DECISION AND FINDINGS OF THE COMMISSIONER
ALASKA DEPARTMENT OF NATURAL RESOURCES

NORTHSTAR UNIT AGREEMENT

JANUARY 23, 1990

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## I. INTRODUCTION AND BACKGROUND

An application was submitted on October 12, 1989, by the Amerada Hess Corporation, P.O. Box 2040, Tulsa, Oklahoma 74102 on behalf of itself and Enterprise Oil Ex. Co. Inc., 4201 FM 1960 West, Houston, Texas 77068, Murphy Oil USA, Inc., 200 Peach, El Dorado, Ark. 71730, and Shell Western E & P Inc., P.O. Box 831, Houston, Texas 77001, for approval of the proposed Northstar Unit Agreement. The proposed Northstar Unit Agreement includes five State of Alaska oil and gas leases covering approximately 23,343 acres and two federal outer continental shelf oil and gas leases covering approximately 7494 acres. The proposed Northstar Unit area is situated in the Beaufort Sea, offshore northwest of Prudhoe Bay.

The Northstar Unit will be the first unit in Alaska's Beaufort Sea to be jointly managed by the State of Alaska Department of Natural Resources and the federal Minerals Management Service. All of the leases involved in the proposed unit were issued either as a result of the Joint State/Federal Beaufort Sea Lease Sale held on December 12, 1979 or the State of Alaska Lease Sale No. 39, Beaufort Sea, held on May 17, 1983. Four of the five State oil and gas leases in the proposed Northstar Unit were issued on State of Alaska lease form DMEM-1-79A (Net Profit Share). The remaining State lease was issued on State of Alaska lease form DMEM-4-83 (Net Profit Share). Thus, all of the State of Alaska leases involved in the proposed unit include a net profit share as well as a royalty share.

A joint exploratory agreement among the applicants resulted in the construction of an offshore gravel island, Seal Island, on ADL 312799 in 1982. From Seal Island, the applicants drilled BF-47 #1 which discovered hydrocarbons in the Ivishak Formation, the same formation as the primary producing horizon in the Prudhoe Bay field. A confirmation well, OCS-Y-181 #1, was drilled in 1984 and was followed by another confirmation well, BF-57 #1, which was completed in 1985. In 1985-1986, Amerada Hess completed the construction of another gravel island in the proposed unit area, Northstar Island on ADL 312798, and drilled a stepout well, BF-46 #1, to the northwest. This well confirmed the extension of the hydrocarbon accumulation encountered in the BF-47 #1 well. To date, a total of six wells have been drilled in the proposed Northstar Unit Area.

The format of the proposed Unit Agreement is modeled after the Joint Federal/State of Alaska Model Unit Agreement for Exploration, Development, and Operation of State Lands and Federal Outer Continental Shelf Lands. This model unit agreement was developed in cooperation with the U.S. Department of the Interior, Minerals Management Service (MMS), under the authority of the Agreement Between the United States and the State of Alaska Pursuant to

Section 7 of the OCS Lands Act, as amended, and Alaska Statutes 38.05.137, for leases issued in the 1979 Joint Federal/State Beaufort Sea Sale BF. While the model form provides the basis for the proposed Northstar Unit Agreement, changes in the form have been made in light of the language and intent of the specific State of Alaska oil and gas leases in the proposed unit, as well as revisions in the State's unitization regulations, the State's net profit share leasing regulations, and the federal government's regulations for the OCS.

The proposed Unit Agreement provides for plans of development and operations within the proposed unit area without regard to internal lease boundaries and diverse ownership of those leases. The plan of development incorporated into the proposed Northstar Unit Agreement sets forth a five year period in which the applicants agree to: (a) continue maintenance of the existing gravel islands, (b) complete a detailed geologic and engineering analysis of the Ivishak reservoir characteristics to assist in the prediction of future production rates and ultimate recovery of hydrocarbons from the unit area, (c) conduct a geophysical (seismic) survey over the unit area, and (b) fund an independent engineering analysis to evaluate development alternatives and cost estimates of these alternatives.

The proposed Unit Agreement provides for separate approval of the unit plan of operations by the commissioner of the department of natural resources before any operations may be undertaken within the unit area on lands managed by the State. The plan must contain: (a) statements and maps or drawings giving the sequence and schedule of operations, (b) the projected use requirements of the proposed operations, including location and design of well sites, material sites, water supplies, waste sites, buildings, roads and utilities, (c) plans for rehabilitation of the affected area, and (d) a description of procedures designed to minimize adverse effects on other natural resources and other uses of the area including fish and wildlife habitat, historic and archeological sites, and public use. These plans are circulated to the Alaska Departments of Fish and Game and Environmental Conservation and the North Slope Borough for their review and comment prior to being approved by the Commissioner of DNR.

Pursuant to 11 AAC 83.306, the division of oil and gas determined that the application as submitted was complete on October 12, 1989. Pursuant to 11 AAC 83.311, public notice of the application was published in the Anchorage Daily News on October 24, 1989 and in the Barrow Sun on October 27, 1989. Copies of the application and the public notice were also provided to interested parties in conformance with 11 AAC 83.311, as well as to the Alaska Departments of Environmental Conservation and Fish and Game, the North Slope Borough, and the Alaska Oil and Gas Conservation Commission. The public notice invited comments from interested parties and members of the public on the application.

