open water areas of rivers and streams. When a fishbearing waterbody is used as a water source, lessees must use appropriate measures to avoid entrainment of fish. Permanent facilities cannot be sited within 500 feet of fishbearing streams and waterbodies, and one-half mile from major rivers.

- Protection from seismic activities -- lessees must follow requirements for explosives during onshore seismic activities, and are prohibited from using explosives with a velocity of greater than 3,000 feet per second in open water areas during offshore seismic activities.
- Habitat loss avoidance -- Lessees must identify and avoid sensitive habitat areas and site facilities outside of key wetlands.

3. Birds

- Habitat loss avoidance -- Permanent facilities must be sited minimum distances from streams and waterbodies. Lessees must identify and avoid sensitive habitat areas and site facilities outside of key wetlands.
- Disturbance avoidance -- aircraft flying over the Goose Bay SGR and the Palmer Hay Flats SGR, the primary waterfowl habitat within the Susitna Flats SGR and Trading Bay SGR, and the core Tule goose and trumpeter swan molting and nesting corridors in Trading Bay SGR and Redoubt Bay CHA.
- Surface entry -- Should development occur in an area where nesting trumpeter swans are present, siting of permanent facilities and aircraft operation is prohibited in the vicinity of trumpeter swan nesting sites.
- Bald eagle protection -- lessees must comply with the guidelines of the Bald Eagle Act of 1940, as amended.

4. Caribou and Moose

- Disturbance avoidance -- wherever possible, onshore pipelines must utilize existing transportation corridors and be buried where soil and geophysical conditions permit.
- Habitat protection -- Surface entry within the Kenai Lowlands core caribou calving area is prohibited. Exploration and development will be restricted or prohibited between April 1 and October 15 within the core caribou summer habitat. Permanent roads, or facilities other than production wells, will also be restricted or prohibited within this area.

5. Brown Bear

- Waste management -- lessees must use appropriate methods of garbage and putrescible waste disposal to minimize attracting bears.
- Oil spill prevention -- Lessees are required to implement oil spill prevention, control, and countermeasures plans (see Chapter Six). In addition, they are required to site facilities away from lakes and streams and critical wetlands, to provide adequate protection for on-site oil storage, and to locate pipelines to facilitate oil spill cleanup.
- Disturbance -- For projects in close proximity to areas frequented by bears, lessees are encouraged to prepare and implement bear interaction plans. Operations can be designed to minimize conflicts between bears and humans and minimize attraction of bears to facilities and work camps.

  If data indicate that brown bear movement will be hindered by development and production activities, lessees may be required to locate facilities outside of the brown bear movement corridors. Lessees may be required to locate facilities beyond 500-foot stream buffers.

- Denning Protection -- Before fieldwork can begin, known locations of den sites are identified and avoided by 1/2-mile during denning season. If new dens are encountered in the field, they must be immediately

reported to ADF&G. Exploration activities will only be allowed within the brown bear movement corridors after bears have denned for the winter.

6. Marine Mammals

- Oil Spill Prevention and Control -- Lessees are advised they must prepare contingency plans addressing prevention, detection, response and cleanup of oil spills. Lining, diking and buffer zones are required to separate oil storage facilities from marine and freshwater supplies.

7. Subsistence Uses

- Harvest interference avoidance -- lessees must cooperate with agencies and the public to avoid conflicts by selecting alternative sites or implementing seasonal restrictions on certain activities, and by siting permanent facilities a minimum distance from rivers.
- Unrestricted access -- access to the leased area can be restricted only within 1,500 feet of onshore drill sites, buildings, and other related structures.
- Conflict avoidance -- Lease-related use will be restricted when necessary to prevent unreasonable conflicts with local subsistence harvests.
- Education -- lessees are required to conduct training for all employees and contractors on environmental, social, and cultural concerns in the sale area.

8. Historic and Cultural Uses

- Education -- lessees are required to conduct training for all employees and contractors on environmental, social, and cultural concerns in the sale area.
- Protection of Historic and Archeological Sites -- prior to exploration activities involving ground disturbance, and subsequent development, lessees must conduct an archeological inventory. If any objects are discovered at any time, they must be reported, and appropriate protective measures followed.

9. Transportation

- Onshore pipelines must utilize existing transportation corridors and be buried where possible.
- Offshore pipelines must be located and constructed to prevent obstructions to marine navigation and fishing operations.

