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DIVISION OF OIL AND GAS

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September 5, 2002

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RE: Northstar Unit, Northstar Participating Area

Dear Mr. Howe:

On September 4, 2002, Mark D. Myers, Director of the Department of Natural Resources, Division of Oil and Gas (DNR), issued the enclosed Findings and Decision approving the formation of the Northstar Participating Area (Northstar PA) within the Northstar Unit. On April 2, 2001, the Northstar Unit Operator, BP Exploration (Alaska), Inc. (BP), applied to expand the Northstar Unit boundary and form the Northstar PA within the existing and expanded unit area. DNR and the U.S. Department of Interior, Minerals Management Service (MMS) jointly manage the Northstar Unit. DNR and MMS approved the proposed Northstar Unit expansion on July 13, 2001 and July 24, 2001, respectively.

On October 5, 2001, DNR issued an interim approval of the Northstar PA application, including approval of the Northstar Unit Fourth Plan of Development (4th POD) and the Outside Substances Agreement. DNR's interim decision authorized BP to commence production from the Northstar Reservoir contingent on concurrent approval by MMS. On October 11, 2001, MMS issued an interim approval of the Northstar PA effective immediately, and BP commenced production on October 31, 2001. MMS issued a final decision approving the application on November 9, 2001.

DNR considered the criteria provided in the Northstar Unit Agreement, statutes, and regulations, and found that formation of the Northstar PA was in the best interest of the State. The department's evaluation of the formation of the Northstar PA is set out in the enclosed Findings and Decision.

Findings and Decision of the Director
of the Division of Oil and Gas

APPROVING THE FORMATION OF THE NORTHSTAR PARTICIPATING AREA
WITHIN THE NORTHSTAR UNIT

Under a Delegation of Authority
from the Commissioner of the State of Alaska
Department of Natural Resources

September 4, 2002

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I. Application for the Formation of the Northstar Participating

The Northstar Unit straddles the U.S.-Alaska Territorial Sea Boundary in the Beaufort Sea, north of the Prudhoe Bay Unit, and extends approximately from two to six miles offshore of Point Storkerson. The Department of Natural Resources, Division of Oil and Gas (DNR or the Division as appropriate) and the U.S. Department of Interior, Minerals Management Service (MMS) approved the formation of the joint State/Federal Northstar Unit effective January 24, 1990. On April 2, 2001, BP Exploration (Alaska), Inc. (BP), the Northstar Unit Operator, applied to expand the Northstar Unit boundary and form the Northstar Participating Area (Northstar PA) within the existing and expanded unit area under 11 AAC 83.351 and Section 9 of the Northstar Unit Agreement (the Unit Agreement). BP submitted the *Application for the Formation of the Northstar Participating Area within the Northstar Unit* (the Application) to DNR and MMS, on behalf of itself and Murphy Exploration (Alaska), Inc. (Murphy), the working interest owners in the Northstar Unit (the Applicants).

DNR and MMS issued decisions approving the proposed expansion of the Northstar Unit on July 13, 2001 and July 24, 2001, respectively. The Northstar Unit boundary expanded to include an additional Federal lease effective July 25, 2001.¹ On October 5, 2001, The Division conditionally approved the formation of the Northstar PA (Interim Approval). The Division considered the criteria provided in the Unit Agreement, statutes, and regulations, and found that formation of the Northstar PA, with the conditions contained in the Interim Approval, was in the best interest of the State. The Interim Approval authorized BP to commence production from the Northstar PA contingent on concurrent approval by MMS.²

The Application included the following exhibits to the Unit Agreement: Exhibit A, a schedule describing the expanded Northstar Unit; Exhibit B/D, a map of the proposed Northstar Unit and Northstar PA boundaries; Exhibit C, a schedule allocating unitized substances within the Northstar PA; Exhibit C-1, BP's proposed *Procedure for Redetermination of Northstar Participating Area Unit Tract Participation*; and Exhibit E, a schedule allocating Participating Area Expenses. The application also included a draft Fourth Plan of Development for the Northstar Unit (4th POD), an Outside Substances Agreement, and supporting geological, geophysical, and engineering data.

BP supplemented the Application on July 11, August 1, September 18, September 26, October 5, and October 29, 2001. BP's Supplemental Submission dated July 11, 2001, consisted of a proposed 4th POD to replace the draft plan submitted with the Application. BP provided the Second Supplemental Submission on August 1, 2001 to clarify the geologic intervals included in the Northstar PA. In response to comments from the Division and MMS, BP revised Exhibit C-1, the 4th POD and the Outside Substances Agreement on September 18, 2001. On September 26, 2001, BP submitted the *Final Supplemental Submission, Application for Formation of the Northstar Participating Area* (Final Submission), which included Exhibits A, B/D, C, C-1, C-2,

¹ Expansion of the Northstar Unit area requires approval by both DNR and MMS under Article 13 of the Unit Agreement. "No expansion shall be effective until approved by the Regional Supervisor and Commissioner."

² . . . If the Reservoir into which a unit well certified as capable of producing hydrocarbons in Paying Quantities is drilled lies under both State and Federal lands, . . . the application for a Participating Area or any revision to a Participating Area for that Reservoir shall be made to both the Regional Supervisor and the Commissioner. Article 9.1.1 of the Unit Agreement.

and E; a revised 4th POD; and an amended Outside Substances Agreement. C-2 provides a *Sample Calculation Under C-1*. On October 5, 2001, BP amended the Final Submission by providing revised Exhibit C-1, the 4th POD, and the Outside Substances Agreement. The Division received final revisions of Exhibits C-1 and C-2 on October 29, 2001. On August 5, 2002, BP submitted a corrected version of Exhibit C.

BP proposed expanding the unit area to include all 2,930 acres within one Federal oil and gas lease, OCS-Y-1645, so that the Northstar Unit would encompass the entire Northstar Reservoir. The expanded Northstar Unit encompasses a total of approximately 33,768 acres within eight oil and gas leases, including 23,344 acres within five State leases, and 10,424 acres within three Federal leases. BP holds 100% working interest in seven of the Northstar Unit leases, while BP and Murphy jointly hold one Federal lease with 90% and 10% respective working interest ownership.

The Application also proposed forming the Northstar PA within the existing and expanded unit area.³ BP provided geological, geophysical, and engineering data supporting the Application, which defined the Northstar Reservoir as the Ivishak and Shublik “D” intervals within the Northstar Field. The Division found that a portion of the State acreage within the Northstar Unit is “reasonably known to be underlain by hydrocarbons and known or reasonably estimated through the use of geological, geophysical, or engineering data to be capable of producing or contributing to production of hydrocarbons in paying quantities”⁴ from the Northstar Reservoir. BP initially proposed that the Northstar PA encompass all of the three Federal leases, OCS-Y-0179, OCA-Y-0181 and OCS-Y-1645, and portions of four State leases, ADL 312798, ADL 312799, ADL 312808, and ADL 312809. BP’s proposed Northstar PA contained a total of approximately 28,023.63 acres, including 12,252.37 acres within the State leases and 10,424.14 acres within the Federal leases.

The Division requested and BP agreed to reduce the State acreage proposed for inclusion in the Northstar PA to conform to 160 acre spacing around the Northstar Reservoir oil/water contact contour. BP also agreed to reduce the Federal acreage proposed for inclusion in the Northstar PA to exclude other possible hydrocarbon accumulations not in communication with the Northstar Reservoir. BP amended the Unit Tract Participation schedule and the schedule Allocating Unit Tract Expense, and revised the Northstar PA map accordingly, Exhibits C, D and E respectively. The approved Northstar PA encompasses approximately 17,667 acres, including 9,901 acres (56%) within four State leases and 7,766 acres (44%) within three Federal leases.

The Division’s Interim Approval accepted Exhibit C, the Initial Tract Participation Schedule for the Northstar PA, dated September 26, 2001, which allocates unitized substances among the leases in the Northstar PA. The Division also accepted Exhibits A, B/D, and C-2 included with the Final Submission on September 26, 2001, as well as the Outside Substance Agreement and 4th POD dated October 5, 2001. Exhibit C allocates 84.097% of the unitized substances produced from the Northstar Reservoir to the State leases and 15.903% to the Federal leases within the

³ No later than six (6) months prior to Sustained Unit Production from a Reservoir in the Unit Area, the Unit Operator shall submit to the Regional Supervisor, or the Commissioner, or both, for approval a description of the proposed initial Participating Area. 11 AAC 83.351(a).

⁴ 11 AAC 83.351(a).

Northstar PA.⁵ Therefore, initially BP holds 98.8272% and Murphy holds 1.1728% effective working interest in the Northstar PA.

MMS approved the Outside Substances Agreement for the Northstar Unit on October 10, 2001. On October 11, 2001, MMS issued an interim approval of the Northstar PA effective immediately.⁶ However, the Division, MMS, and the working interest owners continued to discuss the wording of the Tract Participation redetermination terms in Exhibit C-1. On October 29, 2001, BP submitted a revised Exhibit C-1 that was acceptable to all parties and benefits the public interest. BP commenced production from the Northstar PA on October 31, 2001. On November 9, 2001, MMS issued a *Final Decision of Approval of the Application*, which also accepted the October 29, 2001 Exhibit C-1. The Division's evaluation of the formation of the Northstar PA is set out in this Findings and Decision.

II. Analysis of the Application for Formation of the Northstar Participating Area

The Commissioner of DNR (the Commissioner) reviews unit-related applications, including unit expansions and the formation of participating areas, under AS 38.05.180(p) and 11 AAC 83.301—11 AAC 83.395. The State statute and DNR regulations set out the standards and criteria for formation of a participating area. The Commissioner or his designee⁷ may approve the formation of a participating area if he determines it is necessary or advisable in the public interest.⁸

A participating area may include “only land reasonably known to be underlain by hydrocarbons and known or reasonably estimated through use of geological, geophysical, or engineering data to be capable of producing or contributing to the production of hydrocarbons in paying quantities.”⁹ The Division previously certified two Northstar Unit wells as capable of producing in paying quantities, and BP submitted geological, geophysical, engineering, and well data that demonstrated the extent of the Northstar Reservoir.

The Division issued the Interim Decision approving the Application upon finding that it would: 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.¹⁰

⁵ The Unit Operator shall also submit to the Regional Supervisor, or the Commissioner, or both, for approval a proposed division of interest or formula allocating Unit Tract Participation as described in Exhibits C and D and this Article. Upon approval by the Regional Supervisor, or the Commissioner, or both, the area of productivity as described in Exhibits C and D constitutes a Participating Area.

⁶ The effective date of the initial Participating Area will be no later than the date of the first Sustained Unit Production. ... Article 9.1 of the Unit Agreement.

⁷ By memorandum dated September 30, 1999, the Commissioner approved a revision of Department Order 003 that delegated this authority to the Director of the Division of Oil and Gas.

⁸ The proposed unit action must be necessary or advisable in the public interest: “To conserve the natural resources of all or part of an oil or gas pool, field, or like area, the lessees and their representatives may unite with each other, or jointly or separately with others, in collectively adopting or operating under a cooperative or unit plan of development or operation of the pool, field, or like area, or part of it, when determined and certified by the commissioner to be necessary or advisable in the public interest.” AS 38.05.180(p).

⁹ 11 AAC 83.351(a).

¹⁰ 11 AAC 83.303(a).

This Finding and Decision evaluates the Application based on the six factors set out in 11 AAC 83.303 (b).

A. Prior Exploration and Development Activities and the Geological and Engineering Characteristics of the Reservoir

In 1982, Shell Oil Company (Shell), Murphy Oil USA, and Amerada Hess Corporation (Amerada Hess) formed a joint exploratory agreement and constructed an offshore artificial gravel island, Seal Island, in approximately 40 feet of water. Shell drilled four wells from Seal Island, located on State lease ADL 312799 in the southeastern portion of the Northstar Reservoir. Shell's Seal Island A-01 well (BF-47 #1), drilled to the northwest of Seal Island into State lease ADL 312799, discovered the Northstar Reservoir in 1983. Seal Island A-01 discovered hydrocarbons at a depth of approximately 11,000 feet true vertical depth sub-sea ("TVDss") in the Ivishak formation, the same formation as the primary producing horizon in the Prudhoe Bay field. Seal Island A-02A well, drilled on Federal lease OCS-Y-0181 in 1984 and Seal Island A-03 well (BF-57 #1), drilled on ADL 312809 in 1985, demonstrated the southeastern extent of the field. On December 22, 1989, the Division certified the Seal Island A-03 well as capable of producing hydrocarbons in paying quantities. Seal Island A-04 well, drilled on OCS-Y-0180 in Federal waters to the northeast of Seal Island in 1985, was a dry hole.

Fluid samples indicate that the Ivishak formation contains a volatile, sweet crude with oil gravities from 43-45 degrees API. The initial gas oil ratio was approximately 2200 standard cubic feet per stock tank barrel (scf/stb) with an average viscosity of 0.14 centipoise (cp). Well testing yielded the following flow rate results: a) Seal Island A-01 5400 BOPD, 2200 scf/stb; b) Seal Island A-02A 5400 BOPD 23 scf/stb; and c) Seal Island A-03 4400 BOPD 2000 scf/stb. BP estimates that the Ivishak formation contains approximately 247 million stb original oil in place and 487 BCF original gas in place. The reservoir data indicates the presence of a small gas cap containing approximately 7 BCF of the original gas in place.