Timely comments on the application were received from the Alaska Department of Fish and Game, Habitat Division and the federal Minerals Management Services (MMS).

The written comments of the Department of Fish and Game expressed concern for fish and wildlife resources and subsistence uses in the unit area. These concerns are discussed in more detail in Section III, Subsection (A), entitled "The Environmental Costs and Benefits of Unitized Exploration or Development."

In addition to the comments received from the Alaska Department of Fish and Game, during the comment period the MMS requested that the applicants delete one federal oil and gas lease and one unleased federal tract proposed for inclusion in the Northstar Unit area, and make some minor changes to the Unit Agreement and plan of development. Based on this request, the applicants submitted an amended proposed Northstar Unit Agreement and an amended proposed plan of development for the Northstar Unit on December 4, 1989. The amendments to the application deleted the unleased federal tract, as well as the federal OCS lease considered by the MMS to be geologically inappropriate for inclusion in the proposed unit area, clarified the intent of the original application, and made grammatical corrections.

## II. DISCUSSION OF DECISION CRITERIA

In accordance with AS 38.05.180(p) and 11 AAC 83.303, the commissioner of the department of natural resources will approve a proposed unit agreement for state oil and gas leases if the commissioner finds that such agreement will conserve the natural resources of all or a part of an oil or gas reservoir and is necessary or advisable to protect the public interest. To find that a proposed unit agreement is necessary or advisable to protect the public interest, the commissioner must find that the proposed unit will: (1) promote the conservation of all natural resources; (2) promote the prevention of economic and physical waste; and (3) provide for the protection of all parties of interest, including the State. In evaluating the above criteria, the commissioner will consider: (1) the environmental costs and benefits of unitized exploration and development; (2) the geological and engineering characteristics of the potential hydrocarbon accumulation or reservoir proposed for unitization; (3) prior exploration activities in the proposed unit area; (4) the applicant's plans for exploration or development of the proposed unit area; (5) the economic costs and benefits to the State; and (6) any other relevant factors (including mitigation measures) the commissioner determines necessary or advisable to protect the public interest. A discussion of these criteria and considerations follows.

(A) <u>The Conservation of All Natural Resources</u>. Unitization of reservoirs is recognized as a prudent conservation mechanism. The conservation consideration in petroleum production arises out of the combined effects of three conditions: (a) the existence of two or more owners of operating rights in a single reservoir; (b) the migratory nature of oil and gas; and (c) the impact on original ownership interests from injection of outside substances which may move hydrocarbons across lease lines. The tendency of petroleum to migrate within a reservoir gave rise to a doctrine of property rights known as the "rule of capture." According to this rule, petroleum ultimately belongs to the land owner (or lessee) who captures it through wells located on his land, regardless of its original location. The owner (or lessee) can protect his title only by taking possession of the petroleum in place before it is drained away by wells on neighboring land.

Without unitization, the process of unregulated development tends to be a race for possession by competitive operators. The results can be: (a) overly dense drilling, especially along property lines, (b) rapid dissipation of reservoir pressure, and (c) irregular advance of displacing fluids, all of which contribute to the loss of ultimate recovery or economic waste. The concentration of surface activity and the haste to get oil to the surface also increases the likelihood of damage external to the reservoir (such as spills and other surface impacts). While conservation orders and field rules issued by the Alaska Oil & Gas Conservation Commission would mitigate some of the above identified impacts, unitization provides the most practical method for achieving the desired results of maximizing oil and gas recovery and minimizing negative impacts on other resources.

Unifying the ownership of a reservoir by assigning an undivided equity interest to each affected party alleviates the adverse incentives described above. Under this arrangement, an agreed share of oil and gas is assigned to each lease within a unit area regardless of which lease ultimately produces the oil and gas. Unitization helps eliminate wasteful practices, minimizes development activity for a given level of production, and conserves all natural surface and subsurface resources.

Thus, the proposed Northstar Unit Agreement by virtue of its terms will promote the conservation of both surface and subsurface resources through the unitized (rather than the lease-by-lease) operation of the reservoir.

(B) <u>The Prevention of Economic and Physical Waste</u>. The assignment of undivided equity interests in the oil and gas reservoirs to each affected lease largely resolves the resource conservation problem. However, economic and physical waste could still occur in the absence of a cost sharing formula and a well designed development plan. To be complete, a unit agreement must provide for the division of costs as well as hydrocarbons (benefits) and set forth a development plan for maximizing physical and economic recovery from the reservoir. While the assignment of hydrocarbon shares prevents hasty or unnecessary surface development, the absence of a cost-sharing agreement severely inhibits the efficient development of common surface facilities and operating strategies. Adoption of a cost-sharing agreement, as well as the selection of a mutually agreeable single unit operator, enables rational decisions regarding well spacing, reinjection strategy, and the development of a minimum number of common, joint-use surface facilities. Unitization prevents economic and physical waste by eliminating redundant expenditures for a given level of production, and avoids loss of ultimate recovery through the application of a unified reservoir management strategy.

