DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 18

RIN 1018–AH92

Marine Mammals; Incidental Take During Specified Activities

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: We, the Fish and Wildlife Service (Service), have developed regulations that would authorize the incidental, unintentional take of small numbers of polar bears and Pacific walrus during year-round oil and gas industry (Industry) exploration, development, and production operations in the Beaufort Sea and adjacent northern coast of Alaska. Industry operations for the covered period are similar to and include all activities covered by the 3-year Beaufort Sea incidental take regulations that were effective from March 30, 2000, through March 31, 2003 (65 FR 16828, March 30, 2000).

We find that the total expected takings of polar bear and Pacific walrus during oil and gas industry exploration, development, and production activities will have a negligible impact on these species and no unmitigable adverse impacts on the availability of these species for subsistence use by Alaska Natives. We base this finding on the results of 9 years of monitoring and evaluating interactions between polar bears, Pacific walrus, and Industry, and also on oil spill trajectory models, polar bear density models, and an independent population distribution model that determine the likelihood of impacts to polar bears should an accidental oil release occur.

DATES: This rule is effective November 28, 2003, and remains effective through March 28, 2005.

ADDRESSES: Comments and materials received in response to this action are available for public inspection during normal working hours of 8 a.m. to 4:30 p.m., Monday through Friday, at the Office of Marine Mammals Management, U.S. Fish and Wildlife Service, 1011 E. Tudor Road, Anchorage, AK 99503.

FOR FURTHER INFORMATION CONTACT: Craig Perham, Office of Marine Mammals Management, U.S. Fish and Wildlife Service, 1011 East Tudor Road, Anchorage, AK 99503; telephone 907–786–3810 or 1–800–362–5148; e-mail: *craig_perham@fws.gov*.

SUPPLEMENTARY INFORMATION:

Background

Section 1371(a)(5)(A) of the Marine Mammal Protection Act (MMPA) (16 U.S.C. 1361–1407) gives the Secretary of the Interior (Secretary) through the Director of the Service the authority to allow the incidental, but not intentional, taking of small numbers of marine mammals, in response to requests by U.S. citizens (you) (as defined in 50 CFR 18.27(c)) engaged in a specified activity (other than commercial fishing) in a specified geographic region. If regulations allowing such incidental taking are issued, we can issue Letters of Authorization (LOA) to conduct activities under the provisions of these regulations when requested by citizens of the United States.

We are authorizing the incidental taking of polar bears and Pacific walrus based on our final finding using the best scientific evidence available that the total of such taking for the regulatory period will have no more than a negligible impact on these species and will not have an unmitigable adverse impact on the availability of these species for taking for subsistence use by Alaska Natives. These regulations set forth: (1) Permissible methods of taking; (2) the means of effecting the least practicable adverse impact on the species and their habitat and on the availability of the species for subsistence uses; and (3) requirements for monitoring and reporting.

The term ''take,'' as defined by the MMPA, means to harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill, any marine mammal. Harassment as defined by the MMPA, as amended in 1994, ''means any act of pursuit, torment, or annoyance which (i) has the potential to injure a marine mammal or marine mammal stock in the wild'' (the MMPA calls this Level A harassment), ''or (ii) has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering'' (the MMPA calls this Level B harassment). As a result of 1986 amendments to the MMPA, we amended 50 CFR 18.27 (*i.e.*, regulations governing small takes of marine mammals incidental to specified activities) with a final rule published on September 29, 1989 (54 FR 40338). Section 18.27(c) included a revised definition of ''negligible impact'' and a new definition for ''unmitigable adverse impact'' as follows. Negligible impact is ''an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival.'' Unmitigable adverse impact means ''an impact resulting from the specified activity (1) that is likely to reduce the availability of the species to a level insufficient for a harvest to meet subsistence needs by (i) causing the marine mammals to abandon or avoid hunting areas, (ii) directly displacing subsistence users, or (iii) placing physical barriers between the marine mammals and the subsistence hunters; and (2) that cannot be sufficiently mitigated by other measures to increase the availability of marine mammals to allow subsistence needs to be met.'' Industry conducts activities such as oil and gas exploration, development, and production in marine mammal habitat and, therefore, risks violating the prohibitions on the taking of marine mammals.

Although Industry is under no legal requirement to obtain incidental take authorization, since 1993 Industry has chosen to seek authorization to avoid the uncertainties of taking marine mammals associated with conducting activities in marine mammal habitat.

On November 16, 1993 (58 FR 60402), we issued final regulations to allow the incidental, but not intentional, take of small numbers of polar bears and Pacific walrus when such taking(s) occurred in the course of Industry activities during year-round operations in the area described later in this rule in the section ''Description of Geographic Region.'' The regulations were effective for 18 months. At the same time, the Secretary of the Interior directed us to develop, and then begin implementation of, a polar bear habitat conservation strategy before extending the regulations beyond the initial 18 months for a total 5-year period as allowed by the MMPA. On August 14, 1995, we completed development of and issued our Habitat Conservation Strategy for Polar Bears in Alaska to ensure that the regulations met with the intent of Congress. On August 17, 1995, we issued the final rule and notice of availability of a completed final polar bear habitat conservation strategy (60 FR 42805). We then extended the regulations for an additional 42 months to expire on December 15, 1998.