In 1985, Amerada Hess constructed Northstar Island to the northwest of Seal Island, on ADL 312798. Between 1985 and 1986, Amerada Hess drilled and successfully completed two wells from Northstar Island, Northstar No. 1 (BF-46 #1), and Northstar No. 2, which confirmed the northwestern extent of the Ivishak formation. On February 20, 1986, the Division certified the Northstar No. 1 well as capable of producing hydrocarbons in paying quantities. DNR and MMS approved the formation of the Northstar Unit effective January 24, 1990, with a five-year initial Plan of Development and Amerada Hess as the Unit Operator.

In addition to drilling exploration wells, the working interest owners acquired hundreds of miles of geophysical seismic data in an attempt to define the limits of the Ivishak hydrocarbon accumulation and other potential accumulations including the Kuparuk, Sag River, Shublik and Kekiktuk within the unit area. BP submitted geological, geophysical, engineering, and well data in support of the Application.¹¹

¹¹ BP submitted the following geological, geophysical, engineering, and well data in support of the Application: 1) Reservoir Structure and Development Well Location Map, 2) Northstar Type Log Seal A-01 Well, 3) Sag River and Shublik Isopach, 4) Shublik D – Ivishak Zone E Isopach, 5) Zones A1, A2, B, C1, C2, C3, and D Isopachs, 6) Zones A1, A2, B, C1, C2, C3, and Shublik D and Ivishak E Net/Gross, 7) Zones A1, A2, B, C1, C2, C3, D and E Permeability, 8) Zones A1, A2, B, C1, C2, C3, D and E Porosity, 9) Initial Oil in Place, 10) End of Run Oil in

Division and MMS staff met with BP representatives on August 9 and August 29, 2001, to discuss the Application. All parties agreed that by definition, the Northstar Reservoir includes the Ivishak and the Shublik “D” formations within the Northstar Unit, which is relevant for purposes of the participating area. The Northstar Reservoir is the accumulation of hydrocarbons in the Ivishak and Shublik “D” formations common to and correlating with the interval between 12,630 feet measured depth below rotary Kelly bushing (“MDrkb”) and 13,044 feet MDrkb in the Seal A-01 well. The oil water contact of the Northstar Reservoir exists at 11,100 feet TVDss or 12,950 feet MDrkb in the Seal A-01 well. However, for purposes of AOGCC’s pool rules and area injection orders, the Northstar Reservoir is comprised of the Ivishak, Shublik, and Sag River formations. Conservation Order No. 458 defined the Northstar Oil Pool within the Northstar Oil Field as “the accumulation of hydrocarbons common to and correlating with the interval between measured depths of 12,418 feet and 13,044 feet in the Seal A-01 well.”

The structure of the Northstar Reservoir consists of a faulted anticline that displays three-way dip closure on the east, west and south, with fault seal and dip closure to the north. Deposition of the Northstar Reservoir occurred during the Permian and Triassic geologic time periods. The Permian Kavik formation confines the lower limit of the reservoir. The Kavik formation is continuous throughout the area with an average thickness of approximately 100 feet of an impermeable marine shale sequence, which rests unconformably on the Carboniferous-aged Lisburne Group. The Ivishak and Shublik formations that comprise the Northstar Reservoir lie above the Kavik formation and below the Sag River Formation.

The Ivishak formation consists of a 225 feet thick upper conglomeratic unit and a lower sandstone unit that is approximately 100 feet thick. A bimodal grain size distribution, consisting, for the most part, of chert and quartz clasts with minor amounts of silt and quartz grains, comprises the matrix material that is characteristic of the upper conglomeratic unit, which has an average porosity of approximately 14%. Porosity averages about 18% in the lower sandstone unit, which consists of medium to coarse-grained sandstone with minor siltstone and shale. Permeability within the Ivishak formation has a stress corrected mean value of 53 millidarcies (md).

The Shublik formation, which overlies the Ivishak formation, is comprised of marine silts and shales in the Shublik A unit, grading downward into phosphatic limestones in the Shublik B unit, and then into interbedded silts and shales in the Shublik C, and finally into fine and very fine grained sands in the Shublik D unit. Overall, the Shublik formation is approximately 85 feet thick in the Northstar Unit area. The Shublik “D” unit, which is included in the Northstar PA, is typically less than ten feet thick with less than 10% porosity and 1 md permeability. However, porosity of 16.3% and permeability of 100 md occurs in thin discontinuous intervals within the Shublik “D” unit.

The Sag River formation that overlies the upper Shublik intervals is comprised of approximately 100 foot thick series of transgressive marine sands, silts and shales. The upper Shublik intervals and the Sag River formation are not included in the Northstar Reservoir for purposes of the

Place, 11) Oil in Place Difference, 12) Petrophysical Summaries for Northstar-1, and Seal A-01, A-02A, A-03, and A-04.

participating area because they do not contribute to production. However, AOGCC included the upper Shublik intervals and the overlying Sag River formation in its definition of the Northstar Reservoir for purposes of pool rules and area injection orders because AOGCC considered them to be part of a common accumulation encased in overlying and underlying confining intervals.

The impermeable Jurassic Kingak formation, which conformably overlies the Sag River formation, confines the upper limit of the Northstar Reservoir. The Kingak formation, deposited as marine silts and shales, is continuous throughout the area with an average thickness of approximately 1000 feet. The Kingak formation provides a barrier between the Northstar Reservoir and the overlying Kuparuk formation, the primary producing horizon in the Kuparuk River Unit, the Milne Point Unit, and several of the Prudhoe Bay Unit satellite accumulations. The Kuparuk formation is comprised of variable thicknesses of both quartzose and glauconitic sands deposited during the lower Cretaceous period.

In 1994, Amerada Hess drilled the Northstar No. 3 well from Northstar Island into ADL 355001 to explore an Upper Kuparuk "C" Sand prospect within the Northstar Unit. Although Amerada Hess did not drill the well deep enough to encounter the Ivishak formation, Northstar No. 3 confirmed approximately 62 feet of reservoir rock in the Kuparuk formation at 8403 TVDss. Technical difficulties prevented Amerada Hess from testing the well before plugged and abandoned it. In August 1994, Shell and Amerada Hess abandoned both Seal Island and Northstar Island, partially due to severe damage during the 1993-1994 winter season. BP succeeded Amerada Hess as the Northstar Unit Operator in 1994, and shot an Ocean Bottom Cable (OBC) 3-D seismic survey over the field in 1996.

Over the past seven years, BP acquired the necessary permits; completed engineering; reconstructed Seal Island (also referred to as Northstar Island); and installed two 10-inch pipelines, one to export crude oil from Seal Island to Pump Station #1 on the Trans-Alaska Pipeline System (TAPS) and another to import gas from the Prudhoe Bay Unit. BP modified and mobilized a rig on Seal Island and began drilling Northstar Reservoir development wells in 2000, completing one Class I waste disposal well, three production wells, and one gas injection well before submitting the Application. BP also fabricated processing facilities and transported them to Seal Island in 2001.

The well and geophysical data provided in support of the Application, and otherwise available to DNR, indicate that the land proposed for inclusion in the Northstar PA is capable of producing or contributing to production of Unitized Substances in Paying Quantities from the Northstar Reservoir. The Applicants' prior exploration activities and the geological and engineering characteristics of the Northstar PA fulfill the criteria in 11 AAC 83.303(b)(2) and .303(b)(3), and support approval of the Application.

B. The Applicant's Plan for Exploration and Development of the Northstar Unit Area

BP proposed a three-year term for the 4th POD, October 1, 2001 through September 30, 2004, which supercedes the last year of the 3rd POD. BP completed installation and testing the processing facilities and commenced Sustained Unit Production on October 31, 2001. The 4th POD includes plans to drill and complete up to 16 production wells and five gas injection wells. Seal Island provides space for up to 36 wells, and the Northstar Unit facilities provide full

process and export capabilities to produce 65,000 barrels of oil and 30,000 barrels of water, and inject 600 million standard cubic feet of gas daily.

The Northstar Enhanced Oil Recovery (EOR) project involves blending produced gas with imported dry gas, and injecting the miscible enriched gas into the Northstar Reservoir to increase recoverable oil reserves. After injecting miscible enriched gas for approximately four years, BP will inject leaner chase gas into the Northstar Reservoir through the end of the field life. The objective of the Northstar EOR project is to replace 100% of the produced volume and to maintain reservoir pressure within +/- 50 psi of the current pressure, 5180 psi at 11,100 feet TVDss.

The Unit Operator submitted a application for an Area Injection Order and Pool Rules to the Alaska Oil and Gas Conservation Commission (AOGCC) on June 25, 2001, in compliance with Article 8.9 of the Agreement and State regulation 20 AAC 25.402. BPs plans for gas injection and EOR also required MMS' approval under Article 8.9 of the Unit Agreement and Federal regulations¹². On July 31, 2001, BP submitted a *Request For Approval of Gas Injection, Enhanced Oil Recovery and Application For Maximum Efficient Rate (Form MMS-127)*, which MMS approved on October 2, 2001. AOGCC held a public hearing on August 16, 2001, and issued Area Injection Order No. 23 and Conservation Order No. 458 on October 9, 2001. AOGCC's orders included the following findings and conclusions:

Implementation of an enhanced recovery operation initially using miscible gas injected into the Sag River, Shublik and Ivishak Formations will preserve reservoir pressure energy and enhance ultimate recovery. . . .¹³

The Operator selected miscible gas injection as the enhanced oil recovery method because the model studies indicated miscible gas injection would recover 12% and 14%, respectively, more oil than either gas cycling or waterflood. Water alternating with gas ("WAG") model runs indicated no increased additional recovery over miscible gas injection.¹⁴

BP estimates that it will recover 159.3 MMSTB oil and 16.9 MMSTB NGL over the 15-year field life of the Northstar Reservoir with EOR compared to 89 and 5.1 MMSTB, respectively, with primary depletion. Total liquid production of 176.2 MMSTB represents a 64.5% recovery rate. BP began EOR operations in January 2002, two months after the commencement of production from the Northstar PA.

State regulations provide that "A unit plan of development ... must include, to the extent available information exists

(1) long-range proposed development activities for the unit, including plans to delineate all underlying oil or gas reservoirs, bring the reservoirs into production, and maintain and enhance production once established;

¹² 30 CFR 250.118 and 30 CFR 250.1107.

¹³ Area Injection Order No. 23, Conclusion #6.

¹⁴ Conservation Order No. 458, Finding #32.

(2) plans for the exploration or delineation of any land in the unit not included in a participating area; ...”¹⁵

While drilling the Northstar PA development wells, BP plans to evaluate the overlying Kuparuk and Sag River formations. In addition to exploring other potential horizons, BP will also evaluate acreage that lies within the Northstar Unit but outside of the approved Northstar PA. Current available data indicates that no portion of the Northstar Reservoir underlies State lease ADL 355001, Northstar Unit Tract 105; therefore, the lease is not included in the Northstar PA. The Division requested that the 4th POD include detailed plans to explore the area under this lease. BP committed to commence drilling an exploratory well on State acreage, at least one-half mile outside of the Northstar PA boundary, within four years. If the Unit Operator fails to meet the drilling commitment, the Northstar Unit boundary “shall automatically contract, subject to approval by DNR and MMS, so as to exclude any State lease of which no part lies within an approved participating area.”¹⁶ ADL 355001 is the only Northstar Unit lease that lies entirely outside of the Northstar PA. BP must commence drilling the exploratory well by October 12, 2005, or the automatic contraction provision will be in effect.

The Application, along with the approved 4th POD, contains sufficient plans and commitments to explore and develop the Northstar Unit to support forming the Northstar PA. It protects the interests of the public and the State by committing the Applicants to drill delineation and production wells to the primary hydrocarbon deposit in the unit, the Northstar Reservoir, and to explore additional prospects outside of the participating area. These commitments assure that there will be development of the Northstar Reservoir and adequate exploration of the entire unit area with a contraction provision if the Applicants fail to meet the drilling commitment. Therefore, the Applicants’ plans for development of the Northstar Reservoir and exploration of the unit area support approval of the Application under the criteria in section 11 AAC 83.303(b)(4).

C. The Environmental Costs and Benefits of Unitized Exploration and Development

Northstar Unit facilities are located on a five-acre artificial gravel island with no permanent connecting road to the existing North Slope infrastructure. It is a remote, standalone development with transportation provided by barge or helicopter and winter ice-roads. BP exports produced oil and imports gas via sub-sea pipelines. The Unit Operator will drill all wells and produce hydrocarbons from the entire Northstar Reservoir from a single surface location, precluding the need for any additional islands, thereby reducing the environmental impact of development. The Northstar PA will optimize drilling operations thereby minimizing surface impacts by consolidating facilities and reducing activity in the field. Unitization allows the unit operator to explore for and develop the resources under a single unit plan rather than on a lease-by-lease basis. Without unitization, the lease provisions would compel the lessees to seek permits to explore and develop each individual lease. The proliferation of surface activity and the duplication of production, gathering, and processing facilities would increase the potential for environmental damage. Unitization reduces both the number of facilities required to develop reserves and the aerial extent of land required to accommodate those facilities. This reduction in surface impacts serves to protect wildlife habitat and reduces impacts onshore and offshore. In

¹⁵ 11 AAC 83.343(a).