The economics of unitized operations are particularly advantageous for development of reservoirs with variable productivity across adjoining leases. In such areas, added reserves are often gained through unitized operations. Capital savings for all working interest owners as a result of eliminating duplication of facilities and promoting better reservoir management through pressure maintenance and secondary recovery procedures allow less profitable areas of a reservoir to be developed and produced. Based upon current oil prices and anticipated development costs it appears that the Northstar field contains substantial areas of economically marginal acreage. It is unlikely that this acreage would be readily developed if not unitized and developed jointly since its profitability depends on the sharing of the central development and field support facilities.

Under the terms of the proposed unit, research and analysis of the geologic and fluid properties of the reservoir will continue. Specific development studies and analyses of reservoir management options are part of the plan of development. A single operator ultimately will develop and produce the area on behalf of the other working interest owners. Consequently, the Northstar Unit Agreement and the plan of development submitted with it will promote the prevention of economic and physical waste.

(C) <u>The Protection of All Parties in Interest, Including the State</u>. One aim of unitization is the protection of the economic interests of all working interest owners of a common oil and gas reservoir. As described above, unitization conserves natural resources and prevents economic and physical waste by: (a) eliminating the many competing interests for operating a common reservoir, while (b) retaining separate interests and accounts for sharing equitably in costs and benefits based on original ownership. By approving the Unit Agreement each individual working interest owner is assured an allocation of costs and revenues commensurate with the value of it's lease(s).

The proposed Northstar Unit Agreement protects the State's economic interest by maximizing ultimate physical recovery and thereby the production-based revenue accruing to the State. Additionally, the Agreement contains equitable provisions for reporting and record-keeping, provides for state concurrence with operating procedures, and adequately provides for royalty settlement, in kind taking, and emergency storage of oil.

Finally, by promoting operations which prevent economic and physical waste, the Unit Agreement also minimizes impacts to the region's cultural, biological, and environmental resources.

III. DISCUSSION OF CONSIDERATIONS

The following matters were considered in evaluating the criteria discussed in Part II, above.

(A) The Environmental Costs and Benefits of Unitized Exploration or Development. The area encompassed by the proposed Northstar Unit Agreement is habitat for a variety of fish and wildlife. It is also used on occasion by residents of the North Slope for subsistence hunting and fishing. Oil and gas activity in the proposed unit area will impact some habitat and subsistence activity. The extent of this impact will depend on a number of variables, including the measures taken to mitigate the impact; the overall effectiveness of these measures; the availability of alternative habitat and subsistence areas; and the ability of the fish and wildlife to adapt to some displacement and changes in their habitat.

If ongoing measures (seasonal restrictions on specific activities in certain areas, required consolidation of facilities, regulation of waste disposal, etc.) are continued to minimize surface impacts, the anticipated oil and gas development activity within the area is not likely to significantly impact bird, fish, and mammal populations. In any case, the impact of oil and gas related activity on this habitat and subsistence activity will be less under the proposed Unit Agreement than if the leases were to be developed and produced individually. Unitization will enable development and production of the hydrocarbon resources with the minimum amount of surface impact.

The Alaska Department of Fish and Game (ADF&G), in its comments on the proposed Northstar Unit Agreement and the plan of development, has recommended the incorporation of specific language amending Section 8 of the Unit Agreement. Section 8 is entitled "Plans of Operations, Exploration and Development and Production." ADF&G prefers that Section 8 expressly state that the ADF&G "will have the opportunity to recommend specific measures to mitigate impact on fish and wildlife and their human uses as part of the review on unit plans of exploration and development."

The concerns expressed in the proposed ADF&G language have already been addressed in a number of lease provisions and regulations governing operations on state oil and gas leases, including the leases encompassed by the proposed Northstar Unit. With respect to the State leases in the proposed unit area, stipulations in the leases address such environmental issues as site restoration, pipelines, seasonal operations, and seismic hazards. Virtually all lease activities are subject to a coastal zone consistency determination and must comply with the terms of a valid coastal zone plan. In reviewing each specific plan of operations for consistency, the state resource agencies, including ADF&G, already have the opportunity to submit comments and make specific mitigation recommendations.

Further, state unitization regulations require that no operations may be undertaken on a unit area before a plan of operation is approved by the commissioner. A unit plan of operation submitted for approval must include a description of operating procedures designed to prevent or minimize adverse effects on natural resources and other uses of the unit area and adjacent areas, including fish and wildlife habitats, historic and archeological sites, and public use areas. Before undertaking operations within the unit area, the unit operator must provide assurances for full payment of all damage sustained by the owner of the surface estate (as well as by the surface owner's lessees and permittees) by reason of entering the land. Finally, a unit plan of operations will not be approved unless it includes plans for rehabilitation of the affected unit area after completion of operations or phases of those operations.