10. Oil Spill Risk, Prevention, and Response

- Oil Spill Prevention -- Lessees are required to prepare oil spill discharge and contingency plans and implement oil spill prevention, control, and countermeasures plans (see Chapter Five). In addition, lessees are required to site facilities away from lakes and streams and critical wetlands, to provide adequate protection for on-site oil storage, and to design and locate pipelines to facilitate oil spill cleanup.

11. Water Quality

- Protection –Offshore disposal of muds and cuttings will be subject to the conditions of NPDES permits and ACMP consistency requirements. All oil and gas wells must have surface casings set below any drinking water aquifer. Impermeable lining and diking will be required for onshore oil storage facilities. Underground injection is the preferred method for disposal of muds and cuttings.

12. Conflicts with Commercial Fishing

- Space Conflicts – lessees must cooperate with agencies and the public to avoid conflicts by selecting alternative sites, implementing seasonal restrictions on certain activities, directional drilling, subsea completion techniques and other technologies deemed appropriate by the commissioner.

13. Effects on Land Habitat

- No Surface Entry – Surface entry is prohibited within specified areas to mitigate potential impacts on land habitat.

D. Bidding Methods and Lease Terms

The selection of the bidding method, minimum bid, and term of the lease was made following the department's pre-sale analysis of economic, engineering, geological, and geophysical data. The bidding method selected was one that best secures revenues for the state without creating disincentives to industry. This bidding method is described in Chapter Ten.

E. Summary and Signature

No activity may occur without further review and proper authorization from the appropriate permitting agency, and all activities must comply with the MSBCMP, MOACMP and KPBCMP and the Alaska Coastal Management Program. When lessees propose specific activities, more detailed information such as site, type, and size of facilities will be known, in addition to the historical project data. Except for some very limited types of proprietary information, permit applications are public information, and most permitting processes include public comment periods. The department may impose additional terms in any subsequent permits when applied for if additional issues are identified at that time.

Developing the state's petroleum resources is vital to the state economy and the well-being of its citizens. With the Cook Inlet Areawide Lease Sale mitigation measures presented in this final finding imposed on leases and plans of operation, and additional project-specific and site-specific mitigation measures imposed in response to specific proposals, the petroleum resources of the sale area can likely be explored and developed without significantly affecting fish and wildlife populations or traditional human activities. The state has sufficient authority through general constitutional, statutory and regulatory empowerments, the terms of the sale, the lease contract, and plan of operations permit terms to ensure that lessees conduct their activities safely and in a manner that protects the integrity of the environment and maintains opportunities for subsistence and all other concurrent uses.

On the basis of the facts and issues presented at this time, the foregoing findings, applicable laws and regulations, and the documents reviewed during preparations of this final finding, I conclude, that the potential benefits of the sale, as conditioned, outweigh the possible adverse impacts, and that this Cook Inlet Areawide Oil and Gas Lease Sale will best serve the interests of the state of Alaska.

This Best Interest Finding is a final administrative decision of the department. A person who is aggrieved by this finding may request the commissioner to reconsider the decision under AS 35.05.035(i) and (j). To be eligible an appellant must have meaningfully participated in the process to develop the finding by either submitting written comments during the prescribed comment periods, or by presenting oral testimony at a public hearing regarding the sale. A request for reconsideration must be received by John T. Shively, Commissioner, Department of Natural Resources, 3601 "C" Street, Suite 1210, Anchorage, Alaska 99503-

5921, or received by fax at 1-907-269-8918 by 5:00 p.m. (local time), **February 9, 1999**. If the commissioner fails to act on the request for reconsideration by **February 19, 1999**, the request is considered denied.

A denial of a request for reconsideration is the final administrative decision for purposes of appeal to Superior Court. A person may appeal the Final Best Interest Finding to Superior Court only if the person was eligible to request, and did request, an administrative reconsideration of the finding by the commissioner. An appellant must initiate an appeal to the Superior Court within 30 days from the date of denial of that reconsideration or from the date of distribution of the denial decision, in accordance with the rules of court and to the extent permitted by applicable law.

Kenneth A. Boyd
Director

January 20, 1999

I concur with the decision of the director that the Cook Inlet Areawide Sale is in the best interests of the state.

John T. Shively
Commissioner

January 20, 1999