¹⁶ 4th POD, Further Exploration within Unit.

addition, BP's environmental and marine mammal monitoring programs may help biologists and resource managers in their efforts to maintain, protect, and conserve natural resources. The Northstar PA promotes efficient development of the State's resources, while minimizing impacts to the region's cultural, biological, and environmental resources.

The unit area is habitat for a variety of marine mammals, waterfowl, and fish. Area residents may use this area for subsistence hunting and fishing. Oil and gas activity in the unit area may affect some wildlife habitat and subsistence activity. DNR considered environmental issues during the lease sale process, and attached mitigation measures to the leases. Mitigation measures, including seasonal restrictions on specific activities, reduce the impact of oil and gas development on fish, wildlife, and human populations. Mitigation measures specifically address potential impacts to subsistence access and harvesting. The Division considered the environmental impact of unitized development before approving the Application, and DNR will review the environmental issues again before approving unit plans of operations for specific activities within the unit area.

Lessees' compliance with conservation orders and field pool rules issued by the AOGCC would mitigate some of the surface impacts without an agreement to unitize operations. Still, unitization is the most efficient method for maximizing oil and gas recovery, while minimizing negative impacts on other resources. With unitization, the unit operator can design and locate facilities to maximize recovery and to minimize environmental impacts, without regard to lease boundaries. Review and approval of exploration and development plans under a unit agreement also assure that the unit operator makes rational surface-use decisions without regard for individual lease ownership or expense. The Commissioner's approval of a participating area is an administrative action, which by itself does not convey any authority to conduct operations on leases within the unit. Unitization does not waive or reduce the effectiveness of the mitigating measures that condition the lessee's right to conduct operations on the leases.

All exploration or development activity in the Northstar Unit is subject to an Alaska Coastal Management Program (ACMP) consistency determination, unless categorically approved under the ACMP ABC (General Concurrence) list, and must comply with State, Federal, and the North Slope Borough (NSB) Coastal Zone Management plans. BP submitted the Coastal Project Questionnaire and consistency certification, State permit applications, and supporting information for the Northstar Development Project review to the Alaska Division of Governmental Coordination (DGC). On June 1, 1998, DGC initiated the public and agency review process to determine if the Northstar Development Project met the requirements of both the ACMP and the Federal Coastal Zone Management Act (CZM). DGC determined that the Northstar Development Project required permits and authorizations from the following agencies: U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, U.S. Minerals Management Service, Alaska Department of Environmental Conservation, Alaska Department of Fish and Game, and DNR. DGC published a public notice soliciting comments from Federal, State, and local agencies, and the public. DGC, State resource agencies, Federal resource agencies, and affected local governments including the NSB determined that the proposed activity is consistent with the ACMP, CZM, and NSB Coastal District Plan. After reviewing the agencies' comments, DGC drafted additional mitigation measures before issuing a Proposed Consistency Determination for public comment on January 13, 1999. In response to comments

from the public, DGC imposed additional stipulations on the project in the Final Consistency Determination, issued February 4, 1999.

The unit operator also obtained DNR's approval of a unit plan of operations and permits from various State and Federal agencies before beginning operations within the unit area.¹⁷ A unit plan of operations contains more detailed plans for surface activities incident to exploration and development of the unit area than unit plans of exploration or development. When reviewing the proposed unit plan of operations, the Division also considered the unit operator's ability to compensate the surface owner for any damage sustained to the surface estate and the unit operator's plans for restoration and rehabilitation of the unit area. In addition, DNR, DEC, and AOGCC have bonding and financial responsibility requirements to ensure performance by the operator and reclamation of the area.¹⁸ After DGC issued the Final Consistency Determination, the resource agencies also imposed conditions in the individual permit approvals to ensure that the proposed activity is consistent with the ACMP, CZM, and NSB Coastal District Plan. In addition, all exploration and development activities must comply with local ordinances, specifically Title 19 of the NSB Land Management Regulations. On February 9, 1999, the Division granted BP authority to conduct Northstar Development activities on State lands as proposed in the Plan of Operations dated March 27, 1997, as amended (LO/NS 96-006). The Division's Northstar Plan of Operations approval incorporated 28 stipulations in addition to the terms and conditions contained in the lease agreements.

Formation of the Northstar PA minimizes the environmental impacts and costs of exploration and development of the unit area, which meets the section 11 AAC 83.303(b)(1) criteria and supports approval of the Application.

D. The Economic Costs and Benefits to the State

Increased production and revenues, in themselves and without consideration of other relevant factors, may not always be in the State's best interest. Here, however, the gains in economic benefits outweigh any perceived costs to the State. The State's economy will benefit from the production-based revenue, oil and gas related jobs, and service industry activity.

DNR and MMS held the Federal/State Joint Beaufort Sea Oil and Gas Lease Sale (Joint Sale) on December 11, 1979, also referred to as State Competitive Oil and Gas Lease Sale 30. Following the Joint Sale, DNR issued all four of the State leases and MMS issued two of the Federal leases proposed for inclusion in the Northstar PA. The State lease terms included a fixed cash bonus of \$875/acre and a fixed royalty rate of 20%. The Division awarded the leases based on the net profit share (NPS) percentage that the bidders offered to the State. Amerada Hess won two of the State leases, ADL 312798 and ADL 312799, with NPS bids of 93.2% and 91.2% respectively. Texas Eastern Exploration, Co. (Texas Eastern) won the other two State leases, ADL 312808 and ADL 312809, with a NPS bid of 85.25978% on each lease. The Division issued the leases to Amerada Hess and Texas Eastern effective February 1, 1980, with ten-year primary terms. Commitment to the Northstar Unit effective January 24, 1990, extended the State leases beyond their primary term.¹⁹

¹⁷ 11 AAC 83.346.

¹⁸ 11 AAC 96.060; 20 AAC 25.025; 18 AAC 75.

¹⁹ 11 AAC 83.190 Extension by commitment to an approved unit.

In 1996, DNR and the working interest owners agreed to amend the provisions of the State leases in the Northstar Unit by deleting the NPS provision and adding a supplemental royalty provision that imposes a sliding scale royalty rate of up to 7.5% in addition to the 20% base royalty rate for a maximum total royalty rate of 27.5%. The Alaska State Legislature approved the Northstar Lease amendments, effective with governor Knowles approval on July 10, 1996.²⁰ The supplemental royalty rate varies depending on the Alaska North Slope (ANS) spot price on the West Coast relative to a trigger price.²¹ The 1995 base trigger price of \$17.35 is adjusted for inflation annually. Each May the base trigger price is inflation adjusted based on the change in the Producer Price Index (PPI) as of December of the previous year compared to the PPI in December of the base year, 1995. In each month that the average ANS spot price is greater than the applicable trigger price, the supplemental royalty rate for the month equals the difference times 1.5%.

The Unit Operator reported that the Northstar PA produced approximately 7,519,000 barrels of oil from the commencement of production, October 31, 2001 through June 30, 2002, with approximately 1,857,000 barrels attributed to the State's royalty. The working interest owners paid the State supplemental royalties in five of the first eight production months, and the royalty rate reached the maximum 27.5% in April, May, and June 2002. The December 2000 trigger price of \$18.23 was effective from May 1, 2001 through April 30, 2002, and the average spot price in April 2002 was \$24.98. The current trigger price is \$17.58, recalculated in December 2001 and effective May 1, 2002 through April 30, 2003, and the spot price averaged \$25.87 in May and \$24.16 in June 2002. During the first eight months of production, the State received 350,000 barrels of royalty oil in excess of the 1,500,000 barrels due at the 20% base royalty rate, for an effective royalty rate of 24.7%.

The cost to build the production island, pipelines, and facilities for development of the Northstar Field greatly exceeded BP's original estimate. Under the original lease provisions, the State would receive net profit share payments only after the working interest owners recouped their development costs, which would be much later in the field life, if ever. The supplemental royalty provision provides the State with revenue that it may never have received under the original net profit share provision. In addition, the supplemental royalty provision is a greater benefit to the State due to the time value of revenue.

MMS offered two of the Federal leases, OCS-Y-0179 and OCS-Y-0181, in the Joint Sale based on cash bonus bids, and issued the leases effective August 1, 1980. These two leases contain a sliding scale royalty provision with a formula that determines the royalty rate based on the value

²⁰ SCS CSHB 548(FIN) am S.

²¹ "In addition to the royalty paid and computed under paragraphs 8,10, and 11 below, Lessee shall pay to the State a supplemental royalty ("supplemental royalty"). Lessee shall pay the supplemental royalty, if owed, upon the same production volume for which royalty is paid ("production volume"). The supplemental royalty payment for a given month equals the supplemental royalty value times the supplemental royalty percentage rate ("percentage rate") times the production volume for that month. The percentage rate shall be calculated monthly by reference to: (1) an ANS West Coast spot price ("spot price"); and (2) a supplemental royalty trigger price ("trigger price"). If the spot price is equal to or less than the trigger price, then the percentage rate equals zero. If the spot price is greater than the trigger price, then the percentage rate equals [the spot price per barrel minus the trigger price per barrel] times 1.5 per cent per dollar per barrel. The percentage rate may never exceed 7.5 per cent." First Amendment to the Northstar Unit Leases Between the State of Alaska and BP Exploration (Alaska) Inc.

of lease production during each calendar quarter. The royalty rate for OCS-Y-0179 (Tract TR-1) and OCS-Y-0181 (Tract TR-2) adjusts from 16.66667% to 65% in amount or value of quarterly production saved, removed, or sold from each federal lease in the Northstar PA.²² The federal royalty rate increases if the price or volume of oil produced during the quarter exceeds the threshold value. While the State's supplemental royalty calculation uses the ANS West Coast spot price, the Federal sliding scale royalty formula uses the value at the wellhead, or net back price. The ANS net back price averaged \$18.73 per barrel in the second quarter of 2002. If the price had exceeded \$55.00 per barrel during this period, the royalty rate would have adjusted above the base rate for Tract TR-2, allocated 11.728% of Northstar PA production. However, since only 4.085% of production is allocated to Tract TR-1, the price would have to have exceeded \$159.00 per barrel during this period before the royalty rate would have adjusted above the base rate for the lease. The effective royalty rate for both of these federal leases remained at the base rate of 16.66667% during the first eight months of production, and it is unlikely that the Federal sliding scale royalty rate will ever exceed the base rate in the Northstar PA. MMS offered the third Federal lease, OCS-Y-1645, in Lease Sale 144, and issued it effective December 1, 1996. OCS-Y-1645 (Tract TR-3) reserves a fixed 12.5% royalty to the Federal government.

In addition to the royalties paid on production from the State leases, the State is also entitled to receive 27% of the revenue from the Federal leases in the Northstar Unit. The Outer Continental Shelf Lands Act specifies that the Federal Treasury shall transmit to the State 27% of all bonuses, rents, royalties, and other revenue, excluding Federal income and windfall profits taxes, derived from any Federal lease issued after September 18, 1978, which lies wholly within three nautical miles of the seaward boundary of any coastal State.²³ MMS issued all of the Federal leases in the Northstar Unit after 1978, and all three lie wholly within three nautical miles of Alaska's seaward boundary.

Under Chapter 13 of Alaska Statute 37, the State deposits 50% of all mineral lease bonus, rentals, and royalties, received from mineral leases issued after December 1, 1979, in the Alaska Permanent Fund (Post Chapter 13 Leases). Leases issued before December 1, 1979 contribute only 25 percent of the proceeds to the Alaska Permanent Fund. All of the leases in the Northstar PA are Post Chapter 13 Leases; therefore, the State will deposit 50% of the revenue from the State leases and 50% of the State's share of the Federal revenue in the Alaska Permanent Fund.

In conformance with Article 10.3 of the Unit Agreement,²⁴ the Division and MMS approved an Outside Substances Agreement that describes the accounting procedures for royalties due on

²² "When the quarterly value of production, adjusted for inflation, is less than or equal to \$13.236229 million, a royalty of 16.66667 percent in amount or value of production saved, removed, or sold will be due on the unadjusted value or amount of production. When the adjusted quarterly value of production is equal to or greater than \$13.236230 million, but less than or equal to \$1662.854082 million, the royalty percent due on the unadjusted value or amount of production is given by $R_j = b[\text{Ln}(V_j/S)]$... When the adjusted quarterly value of production is equal to or greater than \$1662.854083 million, a royalty of 65.00000 percent in amount or value of production saved, removed or sold will be due on the unadjusted quarterly value of production. ..." Federal/State Joint Beaufort Sea Oil and Gas Lease Sale Notice.

²³ USC 43.29 III Sec 1337(a)(8) and (g).