(B) <u>The Geological and Engineering Characteristics of the Reservoir</u>. Geological and engineering test data from exploratory and delineation wells within the proposed Northstar Unit were evaluated by the Minerals Management Service and the State to determine the appropriateness of the proposed unit boundaries. These data included both confidential and non-confidential well logs, core descriptions, geologic cross sections, seismic sections, and test results. In addition, structure maps and isochron maps derived from these data were examined.

Pursuant to 11 AAC 83.356, a unit must encompass the minimum area required to include all or part of one or more oil or gas reservoirs, or all or part of one or more potential hydrocarbon accumulations. The results of the state and federal evaluations of the subsurface geology support the proposed Northstar Unit boundary as amended. The proposed unit area encompasses state oil and gas leases with established or potential hydrocarbon accumulations, but excludes leases which have not been demonstrated to include recoverable hydrocarbon accumulations.

(C) <u>Prior Exploration Activities in the Unit Area</u>. Hydrocarbons were discovered within the proposed unit area by the Shell Oil Company, the operator of the Seal Island exploratory prospect, at the BF-47 #1 (Seal Island #1) well in 1982. Since 1982, a total of 6 exploratory delineation wells have been drilled from two man-made gravel islands, as more fully described in the

Introduction Section of the Decision. In addition, hundreds of miles of geophysical (seismic) data have been acquired in an attempt to define the limits of the Ivishak hydrocarbon accumulation and other potential accumulations (Kuparuk, Sag River and Kekiktuk) within the unit area.

(D) The Applicants' Plans for Exploration or Development of the Proposed Unit Area. The unit plan of development submitted with the proposed Northstar Unit Agreement provides for the further delineation of the nature of the hydrocarbon accumulation in the proposed unit area. It also addresses potential development scenarios, as well as technical and environmental problems associated with developing an offshore Arctic oilfield. More specifically, the unit plan of development provides for a multi-phase program of activities including: (1) a petrophysical/petrographic study in which the formation mineralogy characterizing the Ivishak Formation will be further refined in order to allow for a more accurate interpretation of in-place hydrocarbons; (2) production facility design and cost studies in which the most economically, technically, and environmentally appropriate facilities will be investigated and evaluated; (3) reservoir engineering studies that will investigate different production scenarios, evaluate limited versus full field development, and estimate ultimate hydrocarbon recovery; (4) a summer and winter geophysical data acquisition program in which approximately 250 miles of additional seismic data will be gathered and evaluated; and (5) the option of drilling a well on state or federal acreage during the term of the initial five-year plan of development. In lieu of drilling the well in any one of the five years of the initial plan of development, the applicants will make lease extension fee payments under a prescribed schedule to the State.

The wells drilled to date have established the existence of hydrocarbon accumulations in the proposed unit area. Further analyses of reservoir and economic conditions will determine the timing and location of any additional Northstar wells during the term of the initial plan of development. The unit plan of development sets forth a series of reservoir development activities that will provide for the ultimate development and production of the reservoir.

(E) The Economic Costs and Benefits to the State. The Northstar Unit Agreement is to the economic benefit of the State because it maximizes the ultimate physical recovery of hydrocarbons and eliminates redundant capital outlays. As a result, the State's long-term royalty, net profit share, and tax revenues are enhanced, while private development capital remains available for alternative oil and gas activity in the State. Also, by having a single operator, the proposed Unit Agreement significantly reduces administrative burdens to the State.

Under the proposed Unit Agreement during each year of the five year term the applicants have the option of drilling another well or continuing to make lease extension fee payments in lieu of drilling. These substantial extension payments are an acceptable substitute for the unquantifiable production revenue benefits which might otherwise be derived from drilling during the initial five year plan of development. However, to assure prompt receipt of extension payments, the applicants must make these payments by 8:00 a.m. (Alaska Standard Time) on or before the due date by wire transfer of federal funds to a bank designated by the State. The applicants shall contact the State within sixty days of each payment due date to ascertain the name of the bank and the number of the account into which the payment is to be transferred. By 9:00 a.m. (Alaska Standard Time) one day prior to the wire transfer, the applicants must telex or telecopy to both the Alaska Department of Revenue, Treasury Division, Attn: Vern Voss (telex # 099-45-333, telecopy # 465-2394) and the Alaska Department of Natural Resources, Division of Oil & Gas, Attn: Larry Sudduth (telex # 090-25-360, telecopy # 762-2544) complete information on the wire transfer, including: (a) the name of the payor, (b) the originating bank, (c) the amount of the wire transfer, and (d) the date on which the wire transfer will be made. When the wire transfer is made, applicants must specify for the designated bank: (a) on whose behalf the payment is being submitted, (b) that the payment is to be credited to the State of Alaska, (c) the number of the account into which the funds are being transferred, and (d) the amount of the wire transfer.

At this time payments made by wire transfer are directed to the First Pennsylvania Bank of Philadelphia, ABA # 031000024, for credit for the State of Alaska Account # 881-462-6, Attn: Diane Patterson.

Failure to make an extension payment when due, shall be a material default under the Unit Agreement which shall be treated as a failure to pay rental or royalty under 11 AAC 83.374.