²⁴ Prior to the injection of Outside Substances into any Reservoir within the Unit Area, the Working Interest Owners, the Regional Supervisor, or the Commissioner, or both, shall agree upon the rate at which such Outside Substances will be considered to be recovered. ... Article 10.3 of the Unit Agreement.

injected dry gas recovered from the Northstar PA.²⁵ This agreement protects the State’s interest in the event that the working interest owners sell gas produced from Northstar Reservoir. The Northstar Unit currently imports dry gas from the Prudhoe Bay Unit for fuel gas and EOR. The Prudhoe Bay Unit working interest owners pay royalties to the State based on the sale of the dry gas to the Northstar Unit. Both indigenous gas and injected dry gas are royalty free with respect to the Northstar PA, if used for fuel in Northstar Unit operations. Since the State already received royalties on the imported gas, sales of injected dry gas from the Northstar PA will be royalty free. BP shall keep an accounting of the dry gas injected into the Northstar Reservoir, and when gas sales commence, the Northstar Unit working interest owners will not owe royalties on 80% of the dry gas produced each month. Royalties will be due on the remaining 20% of the dry gas produced, deemed indigenous gas from the Northstar Reservoir. The Northstar Unit working interest owners shall pay royalties to the State and MMS on the indigenous gas produced based on the Northstar PA Tract Participations and the applicable royalty rates.

However, BP may never recover a portion of the dry gas injected into the Northstar Reservoir. The Northstar Reservoir model indicates that 10% of the injected dry gas will remain in the Northstar Reservoir, and therefore, royalties will be due on all produced gas after BP recovers 90% of the injected dry gas.

The Interim Approval indicated that the Outside Substances Agreement applies only to dry gas imported from the Prudhoe Bay Unit. Although BP currently imports dry gas from the Prudhoe Bay Unit, the Outside Substances Agreement applies to all dry gas imported to the Northstar Reservoir whether from the Prudhoe Bay Unit or elsewhere.

Article 10.1 of the Unit Agreement requires that the Unit Operator allocate production to each tract in the Northstar PA based on the estimated volume of recoverable Unitized Substances originally in place under each unit tract as a percentage of the total volume of recoverable Unitized Substances originally in place under the participating area. BP developed a geologic model of the Northstar Reservoir based on data from the Seal Island and Northstar Island exploration and appraisal wells, 3-D seismic data, and regional knowledge. BP used its geologic model as the basis for a reservoir simulation that calculated the volume of original oil in place, oil left in place after 15 years of production, and the difference between the two for each unit tract. BP proposed allocating production and costs among the leases in the Northstar PA based on the volumetric calculations from the reservoir simulation. As required by Article 9 of the Agreement and 11 AAC 83.371, BP submitted schedules allocating Unit Tract Participation and Participating Area Expense among the leases in the proposed Northstar PA, Exhibits C and E respectively. The Division reviewed the technical data submitted in support of the application, and agreed with BP’s proposed Initial Tract Participations.

²⁵ “... After injection of Outside Substances commences, Injected Outside Substances shall be deemed recovered at a rate equal to eighty percent (80%) of the dry gas Unitized Substances produced from the Northstar Participating Area and sold or used for purposes other than Unit Operations (“Injected Outside Substances Deemed Recovered”). ... All provisions for royalty-free Injected Outside Substances shall terminate when the total British Thermal Units (“BTUs”) in the Injected Outside Substances Deemed Recovered equal ninety percent (90%) of the total BTUs in the Injected Outside Substances. ... As long as royalty has already been paid once, no royalty shall be due or payable on Injected Outside Substances Deemed Recovered. Only dry gas and not products extracted therefrom, may be saved, removed or sold royalty-free. ...” Outside Substances Agreement, Northstar Unit, Northstar Participating Area.

DNR, MMS and the working interest owners agreed to an initial allocation of production to each Northstar PA tract based on the information available before production commenced. Since BP proposed the Initial Tract Participations with minimal well control and no sustained production data, the Division and MMS expect that redeterminations will be necessary to ensure that ultimately the best available information is the basis for the production allocation. BP plans to complete development drilling within the three-year term of the 4th POD. By the fourth anniversary of the commencement of Northstar PA production, BP should have at least eight months of production data from all of the Northstar PA development wells incorporated into its Reservoir Simulation Model. The Division will review the additional well and production data one year after the commencement of production (Interim Redetermination), and again following four years of production (Final Redetermination), to evaluate the Tract Participations. The Interim Tract Participations, based on a year of production data, will be more accurate than the Initial Tract Participations. DNR, MMS, and the lessees agreed to apply the revised Interim Tract Participations prospectively to limit the size of potential future adjustments. However, as the Final Redetermination will consider all of the development wells and four years of production data, it should provide an even more accurate allocation of production. The Final Redetermination will be effective retroactive to October 31, 2001, the commencement of production from the Northstar PA.

Revised Exhibits C-1 and C-2, dated October 29, 2001, incorporate redetermination and adjustment procedures. The lessees shall pay royalties based on the Final Tract Participations on a prospective basis commencing on the first day of the month following approval of the Final Redetermination. In addition, if the production allocated to the State leases under the Final Redetermination meets the retroactive adjustment threshold described in Exhibit C-1, the lessees shall also prepare adjustments for the royalties previously paid. The lessees may apply royalty adjustments due to the State prospectively, spread evenly over one year of production from the Northstar PA.

Accepting future incremental volumes of oil as compensation for underpayment of past royalties may not produce the greatest return to the State if the price of oil declines. However, given the supplemental royalty provision in the State leases, and the variable price of oil, it will be much easier to determine the volume of oil that was under-allocated rather than recalculating the value of the oil and the royalties that the lessees should have paid. The converse is also true. If the unit operator previously over-allocated production to the State leases, the parties will spread the adjustment over one-year of production from the Northstar PA. Rather than calculating the value of the royalty overpayment and reimbursing the working interest owners with a lump sum payment, the State will receive proportionately lower royalty payments than it is entitled to for the following year.

Exhibit C-1 allows for an extension of the date for the Final Redetermination if the unit operator has not completed drilling the last production well or if less than eight months of production has elapsed since BP completed the last production well. Exhibit C-1 also provides for subsequent redeterminations if DNR and MMS approve an expansion or contraction of the Northstar PA or a

material change²⁶ to the Plan of Development. Subsequent redeterminations shall be effective prospectively unless DNR and MMS agree to retroactive adjustments.

The field cost issue has been a subject of much debate between the State and working interest owners in other units. Provisions in the State leases in the Northstar Unit resolve the field cost issue to the benefit of the State and protect the State's interest. Royalty and supplemental royalty paid in value shall be free and clear of all lease expenses, Unit Expenses, and Participating Area Expenses (and any portion of such expenses which is incurred away from the Unit Area), including, but not limited to, expenses for separation, cleaning, dehydration, gathering, saltwater disposal, and preparing the Unitized Substances for transportation off the Unit Area.²⁷ This exclusion shall also apply to royalty taken in kind. The working interest owners are not entitled to deduct field costs from the State's royalty share of oil and gas produced from the Northstar Unit.

Formation of the Northstar PA, with the Initial Tract Participations and the redetermination procedures in Exhibit C-1, and the Outside Substances Agreement will provide long-term economic benefits to the State. The Division's evaluation of the economic criteria in section 11 AAC 83.303(b)(5) supports approval of the Application.

E. Any Other Relevant Factors the Commissioner Determines Necessary or Advisable to Protect the Public Interest

The remote offshore location of the Northstar Reservoir along with joint management of the Northstar Unit presented numerous impediments to development of the underlying hydrocarbons. The Northstar PA represents the first production on the North Slope from a totally self-contained man-made island with undersea pipelines. It is also the first participating area jointly managed by DNR and MMS. BP is the unit operator and Murphy is a minor interest holder in one Federal lease. All of the parties wanted to develop the resource, but each had their own priorities and constraints. Reaching agreement on an acceptable development plan, equitable allocation of production with a reasonable redetermination schedule, and an Outside Substance Agreement that considers gas sales that may not occur for many years, required cooperation by all parties.

However, the Joint Team's reservoir model would have little value without the well and geologic data that BP agreed to provide. BP will also provide the Division with access to the unit operator's reservoir simulation model to verify proposed Tract Participations during the redetermination process. MMS and AOGCC both have jurisdiction over reservoir management issues. The two agencies agreed to streamline the process and consolidate the applications and approvals where possible. MMS and DGC coordinated the environmental review process as well.

²⁶ Article 6.1 in Exhibit C-1. "In the event the Regional Supervisor and Commissioner both make a written finding that there has been a material change to the Plan of Development, which justifies redetermination of the Final Unit Tract Participations, they shall each issue a written request for a subsequent redetermination to the Unit Operator."

²⁷ Paragraph 37 of the State Leases, First Amendment to the Northstar Unit Leases Between the State of Alaska and BP Exploration (Alaska) Inc.

The accountants from the Division, MMS and BP worked together to establish royalty accounting procedures that incorporate the information needs of all parties. BP's reservoir model will provide the basis for potential redeterminations that may require adjustments to the royalty payments. The Joint Team will also review the output from its reservoir simulation model during the redetermination process. The State agreed to accept volume adjustments from future production, while MMS may require that the working interest owners apply any adjustments to retroactive royalty payments. In addition, legal representatives for DNR and MMS ensured that the terms and conditions for formation of the Northstar PA were consistent with the applicable statutes and regulations.

Both DNR and MMS want to preserve their independent authority to evaluate and approve redeterminations of the Tract Participations, and apply their own well-established appeal procedures in case any of the parties feel the agency's decisions are in error. Therefore, DNR and MMS may not approve identical Tract Participation Schedules, which would cause the working interest owners to pay more or less than 100% royalty on production. The working interest owners proposed applying the procedures contained in Exhibit C-1, rather than the agencies' appeal procedures, if DNR and MMS do not approve identical Tract Participations following the Interim, Final, and Revised Redeterminations. If the agencies do not approve identical Interim Tract Participations, the unit operator's proposal shall go into effect pending the Final Redetermination. If DNR and MMS do not approve identical Final Tract Participations, we shall apply the weighted average calculation described in Exhibit C-1. Exhibit C-2 provides a sample mathematical calculation of the Averaged Final Tract Participations. The weighted average calculation shall also apply to any revisions to the Final Tract Participations. The procedures contained in Exhibits C-1 and C-2 allow DNR and MMS to exercise their independent authority to evaluate and approve redeterminations of the Tract Participations, while providing the working interest owners with confidence that the royalty owners' Tract Participation decisions will not delay development of the Northstar PA.

The considerable effort by everyone involved to bring the Northstar PA on production is a testament to the value of the resource to the State, the Federal government, and the working interest owners. Negotiating this agreement to the satisfaction of all parties serves as an example for future reservoirs jointly managed by DNR and MMS, meets the criteria in 11 AAC 83.303(b)(6), and supports approval of the Application.

III. Findings

A. Promote the Conservation of All Natural Resources

The formation of oil and gas units and participating areas within units to develop hydrocarbon-bearing reservoirs generally conserves hydrocarbons. A single participating area will provide for efficient, integrated development of the Northstar Reservoir. A comprehensive operating agreement and plan of development governing that production will help avoid duplicative development efforts on and beneath the surface. The Northstar PA will conserve all natural resources, including hydrocarbons, water, and valuable habitat. Unitized exploration and development of the area will reduce the disruption of both marine and upland habitat that would

occur under individual lease development. This reduction in environmental impacts and preservation of subsistence access is in the public interest.

Although there will be environmental impacts associated with reservoir development, all unit development must proceed according to an approved unit plan of development. Additionally, before undertaking any specific operations, the unit operator must submit a unit plan of operations to the Division and appropriate State, Federal, and local agencies for review and approval, and the lessees may not commence exploration or development operations until all agencies have granted the required permits. DNR conditioned its approval of the Northstar Unit Plan of Operations and other permits with mitigation measures in addition to those in the leases, that it found necessary or appropriate. Compliance with the mitigation measures will minimize, reduce or completely avoid adverse environmental impacts.

The available geological and engineering data demonstrate that the acreage is known to be underlain by hydrocarbons and known or reasonably estimated to be capable of production or contributing to production in sufficient quantities to justify the formation of the Northstar PA within the Northstar Unit.

B. Promote the Prevention of Economic and Physical Waste

Formation of the Northstar PA equitably divides costs and allocates produced hydrocarbons shares. The 4th POD is designed to maximize physical and economic recovery from the Northstar Reservoir. The Unit Operator will diligently explore and delineate the Northstar Reservoir underlying the approved Northstar PA. The Northstar PA prevents economic and physical waste by eliminating redundant expenditures for a given level of production, and avoids the loss of ultimate recovery by adopting a unified reservoir management strategy. The unit operator can produce oil and gas resources through a single facility infrastructure system. The Northstar PA and the EOR project outlined in the 4th POD, will improve the efficiency of developing the Northstar Reservoir. Marginal economic reserves, which otherwise would not be produced on a lease-by-lease basis, can be produced through the Northstar PA. Facility consolidation saves capital and promotes better reservoir management for all working interest owners through pressure maintenance and secondary recovery procedures. In combination, these factors allow less profitable areas of a reservoir to be developed and produced while preventing economic and physical waste. The production of Northstar PA hydrocarbon liquids through the Northstar Unit facilities reduces environmental impacts. Utilization of unit facilities will avoid unnecessary duplication of development efforts on and beneath the surface.

C. Provide for the Protection of All Parties of Interest, Including the State

Forming participating areas seeks to protect the economic interests of all working interest owners of the reservoir as well as the royalty owners. By combining interests and operating under the terms of a unit agreement and unit operating agreement the owners may be assured that costs and revenues will be fairly allocated.

The Northstar PA will maximize hydrocarbon recovery, and additional production-based revenue from the Northstar PA will promote the State's economic interest. However, additional recovery of hydrocarbons is not the only factor to consider in determining the State's best

interest. Production must occur under suitable terms and conditions to assure protection of the economic interests of both the working interest owners and the royalty owners. The redetermination procedures contained in Exhibit C-1 will protect the long-term interests of the State.

The Unit Agreement and the Alaska statutes and regulations governing oil and gas units provide for further expansions or contractions of the Northstar PA as warranted by additional information and findings, thereby protecting the public interest and the correlative rights of all parties.

Formation of the Northstar PA is in the State's best interest because it provides assurance that the lessees will develop and produce the underlying hydrocarbons efficiently. The 4th POD also requires exploration of the unit area outside of the approved Northstar PA within four years or the acreage will contract out of the unit area. The unit operator must conduct all exploration and development activities under the stipulations and mitigation measures imposed in the lease operations approval. The Initial Tract Participations equitably allocate production, while the redetermination procedures and the Outside Substances Agreement will protect the State's economic interests into the future. Therefore, the Application meets the requirements of AS 38.05.180(p) and 11 AAC 83.303.

IV. Decision

The Division issued the Interim Decision approving the Application on October 5, 2001. The Interim Decision accepted Exhibits A, B/D, C-2 and E enclosed with the Final Submission, to be true and correct as submitted, and approved Exhibit C, the proposed Unit Tract Participation Schedule, with corrections to the legal descriptions. The Interim Decision also approved the 4th POD, and the Outside Substances Agreement. This Findings and Decision supplements the Interim Decision by providing the Division's evaluation of the Application under the criteria provided in 11 AAC 83.303, and approving Exhibits C-1 and C-2 dated October 29, 2001 and Exhibit C dated August 5, 2002.

The Northstar PA encompasses 17,667.00 acres or approximately 52% of the Northstar Unit, including portions of four of five State leases, all of one Federal lease, and portions of two other Federal leases. Effective October 11, 2001, the Northstar PA includes the area described in Exhibit C to the Unit Agreement dated August 5, 2002.

DNR assigned Accounting Unit Code NSNS to the Northstar PA for royalty accounting purposes, which BP and Murphy shall reference on monthly operator and royalty reports. Under the Outside Substances Agreement, the unit operator shall also submit Outside Substance Reports and Gas Disposition and Reserves Debit Reports on a monthly basis.

The 4th POD is approved for the three-year term from October 1, 2001 through September 30, 2004. During the interim, BP shall submit annual reports to DNR and MMS that describe the operations conducted under the 4th POD during the preceding year.²⁸ The first annual report is due within 30 days after the anniversary date, by October 31, 2002, and the second annual report

²⁸ 11 AAC 83.343(d).

will be due on or before October 31, 2003. The Fifth Plan of Development for the Northstar Unit will be due on July 3, 2004, 90 days before the 4th POD expires.²⁹

A person affected by this decision may appeal it, in accordance with 11 AAC 02. Any appeal must be received within 20 calendar days after the date of "issuance" of this decision, as defined in 11 AAC 02.040 (c) and (d), and may be mailed or delivered to Pat Pourchot, Commissioner, Department of Natural Resources, 550 W. 7th Avenue, Suite 1400, Anchorage, Alaska 99501; faxed to 1-907-269-8918; or sent by electronic mail to dnr_appeals@dnr.state.ak.us. This decision takes effect immediately. If no appeal is filed by the appeal deadline, this decision becomes a final administrative order and decision of the department on the 31st day after issuance. An eligible person must first appeal this decision in accordance with 11 AAC 02 before appealing this decision to Superior Court. A copy of 11 AAC 02 may be obtained from any regional information office of the Department of Natural Resources.

Original signed by Mark D. Myers, Director

September 4, 2002

Mark D. Myers, Director
Division of Oil and Gas

Date

Attachment 1, Exhibit A, Description of Northstar Unit Leases and Ownership
Attachment 2, Exhibit B/D, Map of the Northstar Unit and Northstar PA
Attachment 3, Exhibit C, Northstar PA Unit Tract Participations for Allocation of
Unitized Substances
Attachment 4, Exhibit C-1, Redetermination Procedures
Attachment 5, Exhibit C-2, Weighted Average Sample Calculation
Attachment 6, Exhibit E, Allocation of Northstar PA Expense
Attachment 7, 4th POD
Attachment 8, Outside Substances Agreement
Attachment 9, Northstar Unit Stratigraphic Column

cc: Rance Wall, MMS Regional Supervisor
Krissell Crandall, BP Sr. Landman
Pat Pourchot, DNR Commissioner
Cammy Taylor, AOGCC
Richard Todd, Dept. of Law

²⁹ 11 AAC 83.343(c).

Attachment 1, Exhibit A, Description of Northstar Unit Leases and Ownership

EXHIBIT A
NORTHSTAR UNIT AGREEMENT
DESCRIPTION OF NORTHSTAR UNIT LEASES AND OWNERSHIP

Unit Tract No.	Lease No.	Sale Tract No. and Legal Description	Acreage	Royalty	Net Profit Share	ORRI (%)	BP %	Murphy %
TR-101	ADL 312798	Tract C30-46 (BF-46) <u>T. 14 N., R. 13 E., Umiat Meridian, Alaska</u> <u>T. 13 N., R. 13 E., Umiat Meridian, Alaska</u> Tract C30-46 (BF-46) is a portion of Blocks 470 and 514 as shown on the "Leasing and Nomination Map" for the Federal/State Beaufort Sea Oil and Gas Lease Sale, dated 1/30/79.	4,392.82	20% + Supplemental Royalty+E10	None	None	100.00	0.00
TR-102	ADL 312799	Tract C30-47 (BF-47) <u>T. 14 N., R. 13 E., Umiat Meridian, Alaska</u> <u>T. 13 N., R. 13 E., Umiat Meridian, Alaska</u> Tract C30-47 (BF-47) is a portion of Blocks 471 and 515 as shown on the "Leasing and Nomination Map" for the Federal/State Beaufort Sea Oil and Gas Lease Sale, dated 1/30/79.	4,472.37	20% + Supplemental Royalty	None	None	100.00	0.00
TR-103	ADL 312808	Tract C30-56 (BF-56) <u>T. 13 N., R. 13 E., Umiat Meridian, Alaska</u> Tract C30-56 (BF-56) is a portion of Blocks 514, 515, 558 and 559 as shown on the "Leasing and Nomination Map" for the Federal/State Beaufort Sea Oil and Gas Lease Sale, dated 1/30/79.	3,432.92	20% + Supplemental Royalty	None	None	100.00	0.00
TR-104	ADL 312809	Tract C30-57 (BF-57) <u>T. 13 N., R. 13 E., Umiat Meridian, Alaska</u> <u>T. 13 N., R. 14 E., Umiat Meridian, Alaska</u> Tract C30-57 (BF-57) is a portion of Blocks 516 and 560 as shown on the "Leasing and Nomination Map" for the Federal/State Beaufort Sea Oil and Gas Lease Sale, dated 1/30/79.	5,301.38	20% + Supplemental Royalty	None	None	100.00	0.00

TR-105	ADL 355001	Tract 39-01 <u>T. 13 N., R. 13 E., Umiat Meridian, Alaska</u> Section 17, Protracted, All, 640 acres; Section 18, Protracted, All, 631 acres; Section 19, Protracted, All, 633 acres; Section 20, Protracted, All, 640 acres; Section 25, Protracted, All, 640 acres; Section 26, Protracted, All, 640 acres; Section 27, Protracted, All, 640 acres; Section 28, Protracted, All, 640 acres; Section 29, Protracted, All, 640 acres.	5,744.00	20% + Supplemental Royalty	None	2	100.00	0.00
		SUBTOTAL OF STATE ACREAGE	23,343.49					
TR-1	OCS-Y-0179	That area of block 470 lying east of the line marking the western boundary of parcel "1" and between the two lines bisecting block 470, identified as parcel "1", containing approximately 94.30 hectares, and parcel "2", containing approximately 15.27 hectares, as shown on the Supplemental Official OCS Block Diagram, dated 10/4/79, based on Official Protraction Diagram NR 6-3, Beechey Point, approved April 29, 1975; and that area lying between the two lines bisecting block 471, containing approximately 611.95 hectares, as shown on the Supplemental Official OCS Block Diagram, dated 10/4/79, based on Official Protraction Diagram NR 6-3, Beechey Point, approved April 29, 1975; and that area lying northeasterly of the line bisecting block 515, containing approximately 189.83 hectares, as shown on the Supplemental Official OCS Block Diagram, dated 10/4/79, based on Official Protraction Diagram NR 6-3, Beechey Point, approved April 29, 1975. (911.35 hectares)	2,251.99	Fixed Sliding Scale (minimum of 16.66667%)	None	None	100.00	0.00

TR-2	OCS-Y-0181	That area lying northeasterly of the line bisecting block 516, containing approximately 2076.98 hectares, as shown on the Supplemental Official OCS Block Diagram, dated 10/4/79, based on Official Protraction Diagram NR 6-3, Beechey Point, approved April 29, 1975; and that area lying northeasterly of the line bisecting block 560, located in the northeast corner of block 560, containing approximately 44.65 hectares, as shown on the Supplemental Official OCS Block Diagram, revised and dated 12/9/79, based on Official Protraction Diagram NR 6-3, Beechey Point, approved April 29, 1975. (2121.63 hectares)	5,242.65	Fixed Sliding Scale (minimum of 16.66667%)	None	None	90.00	10.00
TR-3	OCS-Y-1645	That portion of Block 6510, OCS Official Protraction Diagram NR06-3, Beechey Point, approved February 01, 1996, shown as Federal 8(g) Area C on OCS Composite Block Diagram dated April 24, 1996. (1,185.584351 hectares)	2,929.64	12.50%	None	None	100.00	0.00
		SUBTOTAL OF FEDERAL ACREAGE	10,424.28					
		TOTAL UNIT ACREAGE	33,767.77					

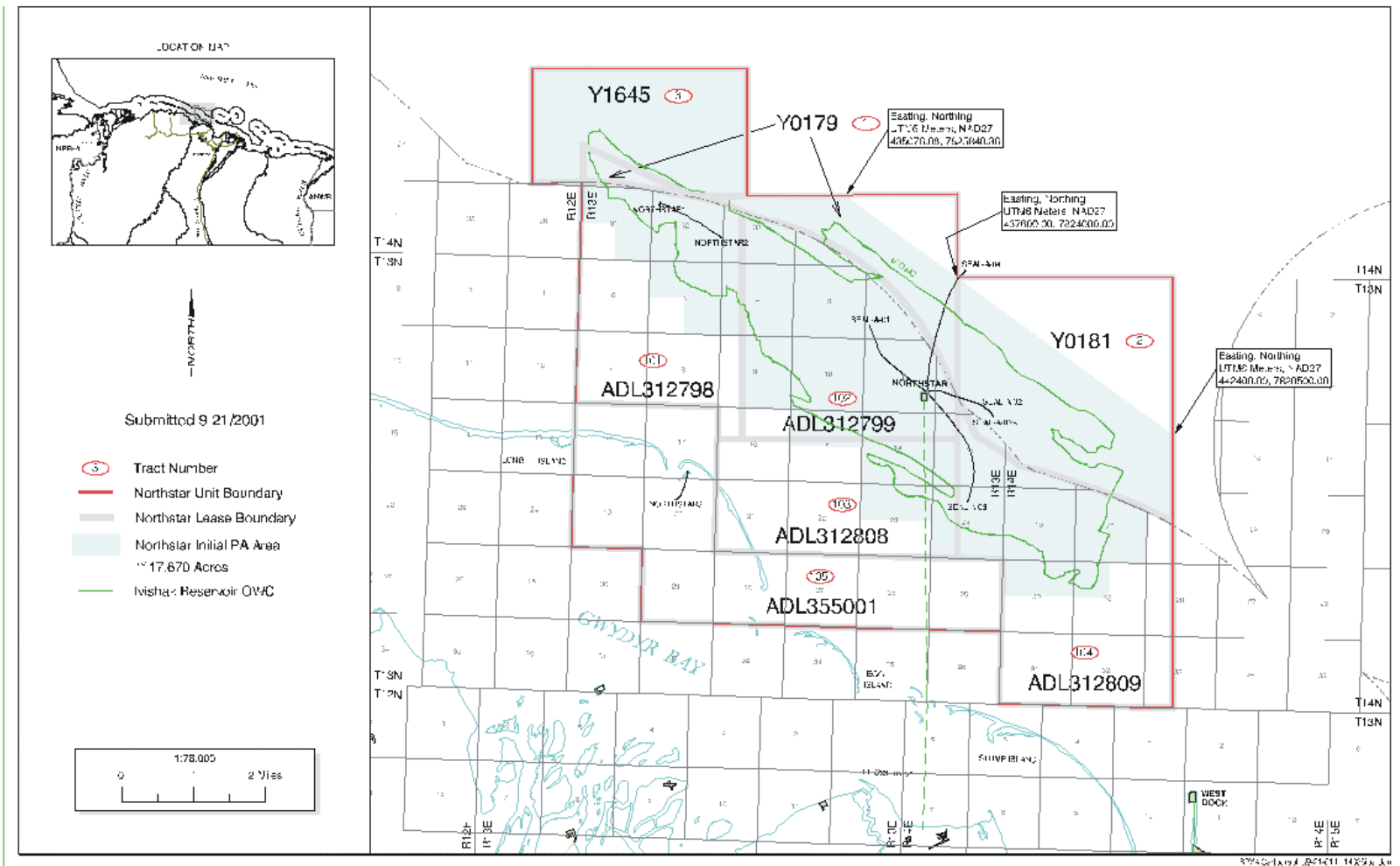
BP BP Exploration (Alaska) Inc.
Murphy Murphy Exploration (Alaska), Inc.