## IV. DIFFERENCES BETWEEN THE PROPOSED NORTHSTAR UNIT AGREEMENT AND THE JOINT FEDERAL/STATE OF ALASKA MODEL AGREEMENT FORM

The following is a review and discussion of the substantial differences between the proposed Northstar Unit Agreement and the joint federal/State of Alaska model unit agreement form. Many of the proposed changes were made at the request of the State and/or MMS.

### A. Recitals

The recitals in the Northstar Unit Agreement are essentially the same as those in the model agreement except that some of the federal legal citations have been corrected and consolidated for simplification. These changes clarify the federal statutory base on which unitization is accomplished. The changes do not materially alter the unit agreement.

B. Article 1

Article 1 sets forth the definitions utilized in the Unit Agreement. The definitions section is substantially similar to the model agreement except for the following modifications:

1. The "Agreement Regarding Unitization" and the "Section 7 Agreement" are defined.

2. The "Alaska Oil and Gas Conservation Commission" is defined.

3. "Sustained Unit Production" is defined.

4. The term "Director" is deleted and replaced by the "Regional Supervisor." The term "Regional Supervisor" is defined.

5. The term "Regional Supervisor, or the Commissioner, or both" is defined.

6. The definition of "Reservoir" has been slightly modified to indicate that it is that part of the unit area containing an accumulation of unitized substances.

7. The term "Unitized Substances" has been modified to be more specific as to all the hydrocarbons being unitized.

All of the proposed changes to Article 1 of the model agreement are consistent with the model agreement and do not alter the intent or operation of the substantive provisions of the model agreement.

C. Article 3

Article 3 of the Northstar Unit Agreement and the model agreement are the same except for the following modifications:

1. Article 3.3 was added to the Northstar Unit Agreement to reflect the State of Alaska unitization regulation 11 AAC 83.373, entitled "Severance." The intent of this regulation is to allow for the severance of a State of Alaska oil and gas lease upon commitment of only a portion of the lease to a unit agreement. As a unit must encompass the minimum area required to include all or part of one or more oil and gas reservoirs, or all or

part of one or more potential hydrocarbon accumulations, this article allows a portion of a lease appropriate for inclusion in a unit to be included, while the remainder is excluded.

Since federal regulations do not allow for severance of federal leases upon unitization, language was added to make this clear. Where only a portion of a federal lease is committed to a unit area, the lease will not be severed upon unitization.

2. Article 3.10 was added to the proposed Northstar Unit Agreement to reflect a preference for unanimous consent to unitization by all working interest owners of a lease before that lease is committed to a voluntary unit. Some of the benefits of unitization may be reduced or eliminated where a recalcitrant working interest owner is forced to participate in a unit.

These proposed changes are consistent with applicable State of Alaska and federal regulations on unitization. Additionally, they maximize the benefits of unitization.

D. <u>Article 8</u>

As a plan of operations, exploration, and development affects the federal and state leases both jointly and individually within the proposed Northstar Unit, modifications were made to Article 8 to identify the respective jurisdictions of the State and the federal government. In addition, the State of Alaska and the federal government have different policies with respect to the extension of leases beyond their primary terms. The mechanism of lease extension for the federal leases and the state leases required clarification within the context of a unit plan. The following modifications were made to Article 8:

1. Language was added to Article 8.2 to assure that both the State and the federal government received copies of applications relevant to proposed unit operations regardless of whether both the State and the federal government have jurisdiction to approve or deny the applications.

2. Article 8.5 was revised to indicate that either the federal government must approve suspension of production or other operations or there must be production or a continuous drilling or well reworking program to hold the federal leases within the unit beyond their primary term. In the case of state leases, operations in accordance with an approved unit plan of exploration or development are sufficient to hold the leases in lieu of production

or a continuous drilling or well reworking program.

3. Article 8.9 was added to address the injection of outside substances into the reservoir as part of an approved unit plan of operation or development. This addition is consistent with a fundamental premise of unitization, which is that a unit should be operated as a single lease. Also, additional approval from the Alaska Oil and Gas Conservation Commission for injection of outside substances was specified where appropriate.

## E. <u>Article 9</u>

Article 9 addresses formation of Northstar participating area(s), jurisdiction over the participating areas(s), and provisions for expansion and contraction of the Northstar participating area(s). These provisions are substantially similar to the provisions set forth in the model agreement.

Article 9.1 was modified to allow for the formation of the initial Northstar participating area no later than six months prior to sustained unit production from a reservoir within the unit area. For each subsequent participating area an application must be submitted no later than ninety days prior to sustained production. A mechanism for establishment of an effective date for the participating area(s) was also included in the revision of the Article 9.1.

These modifications are justified by the complex geology of the area, as well as the need to further delineate and understand the reservoir(s) before formation of participating areas. Furthermore, these modifications are consistent with current state regulations and other unit agreements approved by the State.

Article 9.5 was augmented to specify the governmental body having authority to approve the combining of participating areas.

## F. <u>Article 10</u>

Article 10 of the proposed Northstar Unit Agreement is slightly different from the model agreement. Amendments to the Article were proposed to reflect current State of Alaska unitization regulations, and to recognize the common interest of the State and federal government in the recovery of outside substances injected into any reservoir within the unit area.