Attachment 2, Exhibit B/D, Map of the Northstar Unit and Northstar PA



NORTHSTAR UNIT AND INITIAL PARTICIPATING AREA

Northstar Unit Exhibit B and D



Attachment 3, Exhibit C, Northstar PA Unit Tract Participations for Allocation of Unitized Substances

EXHIBIT C
NORTHSTAR UNIT AGREEMENT
NORTHSTAR PARTICIPATING AREA* INITIAL UNIT TRACT PARTICIPATIONS
FOR ALLOCATION OF UNITIZED SUBSTANCES

Unit Tract No.	Lease No.	Sale Tract No. and Legal Description of that portion of Unit Tract within Participating Area**	Acreege of Unit Tract	Acreege In Participating Area***	Royalty	Tract Participation (%)	BP %	Murphy %
TR-101	ADL 312798	That portion of ADL 312798 lying within protracted <u>T14N R13E, Umiat Meridian, Alaska</u> Section 30 Section 31: N 1/2 and SE 1/4 Sections 32 and 33 <u>T13N R13E, Umiat Meridian, Alaska</u> Section 4 Section 5: N 1/2 and SE 1/4 As shown on Exhibit D.	4,392.82	1,885.00	20% + Supplemental Royalty	1.512	100.00	0.00
TR-102	ADL 312799	That portion of ADL 312799 lying within protracted <u>T14N R13E, Umiat Meridian, Alaska</u> Sections 33 and 34 <u>T13N R13E, Umiat Meridian, Alaska</u> Sections 2, 3, 4, 9, 10, 11, 12, 13, 14 and 15 As shown on Exhibit D.	4,472.37	4,292.00	20% + Supplemental Royalty	76.598	100.00	0.00
TR-103	ADL 312808	That portion of ADL 312808 lying within protracted <u>T13N R13E, Umiat Meridian, Alaska</u> Sections 13 and 14 Section 15: N 1/2 Section 23: N 1/2 Section 24 As shown on Exhibit D.	3,432.92	1,154.00	20% + Supplemental Royalty	1.064	100.00	0.00

TR-104	ADL 312809	That portion of ADL 312809 lying within protracted T13N R13E, Umiat Meridian, Alaska Sections 12, 13 and 24 T13N R14E, Umiat Meridian, Alaska Sections 17, 18, 19 and 20 Section 29: NW 1/4 Section 30: N 1/2 As shown on Exhibit D.	5,301.38	2,570.00	20% + Supplemental Royalty	4.923	100.00	0.00
		SUBTOTAL OF STATE ACREAGE		9,901.00		84.097		
TR-1	OCS-Y-0179	That portion of OCS-Y-0179 lying south of the line commencing at Easting, Northing UTM6 Meters, NAD27 435076.08, 7825840.36 and ending at Easting, Northing UTM6 Meters, NAD27 437600.00, 7824000.00, as shown on Exhibit D (dated 9/21/01).	2,251.99	1,669.00	Fixed Sliding Scale (minimum of 16.66667%)	4.085	100.00	0.00
TR-2	OCS-Y-0181	That portion of OCS-Y-0181 lying south of the line commencing at Easting, Northing UTM6 Meters, NAD27 437600.00, 7824000.00 and ending at Easting, Northing UTM6 Meters, NAD27 442400.00, 7820500.00, as shown on Exhibit D (dated 9/21/01).	5,242.65	3,167.00	Fixed Sliding Scale (minimum of 16.66667%)	11.728	90.00	10.00
TR-3	OCS-Y-1645	All of OCS-Y-1645	2,929.64	2,929.64	12.50%	0.090	100.00	0.00
		SUBTOTAL OF FEDERAL ACREAGE		7,765.64		15.903		
		TOTAL PARTICIPATING AREA ACREAGE		17,666.64		100.000		

*The Northstar Reservoir is defined as the accumulation of hydrocarbons in the Ivishak and Shublik "D" formations common to and correlating with the interval between 12,630 measured depth below rotary kelly bushing ("MDrkb") and 13,044 feet MDrkb in the Seal A-1 well.

** See Exhibit A for the legal description of each lease. The leases are described in terms of OCS blocks existing at the time of the relevant lease sale. The OCS blocks have since been renumbered.

***The acreage of each tract in the Participating Area is derived from GIS polygonal area measurement in BP's cartography system rounded to the nearest acre, and is not equivalent to surveyed acreage.

BP BP Exploration (Alaska) Inc.
Murphy Murphy Exploration (Alaska), Inc.

Exhibit C-1

Procedure for Redetermination of
Northstar Participating Area Unit Tract Participations
(October 29, 2001)

The Unit Tract Participations set out in Exhibit C for the Northstar Participating Area shall be revised in accordance with the provisions of this Exhibit C-1 at the first and fourth anniversaries of the commencement of Sustained Unit Production from the Northstar Participating Area (“Northstar Production”), and as otherwise provided herein.

1.0 Interim Unit Tract Participations

1.1 Proposal by Unit Operator. Within two months following the first anniversary of Northstar Production, the Unit Operator shall prepare and submit to the Regional Supervisor and the Commissioner any proposed revisions to the Initial Unit Tract Participations (the “Proposed Interim Unit Tract Participations”) based upon analysis of the data available through the first year of production. The data and analysis submitted in support of the Proposed Interim Unit Tract Allocations shall be consistent with Section 4 below. The Working Interest Owners shall agree on the Proposed Interim Unit Tract Participations before the Unit Operator submits them to the Minerals Management Service, U.S. Department of the Interior (“MMS”) and the State of Alaska, Department of Natural Resources (“DNR”) for approval.

1.2 Review and Approval of Proposed Interim Unit Tract Participations. The Interim Unit Tract Participations for the Northstar Participating Area require approval by the Regional Supervisor and the Commissioner.

1.2.1 Within ten days after receipt of the Proposed Interim Unit Tract Participations and supporting data and analysis, MMS and DNR shall give the Unit Operator written notice as to whether the submission is complete. If MMS and DNR determine the submission to be incomplete, MMS and DNR shall provide the Unit Operator with a written notice of incompleteness, specifying the deficiencies in the submission. The Unit Operator shall submit additional data and analysis until MMS and DNR determine the submission to be complete.

1.2.2 MMS, DNR and the Alaska Oil and Gas Conservation Commission (“AOGCC”) have agreed to form a Northstar Reservoir Modeling Team (the “Joint Team”). Within four months after the first anniversary of Northstar Production, the Joint Team shall recommend approval or rejection of the Proposed Interim Unit Tract Participations by the Regional Supervisor and the Commissioner and, if the Joint Team recommends rejection, it shall propose its own Interim Unit Tract Participations (the “Joint Team Interim Unit Tract Participations”). The Regional Supervisor and the

Commissioner shall inform the Unit Operator of the Joint Team's recommendation, and provide the Unit Operator with the Joint Team Interim Unit Tract Participations, if any. If the Joint Team recommends rejection of the Proposed Interim Unit Tract Participations, the Unit Operator shall submit written comments or objections concerning the Joint Team Interim Unit Tract Participations to the Regional Supervisor and the Commissioner within five months of the first anniversary of Northstar Production.

1.2.3 Within six months after the first anniversary of Northstar Production, the Regional Supervisor and the Commissioner shall approve the Proposed Interim Unit Tract Participations, the Joint Team Interim Unit Tract Participations or alternative Interim Unit Tract Participations.

1.3 Agency Decision. MMS and DNR shall make their best efforts to reach consensus and approve identical Interim Unit Tract Participations within six months following the first anniversary of Northstar Production. In the event that the Regional Supervisor and the Commissioner do not approve identical Interim Unit Tract Participations within six months following the first anniversary of Northstar Production, the Proposed Interim Unit Tract Participations shall be deemed to have been approved, and shall be effective with respect to all parties on a prospective basis commencing the first day of the seventh month following the first anniversary of Northstar Production.

1.4 Effective Date. If both the Regional Supervisor and the Commissioner approve identical Interim Unit Tract Participations, the Interim Unit Tract Participations shall be effective with respect to all parties on a prospective basis commencing the first day of the month following approval by the Regional Supervisor and the Commissioner.

2.0 Final Unit Tract Participations

2.1 Proposal by Unit Operator. Within two months following the fourth anniversary of Northstar Production, the Unit Operator shall prepare and submit to the Regional Supervisor and the Commissioner any proposed revisions to the Interim Unit Tract Participations (the "Proposed Final Unit Tract Participations") based upon analysis of the data available through the first four years of production. The data and analysis submitted in support of the Proposed Final Unit Tract Allocations shall be consistent with Section 4 below. The Working Interest Owners shall agree on the Proposed Final Unit Tract Participations before the Unit Operator submits them to MMS and DNR for approval.

2.2 Review and Approval of Final Unit Tract Participations. The Final Unit Tract Participations for the Northstar Participating Area require approval or deemed approval pursuant to Section 2.3 by the Regional Supervisor and the Commissioner before they become effective.

2.2.1 Within ten days after receipt of the Proposed Final Unit Tract Participations and supporting data and analysis, MMS and DNR shall give the Unit Operator written notice as to whether the submission is complete. If MMS and DNR determine the submission to be incomplete, MMS and DNR shall provide the Unit Operator with a written notice of incompleteness, specifying the deficiencies in the submission. The Unit Operator shall submit additional data and analysis until MMS and DNR determine the submission to be complete.

2.2.2 Within four months after the fourth anniversary of Northstar Production, the Joint Team shall recommend approval or rejection of the Proposed Final Unit Tract Participations by the Regional Supervisor and Commissioner and, if the Joint Team recommends rejection, it shall propose its own Final Unit Tract Participations (the “Joint Team Final Unit Tract Participations”). The Regional Supervisor and the Commissioner shall inform the Unit Operator of the Joint Team’s recommendation, and provide the Unit Operator with the Joint Team Final Unit Tract Participations, if any. If the Joint Team recommends rejection of the Proposed Final Unit Tract Participations, the Unit Operator shall submit written comments or objections concerning the Joint Team Final Unit Tract Participations to the Regional Supervisor and the Commissioner within five months of the fourth anniversary of Northstar Production.

2.2.3 Within six months after the fourth anniversary of Northstar Production, the Regional Supervisor and the Commissioner shall approve the Proposed Final Unit Tract Participations, the Joint Team Final Unit Tract Participations or alternative Final Unit Tract Participations.

2.3 Agency Decision. MMS and DNR shall make their best efforts to reach consensus and approve identical Final Unit Tract Participations within six months following the fourth anniversary of Northstar Production. In the event the Regional Supervisor and the Commissioner do not approve identical Final Unit Tract Participations, then the Final Unit Tract Participation for each Unit Tract shall be deemed to be a weighted average of the Final Unit Tract Participation approved by the Regional Supervisor and the Final Unit Tract Participation approved by the Commissioner (“Averaged Final Unit Tract Participations”). The Averaged Final Unit Tract Participations shall be equal to:

$$(MMS \times .15903) + (DNR \times .84097)$$

where:

MMS = the Final Unit Tract Participation approved by the Regional Supervisor; and

DNR = the Final Unit Tract Participation approved by the Commissioner.

MMS, DNR, and the Working Interest Owners shall be deemed to have approved the Averaged Final Unit Tract Participations, and the Working Interest Owners agree to be bound by the Averaged Final Unit Tract Participations. MMS, DNR and the Working Interest Owners shall not appeal the use of the averaging methodology hereunder, nor shall they appeal the Final Unit Tract Participations approved by the Regional Supervisor or by the Commissioner except on the grounds that such decision is alleged to be arbitrary and capricious or violates constitutionally protected rights of MMS, DNR or the Working Interest Owners.

A sample calculation is attached as Exhibit C-2.