Article 10.2 is augmented by the inclusion of language reflecting the requirements of 11 AAC 83.371(b).

Article 10.3 and Article 10.4 of the model agreement dealt with the royalty-free recovery of hydrocarbons reinjected into any reservoir within the unit; Article 10.3 pertained to federal leases, while Article 10.4 covered state leases. Under the proposed Northstar Unit Agreement Articles 10.3 and Article 10.4 are combined to create one standard applicable to both the federal and state leases. Consistent treatment of reinjected substances facilitates the administration of the leases of the proposed Northstar Unit, and avoids potential confusion and conflict created by two separate standards.

The foregoing modifications to the model agreement incorporate State of Alaska unitization regulations and provide for the efficient administration of the unit.

G. Article 12

Article 12 of the proposed Northstar Unit Agreement is substantially different from the model agreement. This Article involves the rentals, royalties, and net profit share attributable to the State of Alaska leases proposed for inclusion in the Northstar Unit. The substantive modifications to the model agreement are as follows:

1. Article 12.2 of the model agreement pertains to payment of minimum royalty. The leases proposed for inclusion in the Northstar Unit do not provide for payment of minimum royalty; therefore, this Article is not necessary for the Northstar Unit leases and consequently was eliminated from the Agreement.

2. A new Article 12.2 was added to the proposed Northstar Unit Agreement. It permits the State lessees to make progressively larger annual payment to the State in lieu of drilling during the initial five-year plan of development. These extension payments provide an economic benefit to the State in lieu of the potential production revenue benefits derived from drilling during the initial five year plan of development.

3. Article 12.7 was amended to conform to the lease language of state leases in the proposed Northstar Unit. The applicants will pay royalty taken in value as provided for by the lease terms.

4. Article 12.10. has been modified to shorten the period of advance notice the State must give of its nomination to take its royalty in kind or in value. Under the proposed Unit Agreement the applicants must give approximately six months notice of the commencement of sustained unit production. Within ninety days of receipt of that notice, the commissioner must make the State's in kind nomination. Similarly, the commissioner must give ninety days notice to alter the State's in kind

nomination. In the model agreement, the time frames were twelve months, six months, and six months, respectively.

5. Article 12.13 incorporates by reference the net profit share lease (NPSL) regulations as amended through August 15, 1982 for all NPSL leases in the proposed unit. Without this provision, administration of some of the NPSLs would be governed by the 1979 version of the NPSL regulations, while the administration of the remaining NPSL would be governed by the 1982 version of the NPSL regulations. While the 1979 and 1982 versions of the NPSL regulations differ in some significant respects, neither version is clearly more or less favorable to the State. Because administration of the proposed unit would be simplified by the application of a single set of regulations to all NPSLs with the unit, the proposed Unit Agreement provides for use of the more current 1982 regulations only.

Article 12.13 also obligates the lessees of the NPSLs to maintain the records relevant to determine net profit share for a period of time greater than specified by 11 AAC 83.245. The State will have additional time to audit these records and seek legal redress for any error or deficiency.

H. Article 13

Article 13 of the Northstar Unit Agreement and the model agreement are substantially similar. However, a section has been added to Article 13 which addresses the contraction of the unit area in the event that no participating area has been established within ten years of the effective date of the Unit Agreement. The additional section, Article 13.3, conforms with the State of Alaska unitization regulation 11 AAC 83.356(e).

I. Article 14

Article 14 of the proposed Northstar Unit Agreement and the model agreement are substantially similar. Articles 14.2(a) and 14.3 have been modified to clarify what conditions maintain the unit during and after the initial term of the Northstar Unit Agreement. The modifications are as follows:

1. Under Article 14.2(a) unit operations in accordance with an approved unit plan of exploration or development maintain the Unit Agreement in lieu of production from the unit area.

2. Joint management decisions by the federal government

and the State are essential for the efficient administration of the Northstar Unit, a combination of federal and State of Alaska oil and gas leases. This is no more apparent than in the determination of whether to approve a suspension of operations or production on all or part of the Northstar Unit area. Article 14.3 is modified to reflect the joint determination of a suspension of operations or production by the State and the federal government. Article 14.3 specifies that the suspension must be conducted in accordance with the provisions of Article 8 (Plans of Operations, Exploration and Development).

J. Article 21

Article 21 of the proposed Northstar Unit Agreement has no corollary in the model agreement. Article 21 specifies that the State is entitled to royalties from federal unit tracts under section 8(g) of the Outer Continental Shelf Lands Act, as amended. The amount the State is entitled to is a function of the production allocation set forth in Exhibit C to the Northstar Unit Agreement.

## IV. FINDINGS AND DECISION

Based on the foregoing, and in addition to the foregoing, I find:

1. Approval of the Northstar Unit Agreement and plan of development submitted with it is necessary and advisable to protect the public interest.

2. Approval of the Northstar Unit Agreement will promote the conservation of all natural resources, including hydrocarbons, gravel, sand, water, wetlands, and other valuable habitat.

3. Approval of the Unit Agreement will assist in preventing the waste of oil and gas, as well as reasonably increase the probability of recovering substantially more oil and gas from the unit area.

4. The Unit Agreement will equitably and adequately protect all parties in interest, including the State of Alaska.

5. Inclusion within the unit area of all hydrocarbon accumulations will further enhance the production and development of those accumulations and is, therefore, in the public interest.

6. The Northstar Unit Agreement provides for further expansions and contractions of the unit area in the

future as warranted by additional information. Therefore, the public interest and the correlative rights of all parties are protected.

7. Approval of this Unit Agreement will not further diminish access to public and navigable waters beyond limitations (if any) already contained in the oil and gas leases covered by the Unit Agreement.

8. The unitized development and operation of the tracts will substantially reduce the amount of surface lands and fish and wildlife habitat that would otherwise be disrupted if the oil and gas leases were to be developed and operated on a non-unitized basis. This reduction in the impact on the environment and on subsistence activity is in the public interest. However, some environmental impact is still likely as a result of oil and gas development and production. Development must proceed according to the plan of development submitted with the Unit Agreement. Prior to undertaking any specific operations, a unit plan of operations must be submitted to the department and other appropriate State and local agencies for review and approval. Mitigating measures, if necessary or advisable, will be imposed through any plan of operations. The degree of environmental impact likely to result will be determined by the success of and adherence to these mitigating measures. The department intends to enforce any mitigating measures that are attached to a plan of operations.

9. The area contained within the unit is proper, based on geological and engineering data submitted to the department in support of the application.

10. Allocation of production and initial tract participation (Exhibit C to the Unit Agreement) is based on acceptable engineering and geological principles.

11. The applicants have expended considerable resources in exploring and developing the unit area under a joint exploratory agreement among themselves before proposing to form the Northstar Unit.

12. For the period which it encompasses, the applicants' plan of development for the Northstar Unit area provides for adequate exploration and analysis of potential hydrocarbon zones in the unit area, as well as for diligent development activities prior to ultimate production of hydrocarbons from the unit area.

13. The Unit Agreement will assure a fair and equitable return to the State from any production of hydrocarbons

from the unit area.

14. The economic benefits to the State as a result of unitized development and production of the Northstar Unit area far outweigh the economic costs to the State in approving the unit.

15. The modifications proposed to the Joint Federal/State of Alaska Model Unit Agreement form are necessary or advisable to meet the provisions of 11 AAC 83.303, and are reasonably required to meet the needs and requirements of the Northstar Unit.

16. The Northstar Unit Agreement meets the requirement of AS 38.05.180(p) and 11 AAC 83.303.

17. The plan of development submitted with the Northstar Unit Agreement meets the requirements of 11 AAC 83.343 and 11 AAC 83.303.

18. Pursuant to 11 AAC 83.343, an annual update to the Plan of Development which describes the status of projects and work completed, as well as any proposed or expected changes to the unit plan of development must be submitted for approval to the State. Changes to the unit plan of development will be approved in accordance with Article 8 of the Unit Agreement.

19. An opportunity for public comment on the Northstar Unit application was provided in substantial compliance with the public notice requirements of 11 AAC 83.311.

20. The modifications to the form unit agreement made by the Northstar Unit Agreement are in compliance with 11 AAC 83.326 and 11 AAC 83.393(b).

For these reasons and subject to the conditions noted in this Decision and Findings I hereby approve the Northstar Unit Agreement.

James E. Eason

James E. Eason, Director
Division of Oil and Gas

January 23, 1990

Date

For
Lennie Gorsuch, Commissioner
Alaska Department of Natural Resources

Attachment:

Delegation of Authority from Commissioner to Director, Division of Oil and Gas

## DELEGATION OF AUTHORITY

I hereby delegate to the Director of the Division of Oil and Gas my authority under 11 AAC 83.326 to require or accept nonstandard unit agreement language, as well as my authority under 11 AAC 83.316 to approve the Northstar Unit Agreement.

Dated: January 23, 1990
Juneau, Alaska

Lennie Gorsuch

Lennie Gorsuch, Commissioner
Alaska Department of Natural Resources

DELEGATIONS OF AUTHORITY FOR THE DIVISION OF OIL AND GAS

| Regulatory Citation | Purpose or Action | Authority Vested in | Authority Delegated to |
|---|---|---|---|
| 11 AAC 82.400 | Parcels Offered for Competitive Lease | Commissioner | No Delegation |
| 11 AAC 82.405 | Method of Bidding | Commissioner | No Delegation |
| 11 AAC 82.410 | Minimum Bid | Commissioner | No Delegation |
| 11 AAC 82.445 | Incomplete Bids | Commissioner | No Delegation |
| 11 AAC 82.450 | Rejection of Bids | Commissioner | No Delegation |
| 11 AAC 82.455 | Tie Bids | Commissioner | No Delegation |
| 11 AAC 82.460 | Additional Information | Commissioner | No Delegation |
| 11 AAC 82.465 | Award Leases | Commissioner | Director, Div. Oil & Gas (DOG) |
| 11 AAC 82.470 | Issue Leases | Commissioner | Director, DOG |
| 11 AAC 82.475 | Bid Deposit Return | Commissioner | Director, DOG |
| 11 AAC 82.600 | Required Bonds | Commissioner | Director, DOG |
| 11 AAC 82.605 | Approve/Deny Assignments of Oil and Gas Leases | Commissioner | Director, DOG |
| 11 AAC 82.610 | Segregate Leases | Commissioner | Director, DOG |
| 11 AAC 82.620 | Transfer of a Lease, Permit or Interest as a Result of Death | Commissioner | Director, DOG |
| 11 AAC 82.625 | Eff. Date of Assignments | Commissioner | Director, DOG |
| 11 AAC 82.635 | Surrenders | Commissioner | Director, DOG |
| 11 AAC 82.640 | Survey Requirement | Commissioner | No Delegation |
| 11 AAC 82.645 | Conforming Protracted Description to Official Surveys | Commissioner | No Delegation |