3.0 Final Unit Tract Participation Adjustments

3.1 Retroactive Adjustment Threshold. On the first day of the month following the approval or deemed approval of the Final Unit Tract Participations, such tract participations shall be applied retroactively to the first day of the commencement of Northstar Production if:

- (a) the sum of the Interim Unit Tract Participations for State leases is greater than 85.097 % or less than 83.097 % or
- (b) the sum of the Final Unit Tract Participations for State leases is greater than 85.097% or less than 83.097%.

Otherwise, Final Unit Tract Participations shall be effective with respect to all parties on a prospective basis commencing the first day of the month following approval or deemed approval by the Regional Supervisor and the Commissioner.

3.2 Equalization Procedure.

3.2.1 State Equalization Procedure. If the Unit Tract Participations must be applied retroactively pursuant to Subsection 3.1 above, then determination of the equalization amounts shall be calculated retroactively, but applied prospectively and spread evenly over one year of production of Unitized Substances from the Northstar Participating Area. Debits and credits owed to or by the State pursuant to Subsection 3.1 shall be made and calculated in the same manner as is required for payment for the royalty interests of the State in the Unitized Substances being produced from the Northstar Participating Area.

3.2.2 Federal Equalization Procedure. If the Unit Tract Participations must be applied retroactively pursuant to Subsection 3.1 above, then equalization of production volumes for MMS shall be in accordance with the Federal Royalty Simplification and Fairness Act, the Federal Oil and Gas Royalty Management Act, and all other applicable federal statutes and regulations.

3.2.3 Owner Equalization Procedure. If Final Unit Tract Participations must be applied retroactively pursuant to Subsection 3.1 above, then equalization of production volumes as between the Working Interest Owners shall be calculated retroactively but applied prospectively and spread evenly over one year of production of Unitized Substances from the Northstar Participating Area.

4.0 Availability of Data and Technical Information

4.1 Availability of Technical Information. The Unit Operator shall supply all appropriate supporting information to allow MMS and DNR to evaluate proposed Unit Tract Participations. MMS and DNR consider the information that the Unit Operator submitted to support the Proposed Initial Unit Tract Participations as the minimum type and amount of data that will be required to support subsequent Unit Tract Participations. The Unit Operator shall base subsequently proposed Unit Tract Participations on significantly more information and submit more data and interpretations than were available for the Proposed Initial Unit Tract Participations. Nothing in this section shall limit the rights of MMS and DNR under applicable statutes, regulations, leases and agreements, including Article 3.9 of the Northstar Unit Agreement, to request that the Unit Operator provide whatever data and interpretations the agencies deem necessary to fulfill their respective responsibilities.

4.2 Access to Production Simulation Model. For a period of six months following the first and fourth anniversaries of Northstar Production, the Unit Operator shall provide the Commissioner access to the Unit Operator's production simulation model(s). The Commissioner shall be permitted to produce a production simulation model(s) with alternative factors, data or weighting of factors. For both the Interim and Final Redeterminations, the Unit Operator shall provide the Commissioner with up to twenty (20) hours of assistance by a qualified technical operator who shall operate the computer software and hardware necessary to access the existing model(s) at no cost to the State. Assistance in excess of twenty (20) hours shall be paid for by the State at a rate of two hundred dollars (\$200) per hour or portion thereof.

The Unit Operator shall not be required to provide more than eighty (80) hours of assistance by a qualified technical operator for the Commissioner to evaluate the Proposed Interim Unit Tract Participations. The Commissioner shall have access to the Unit Operator's model for up to sixty days (consecutive or non-consecutive) to evaluate the Proposed Final Unit Tract Participations. The Unit Operator shall provide the Commissioner with reasonable amounts of assistance by a qualified technical operator to evaluate any subsequently proposed Unit Tract Participations, and in any event all such assistance shall be provided within a sixty (60) day period from the date such assistance first commences.

4.3 Basis For Decisions. The Commissioner shall base his or her recommendations and decisions on the criteria provided in the applicable statutes and regulations, including but not limited to 11 AAC 83.303. The MMS will base decisions on available scientific data and analysis.

5.0 Extension of Final Redetermination Deadline In Event Of Continued Drilling.

The parties contemplate that on the fourth anniversary of Northstar Production, eight months of production shall have elapsed from the date the Unit Operator completed, suspended, or plugged and abandoned the last production well to be drilled into the Northstar Reservoir pursuant to the approved Plan of Development in effect at that time, it being recognized that the Fourth Plan of Development for the Northstar Unit provides for sixteen production wells in the Northstar Reservoir. If, on the fourth anniversary of Northstar Production, the Unit Operator has so completed the last such production well, but less than eight months of production has elapsed from the date such work was finished, then the deadline for Unit Operator to submit Proposed Final Unit Tract Participations shall be automatically extended until the expiration of the eight month period running therefrom. If, on the fourth anniversary of Northstar Production the Unit Operator has not completed, suspended, or plugged and abandoned the last such production well, DNR and MMS may extend the deadline for the Unit Operator to submit Proposed Final Unit Tract Participations.

6.0 Redetermination In Event Of Material Change To Plan Of Development.

6.1 Joint MMS and DNR Request For Subsequent Redetermination. In the event the Regional Supervisor and Commissioner both make a written finding that there has been a material change to the Plan of Development, which justifies redetermination of the Final Unit Tract Participations, they shall each issue a written request for a subsequent redetermination (“Redetermination Request”) to the Unit Operator.

6.2 Proposal by Unit Operator. Within two months following the date of the Redetermination Request, the Unit Operator shall prepare and submit to the Regional Supervisor and the Commissioner any proposed revisions to the Final Unit Tract Participations (the “Proposed Revised Unit Tract Participations”) based upon the data and analysis available at that time. The data and analysis submitted in support of the Proposed Revised Unit Tract Participations shall be consistent with Section 4 above. The Working Interest Owners shall agree on the Proposed Revised Unit Tract Participations before the Unit Operator submits them to MMS and DNR for approval.

6.3 Review and Approval of Revised Unit Tract Participations. The Revised Unit Tract Participations for the Northstar Participating Area require approval or deemed approval pursuant to Section 6.4 by the Regional Supervisor and the Commissioner before they become effective.

6.3.1 Within ten days after receipt of the Proposed Revised Unit Tract Participations and supporting data and analysis, MMS and DNR shall give the Unit Operator written notice as to whether the submission is complete. If MMS and DNR determine the submission to be incomplete, MMS and DNR shall provide the Unit Operator with a written notice of incompleteness, specifying the deficiencies in the submission.

The Unit Operator shall submit additional data and analysis until MMS and DNR determine the submission to be complete.

6.3.2 Within four months after the date of the Redetermination Request, the Joint Team shall recommend approval or rejection of the Proposed Revised Unit Tract Participations by the Regional Supervisor and Commissioner and, if the Joint Team recommends rejection, it shall propose its own Revised Unit Tract Participations (the “Joint Team Revised Unit Tract Participations”). The Regional Supervisor and the Commissioner shall inform the Unit Operator of the Joint Team’s recommendation, and provide the Unit Operator with the Joint Team Revised Unit Tract Participations, if any. If the Joint Team recommends rejection of the Proposed Revised Unit Tract Participations, the Unit Operator shall submit written comments or objections concerning the Joint Team Revised Unit Tract Participations to the Regional Supervisor and the Commissioner within five months after the date of the Redetermination Request.

6.3.3 Within six months after the date of the Redetermination Request, the Regional Supervisor and the Commissioner shall approve the Proposed Revised Unit Tract Participations, the Joint Team Revised Unit Tract Participations, or alternative Revised Unit Tract Participations.

6.4 Agency Decision. MMS and DNR shall make their best efforts to reach consensus and approve identical Revised Unit Tract Participations within six months following the date of the Redetermination Request. In the event the Regional Supervisor and the Commissioner do not approve identical Revised Unit Tract Participations, then the Revised Unit Tract Participation for each Unit Tract shall be deemed to be a weighted average of the Revised Unit Tract Participations approved by the Regional Supervisor and the Revised Unit Tract Participations approved by the Commissioner (“Averaged Revised Unit Tract Participations”). The Averaged Revised Unit Tract Participations shall be equal to:

$$(MMS \times CF) + (DNR \times CS)$$

where:

MMS = the Revised Unit Tract Participation approved by the Regional Supervisor;

CF = the sum of the current Unit Tract Participations for Federal leases prior to the revision;

DNR = the Revised Unit Tract Participation approved by the Commissioner; and

CS = the sum of the current Unit Tract Participations for State leases prior to the revision.

MMS, DNR, and the Working Interest Owners shall be deemed to have approved the Averaged Revised Unit Tract Participations, and the Working Interest Owners agree to be bound by the Averaged Revised Unit Tract Participations. MMS, DNR and the Working Interest Owners shall not appeal the use of the averaging methodology hereunder, nor shall they appeal the Final Unit Tract Participations approved by the Regional Supervisor or by the Commissioner except on the grounds that such decision is alleged to be arbitrary and capricious or violates constitutionally protected rights of MMS, DNR or the Working Interest Owners.

- 6.5** Effective Date. The Revised Unit Tract Participations shall be effective with respect to all parties on a prospective basis commencing the first day of the month following approval or deemed approval by the Regional Supervisor and the Commissioner. Revised Unit Tract Participations shall be applied retroactively only if the Regional Supervisor and Commissioner so agree.

7.0 Redetermination In Event of Expansion Or Contraction Of Participating Area.

- 7.1** Unit Agreement Governs. The Northstar Unit Agreement (including Exhibits), statutes and regulations shall govern determination of Unit Tract Participations if the Northstar Participating Area is expanded or contracted.

- 7.2** Proposal by Unit Operator. Within six months after the Unit Operator obtains the knowledge or information on which the expansion or contraction is predicated, the Unit Operator shall propose expansion or contraction of the Northstar PA, and submit to the Regional Supervisor and the Commissioner proposed revisions to the Unit Tract Participations (the “Proposed Unit Tract Participations”) based upon analysis of the data available at that time. The data and analysis submitted in support of the Proposed Unit Tract Participations shall be consistent with Section 4 above. The Working Interest Owners shall agree on the Proposed Unit Tract Participations before the Unit Operator submits them to MMS and DNR for approval.

- 7.3** Review and Approval of Revised Unit Tract Participations. Upon expansion or contraction of the Northstar Participating Area, the Unit Tract Participations for the Northstar Participating Area require approval or deemed approval pursuant to Section 7.3.3 by the Regional Supervisor and the Commissioner before they become effective.

7.3.1 Within ten days after receipt of the Proposed Unit Tract Participations and supporting data and analysis, MMS and DNR shall give the Unit Operator written notice as to whether the submission is complete. If MMS and DNR determine the submission to be incomplete, MMS and DNR shall provide the Unit Operator with a written notice of incompleteness, specifying the deficiencies in the submission. The Unit Operator shall submit additional data and analysis until MMS and DNR determine the submission to be complete.

7.3.2 Within four months following the proposed expansion or contraction, the Joint Team shall recommend approval or

rejection of the Proposed Unit Tract Participations by the Regional Supervisor and Commissioner and, if the Joint Team recommends rejection, it shall propose its own Unit Tract Participations (the “Joint Team Unit Tract Participations”). The Regional Supervisor and the Commissioner shall inform the Unit Operator of the Joint Team’s recommendation, and provide the Joint Team Unit Tract Participations, if any. If the Joint Team recommends rejection of the Proposed Unit Tract Participations, the Unit Operator shall submit written comments or objections concerning the Joint Team Unit Tract Participations to the Regional Supervisor and the Commissioner within five months after the proposed expansion or contraction.

7.3.3 Within six months following the proposed expansion or contraction, the Regional Supervisor and the Commissioner shall approve the Proposed Unit Tract Participations, the Joint Team Unit Tract Participations, or alternative Unit Tract Participations for the Northstar Participating Area. MMS and DNR shall make their best efforts to reach consensus and approve identical Unit Tract Participations for the expanded or contracted Northstar Participating Area. In the event the Regional Supervisor and the Commissioner do not approve identical Unit Tract Participations, then the Unit Tract Participation for each Unit Tract shall be deemed to be a weighted average of the Unit Tract Participations approved by the Regional Supervisor and the Unit Tract Participations approved by the Commissioner (“Averaged Unit Tract Participations”). The Averaged Unit Tract Participations shall be equal to:

$$(MMS \times CF) + (DNR \times CS)$$

where:

- MMS = Unit Tract Participation approved by the Regional Supervisor;
- CF = the sum of the current Unit Tract Participations for Federal leases prior to the revision;
- DNR = Unit Tract Participation approved by the Commissioner; and
- CS = the sum of the current Unit Tract Participations for State leases prior to the revision.

MMS, DNR and the Working Interest Owners shall be deemed to have approved the Averaged Unit Tract Participations, and the Working Interest Owners agree to be bound by the Averaged Unit Tract Participations. MMS, DNR and the Working Interest Owners shall not appeal the use of the averaging methodology hereunder, nor shall they appeal the Final Unit Tract Participations approved by the Regional Supervisor or by the

Commissioner except on the grounds that such decision is alleged to be arbitrary and capricious or violates constitutionally protected rights of MMS, DNR or the Working Interest Owners.