| | | | |
|---|---|---|---|
| 11 AAC 82.650 | Control of Lease Boundaries | Commissioner | No Delegation |
| 11 AAC 82.660 | Excess Area; Partial Termination | Commissioner | No Delegation |
| 11 AAC 82.665 | Rental and Royalty Relief | Commissioner | No Delegation |
| 11 AAC 82.700 | Taking Royalty in Kind | Commissioner | No Delegation |
| 11 AAC 82.705 | Bidding Method | Commissioner | No Delegation |
| 11 AAC 82.710 | Notice of Sale | Commissioner | No Delegation |
| 11 AAC 82.800 | Production Records | Commissioner | No Delegation |
| 11 AAC 82.805 | Test Results | Commissioner | No Delegation |
| 11 AAC 83.153 | Well Confidentiality | Commissioner | Director, DOG |
| 11 AAC 83.158 | Approve/Deny Lease Plan of Operations | Commissioner | Director, DOG |
| 11 AAC 83.303 | Unit Agreement Approval | Commissioner | Director, DOG |
| 11 AAC 83.306 | Accept Application for Unit Agreement Approval | Commissioner | Director, DOG |
| 11 AAC 83.311 | Publish Public Notice of Unit Agreement Application | Commissioner | Director, DOG |
| 11 AAC 83.316 | Approve/Deny Unit Agreement | Commissioner | No delegation |
| 11 AAC 83.326 | Require or Accept Nonstandard Unit Agreement Language | Commissioner | No delegation |
| 11 AAC 83.328 | Mandate Unitization (Involuntary Unitization) | Commissioner | No delegation |
| 11 AAC 83.331 | Approve/Deny Change in Unit Operator | Commissioner | Director, DOG |
| 11 AAC 83.336 | Grant Extension of Unit Term; Grant Suspension of Operations (Force Majeure); Terminate Unit | Commissioner | No delegation |

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|---|---|---|---|
| 11 AAC 83.341 | Approve/Deny Plan of Exploration | Commissioner | Director, DOG |
| 11 AAC 83.343 | Approve/Deny Plan of Development | Commissioner | Director, DOG |
| 11 AAC 83.346 | Approve/Deny Plan of Operations | Commissioner | Director, DOG |
| 11 AAC 83.351 | Approve/Deny Participating Area | Commissioner | Director, DOG |
| 11 AAC 83.356 | Expand/Contract Unit Area | Commissioner | Director, DOG |
| 11 AAC 83.361 | Certify Wells as Capable of Production in Paying Quantities | Commissioner | Director, DOG |
| 11 AAC 83.371 | Approve/Deny Allocation of Cost and Production Formulas | Commissioner | Director, DOG |
| 11 AAC 83.373 | Sever Leases | Commissioner | Director, DOG |
| 11 AAC 83.374 | Declare Unit in Default | Commissioner | No delegation |
| 11 AAC 83.383 | Notation of Approval on Joinder | Commissioner | Director, DOG |
| 11 AAC 83.385 | Modification of Unit Agreement | Commissioner | Director, DOG |
| 11 AAC 83.393 | Approval of Federal or Private Party Unit Agreements | Commissioner | No delegation |

I hereby delegate the authority vested in me through AS 38.05.180 to the Director of the Division of Oil and Gas as noted above. This delegation of authority is effective until revoked by me.

Lennie Gorsuch

Lennie Gorsuch, Commissioner
Alaska Department of Natural Resources

2-16-89
Date

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# DELEGATION OF AUTHORITY

I hereby delegate to the Director of the Division of Oil and Gas my authority under 11 AAC 83.326 to require or accept nonstandard unit agreement language, as well as my authority under 11 AAC 83.316 to approve the Northstar Unit Agreement.

Dated: January 23, 1990
Juneau, Alaska

Lennie Gorsuch
Lennie Gorsuch, Commissioner
Alaska Department of Natural Resources

# DELEGATION OF AUTHORITY

I hereby delegate to the Director of the Division of Oil and Gas my authority under 11 AAC 83.326 to require or accept nonstandard unit agreement language, as well as my authority under 11 AAC 83.316 to approve the Northstar Unit Agreement.

Dated: January 23, 1990
Juneau, Alaska

Lennie Gorsuch
Lennie Gorsuch, Commissioner
Alaska Department of Natural Resources

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