- 7.4 Effective Date. Unit Tract Participations for the expanded or contracted Participating Area shall be effective with respect to all parties on a prospective basis commencing the first day of the month following approval or deemed approval by the Regional Supervisor and the Commissioner. Unit Tract Participations for the expanded or contracted Participating Area shall be applied retroactively only if both the Regional Supervisor and the Commissioner so agree.

8.0 Sum Of Proposed Tract Participations

The sum of the Unit Tract Participations proposed by the Regional Supervisor under this Exhibit C-1 shall equal one hundred percent (100%). The sum of the Unit Tract Participations proposed by the Commissioner under this Exhibit C-1 shall equal one hundred percent (100%).

EXHIBIT C-2

SAMPLE CALCULATION UNDER PROCEDURE FOR
DETERMINATION OF NORTHSTAR PARTICIPATING AREA UNIT
TRACT PARTICIPATIONS

NORTHSTAR UNIT AGREEMENT
NORTHSTAR PARTICIPATING AREA

Tract	Initial Tract Participations (%)	MMS Proposal (%)	DNR Proposal (%)	Weighted Average of MMS & DNR Proposals (%)*
101	1.512	1.512	2.512	2.353
102	76.598	75.398	79.986	79.256
103	1.064	1.020	1.579	1.490
104	4.923	4.897	5.923	5.760
Subtotal (State)	84.097	82.827	90.000	88.859
1	4.085	5.231	2.223	2.701
2	11.728	11.728	7.747	8.380
3	0.090	0.214	0.030	0.060
Subtotal (Federal)	15.903	17.173	10.000	11.141
Total	100.000	100.000	100.000	100.000

* Weighted Average = (MMS Proposal X .15903) + (DNR Proposal X .84097)

Unit Tract Participation percentages are rounded to thousandths.

EXHIBIT E
NORTHSTAR UNIT - NORTHSTAR PARTICIPATING AREA
ALLOCATION OF PARTICIPATING AREA EXPENSE

Unit Tract No.	Lease No.	Lease Ownership		Unit Tract Participation (%)	Allocation by Owner	
		BP %	Murphy %		BP %	Murphy %
TR-101	ADL 312798	100.00	0.00	1.512	1.51200	-
TR-102	ADL 312799	100.00	0.00	76.598	6.59800	-
TR-103	ADL 312808	100.00	0.00	1.064	1.06400	-
TR-104	ADL 312809	100.00	0.00	4.923	4.92300	-
TR-1	OCS-Y-0179	100.00	0.00	4.085	4.08500	-
TR-2	OCS-Y-0181	90.00	10.00	11.728	10.55520	1.17280
TR-3	OCS-Y-1645	100.00	0.00	0.090	0.09000	-
Total				100.000	98.82720	1.17280

BP BP Exploration (Alaska) Inc.
Murphy Murphy Exploration (Alaska), Inc.

NORTHSTAR UNIT
FOURTH PLAN OF DEVELOPMENT
 (October 1, 2001 – September 30, 2004)

BP Exploration (Alaska) Inc. (“BP”), Unit Operator of the Northstar Unit, submits this Fourth Plan of Development (“POD”) on behalf of BP and Murphy Exploration (Alaska), Inc., the Northstar Unit Working Interest Owners.

This Plan is submitted to the Commissioner of the Department of Natural Resources, State of Alaska (“DNR”) and the Regional Supervisor, U.S. Minerals Management Service (“MMS”) in accordance with Article 8 of the Northstar Unit Agreement and 11 AAC 83.343. It describes proposed development and operations activities based on data reasonably available at the time of submission.

Overview

The Amended Third POD was submitted May 5, 1999, and was approved by DNR on May 11, 1999, which extended the period of the original third POD through April 1, 2002. This Fourth POD will supersede the Amended Third POD when approved by DNR.

Status of Activities Under Amended Third POD

The Amended Third POD sets out a schedule of activities culminating in the production of oil in 4Q 2001. The status of these activities is listed below.

<u>Activity</u>	<u>Anticipated Date</u>
(1) Engineering, Procurement and Fabrication	
Complete island slope protection block fabrication	Complete
Complete island procurement	Complete
Complete detail infrastructure engineering	Complete
Complete detail process facility engineering	Complete
Complete pipeline tie-in skid engineering	Complete
Complete infrastructure procurement	Complete
Complete infrastructure fabrication in Anchorage	Complete
Complete pipeline procurement	Complete
Complete process facility procurement	Complete
Complete process facility fabrication in Anchorage	Complete
Complete construction support and start up support engineering	4Q/01
Start-up	4Q/01
(2) EIS and Permitting Activities	
Complete EIS activities	Complete
Complete permitting activities	Complete
(3) Form a Participating Area	
Transfer data to DNR, MMS, and AOGCC; discuss seismic data and container	Ongoing
Complete Participating Area review with working interest owners	Complete

Complete agency discussions on model descriptions and inputs	Ongoing
Establish container, OOIP and depletion plan (working interest owners, MMS, DNR)	Ongoing
Complete review of reservoir development plan with agencies, reach final agreement for participating area	4Q/01
(4) Island Construction and Pipeline Installation	
Build ice roads for '00 construction season	Complete
Complete island construction	Complete
Build ice roads for '01 construction season	Complete
Complete pipeline installation	Complete
(5) Transport and Installation	
Complete sealift of infrastructure	Complete
Complete installation of infrastructure	Complete
Complete sealift of process facility	Complete
Complete installation of process facility	4Q/01
(6) Rig Modification and Mobilization	
Complete rig modification	Complete
Complete mobilization of rig	Complete
Begin production drilling	Complete

Fourth Plan of Development

The Fourth POD covers the period commencing with startup of sustained production from the Northstar Reservoir in the Northstar Participating Area through September 30, 2004. Sustained production is expected to occur in mid-October of 2001.

Well Operations and Reservoir Development

At the commencement of sustained production from the Northstar Reservoir, the Unit Operator will have drilled approximately 3 production wells, 1 gas injection well, and 1 waste disposal well. Unit Operator will continue to drill and complete a total of up to 16 production wells and 5 gas injection wells as needed to maximize recovery from the Northstar Reservoir. The Northstar production facilities, located on Seal Island, contain space for as many as 36 wells. Production is expected to peak at about 65,000 barrels per day. Field life is estimated at 15 years.

Facilities

At the commencement of sustained production from the Northstar Reservoir, the installation of major facilities will be essentially complete. No major additions are anticipated; however, work to complete commissioning of plant and post-commissioning adjustments to facilities is envisaged.

Operations Logistics

Although the primary means of transport will be by barge and helicopter to Seal Island, the Unit Operator anticipates making an application to construct an ice road to the island during the winter of 2001/2002 in order to facilitate logistics to and from the island.

Production will be transported from Seal Island to TAPS Pump Station 1 via the Northstar Oil Pipeline, a common carrier pipeline.

Injection of Outside Substances

A 16.3 mile long gas pipeline from the Central Compressor Plant in the Prudhoe Bay field will be used to transport dry gas to Seal Island. This gas will be injected into the Northstar Reservoir to enhance oil recovery and to provide fuel gas prior to start-up. Depending upon reservoir performance and the volumes of produced gas available for reinjection, up to 400 bcf of Outside Substance gas may be injected into the Northstar Reservoir over the life of the field at a peak rate of approximately 100 mmscf/day.

Further Exploration within Unit

During the term of the Fourth POD, Unit Operator will continue to explore and appraise other acreage and formations within the Northstar Unit as described in Confidential Attachment 1.

The timing of any exploratory drilling will be dependent upon and subject to the development drilling schedule and plant capacity. Unit Operator will apply for appropriate approvals for such exploration, appraisal and possible development.

The Working Interest Owners agree that on the fourth anniversary of the commencement of Sustained Production from the Northstar Participating Area: (a) the Owners shall have commenced drilling a well which tests State acreage lying at least one-half mile outside of the boundary of the Northstar Participating Area; or (b) the Unit boundaries shall automatically contract, subject to approval by DNR and MMS, so as to exclude any State lease of which no part lies within an approved participating area.

Unit Operator will continue to provide MMS and DNR an annual summary of Northstar Unit activities throughout the term of this Fourth POD and inform MMS and DNR when material changes occur.

OUTSIDE SUBSTANCES AGREEMENT

NORTHSTAR UNIT NORTHSTAR PARTICIPATING AREA

(October 5, 2001)

Pursuant to Section 10.3 of the Northstar Unit Agreement, the Regional Supervisor, the Commissioner and the Northstar Unit Working Interest Owners hereby agree upon the rate at which Outside Substances consisting of dry gas injected into the Northstar Participating Area (“Injected Outside Substances”) will be deemed recovered.

After injection of Outside Substances commences, Injected Outside Substances shall be deemed recovered at a rate equal to eighty percent (80%) of the dry gas Unitized Substances produced from the Northstar Participating Area and sold or used for purposes other than Unit Operations (“Injected Outside Substances Deemed Recovered”). Dry gas Unitized Substances used for fuel gas and other Unit Operations at the Northstar Unit shall not be Injected Outside Substances Deemed Recovered.

All provisions for royalty-free Injected Outside Substances shall terminate when the total British Thermal Units (“BTUs”) in the Injected Outside Substances Deemed Recovered equal ninety percent (90%) of the total BTUs in the Injected Outside Substances. BTUs for Injected Outside Substances will be based on assays of the gas as injected, whereas BTUs for Injected Outside Substances Deemed Recovered will be based on assays of the sales gas stream (consisting of commingled Outside Substances and original reservoir gas). The Unit Operator shall use the same standards to measure the BTUs in both the Injected Outside Substances and the Injected Outside Substances Deemed Recovered.

As long as royalty has already been paid once, no royalty shall be due or payable on Injected Outside Substances Deemed Recovered. Only dry gas and not products extracted therefrom, may be saved, removed or sold royalty-free.

The Unit Operator shall maintain records and provide the Regional Supervisor and the Commissioner with Operator Reports, supplemental Outside Substances Reports, and Gas Disposition and Reserves Debit Reports on a monthly basis. It is anticipated that BP and DNR will amend the Electronic Commerce Agreement (“ECA”) to address submittal of this information, and until such amendment, BP may to the extent it is possible and practical, submit the information to DNR pursuant to the protocols and procedures set out in the ECA. The Operator Report shall describe the total volume of hydrocarbons produced from the Northstar PA. The Outside Substances Report shall contain the monthly volumes and BTU equivalents of Injected Outside Substances, Injected Outside Substances Deemed Recovered, and the balance of Injected Outside Substances remaining. The monthly Gas Disposition and Reserves Debit Reports shall detail the volumes of gas imported and produced, the disposition of the gas, and the allocation to each Working Interest Owner. In addition, each Working Interest Owner’s monthly Royalty Reports submitted to DNR and/or MMS, as appropriate, shall indicate the total volume of dry gas Unitized Substances produced, the volume of Injected Outside Substances Deemed Recovered, and the volume of Injected Outside Substances for which royalty is due and payable.

**Generalized North Slope Stratigraphic Column
Displaying the Northstar Reservoir and Associated Accumulations**

Age	Formation	Composition	Thickness	True Vertical Depth Sub-Sea (TVDss)
Cretaceous	Kuparuk Formation	Sandstone	260'	8874'
Jurassic	Kingak Formation	Shale	1,516'	9,134'
				10,650'
Triassic	Sag River Formation	Sandstone	100'	10,650'
	Shublik "A", "B", and "C" Formations	Mudstone/Siltstone	75'	10,750'
	Shublik "D" Formation	Mudstone/Siltstone	10'	10,825'
	Ivishak Formation	Conglomerate	225'	10,835'
	Ivishak Formation	Sandstone	100'	11,060'
Permian	Kavik Formation	Shale	100'	11,160'
	Lisburne Group	Limestone		11,265'

Northstar PA  Northstar Pool  Oil water contact 11,100 ft TVDss

Thicknesses and tops based on the BF-47 (Seal A-01) well.

Stephen J. Howe, Commercial Advisor, BP
Northstar Unit, Northstar Participating Area
September 5, 2002
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The Northstar PA encompasses 17,667.00 acres including portions of four State leases and all or part of three Federal leases. Effective October 11, 2001, the Northstar PA includes the area described in Exhibit C to the Unit Agreement dated August 5, 2002.

DNR and MMS approved the 4th POD with a three-year term effective October 1, 2001. BP shall submit annual reports to DNR and MMS that describe the operations conducted under the 4th POD during the preceding year. The first annual report is due within 30 days after the anniversary date, by October 31, 2002

Sincerely,

Original signed by Carol Lee, Petroleum Land Manager

Carol Lee
Petroleum Land Manager

Enclosure: Findings and Decision of the Director of the Division of Oil and Gas
Approving the Formation of the Northstar Participating Area within the
Northstar Unit

cc: Greg Mattson, BP Alaska New Developments, Business Unit Leader
Krissell Crandall, BP Sr. Landman
Rance Wall, MMS Regional Supervisor
Pat Pourchot, DNR Commissioner
Cammy Taylor, AOGCC
Richard Todd, Dept. of Law