On August 28, 1997, BP Exploration (Alaska), Inc., submitted a petition for itself and for ARCO Alaska, Inc., Exxon Corporation, and Western Geophysical Company for rulemaking pursuant to section 101(a)(5)(A) of the MMPA, and section 553(e) of the Administrative Procedure Act (APA; 5 U.S.C. 553).

Their request sought regulations to allow the incidental, but not intentional, take of small numbers of polar bears and Pacific walrus when takings occurred during Industry operations in Arctic Alaska. Specifically, they requested an extension of the incidental take regulations that begin at 50 CFR 18.121 for an additional 5-year term from December 16, 1998, through December 15, 2003. The geographic extent of the request was the same as that of previously issued regulations that begin at 50 CFR 18.121 that were in effect through December 15, 1998 (*see* above).

The petition to extend the incidental take regulations included two new oil fields (Northstar and Liberty). Plans to develop each field identified a need for an offshore gravel island and a buried subsea pipeline to transport crude oil to existing onshore infrastructure. The Liberty prospect was subsequently abandoned, while the Northstar prospect moved toward production. At the time, based on the preliminary nature of the information related to subsea pipelines published in a Draft Environmental Impact Statement (DEIS) for the Northstar project, we were unable to make a finding of negligible impact and issue regulations for the full 5-year period as requested by Industry.

On November 17, 1998, we published proposed regulations (63 FR 63812) to allow the incidental, unintentional take of small numbers of polar bears and Pacific walrus in the Beaufort Sea and northern coast of Alaska for a 15-month period. These regulations did not authorize the incidental take of polar bears and Pacific walrus during construction or operation of subsea pipelines in the Beaufort Sea. On January 28, 1999, we issued final regulations effective through January 30, 2000 (64 FR 4328).

The U.S. Army Corps of Engineers (Corps) finalized the Northstar Final Environmental Impact Statement (FEIS) in February 1999. On February 3, 2000, we issued regulations effective through March 31, 2000 (65 FR 5275), in order to finalize the subsequent longer-term regulations without a lapse in coverage. After a thorough analysis of the Northstar FEIS and other data related to oil spills, on March 30, 2000, we issued regulations effective for a 3-year duration, through March 31, 2003 (65 FR 16828). This assessment included a polar bear oil spill risk analysis, a model that simulated oil spills and their subsequent effects on estimated polar bear survival on the basis of distribution in the Beaufort Sea. The likelihood of polar bear mortality caused by oil spills during different seasons (open-water, ice-covered, broken ice) was also analyzed. A 3-year period was selected, rather than a 5-year period, due to the potential development of additional offshore oil and gas production sites, such as the offshore Liberty Development, which would need increased oil spill analysis if development proceeded. The Liberty Development Plan was subsequently withdrawn by the operator to be re-evaluated.

Between January 1994 and March 2003, we issued 223 LOAs for oil and gas related activities. Activities covered by LOAs included: exploratory operations, such as seismic surveys and drilling; development activities, such as construction and remediation; and production activities for operational fields. Between January 1, 1994, and March 31, 2000, 77 percent (n=89) of LOAs issued were for exploratory activities, 10 percent (n=11) were for development, and 13 percent (n=15) were for production activities. Less than a third (32 of 115) of these activities actually sighted polar bears, and approximately two-thirds of sightings (171 of 258) occurred during production activities.

Summary of Current Request

On August 23, 2002, the Alaska Oil and Gas Association (AOGA), on behalf of its members, requested that we promulgate regulations for nonlethal incidental take of small numbers of Pacific walrus and polar bears pursuant to section 101(a)(5) of the MMPA. The request was for a period of 5 years, from March 31, 2003, through March 31, 2008. Members of AOGA include Alyeska Pipeline Service Company; Marathon Oil Company; Anadarko Petroleum Corporation Petro Star, Inc.; BP Exploration (Alaska) Inc.; Phillips Alaska, Inc.; ChevronTexaco Corporation; Shell Western E&P Inc.; Cook Inlet Pipe Line Company; Tesoro Alaska Company; Cook Inlet Region, Inc.; TotalFinaElf E&P USA; EnCana Oil & Gas (USA) Inc.; UNOCAL; Evergreen Resources, Inc.; Williams Alaska Petroleum, Inc.; ExxonMobil Production Company; XTO Energy, Inc.; and Forest Oil Corporation. Along with their request for incidental take authorization, Industry has also developed and implemented polar bear conservation measures. The geographic region defined in Industry's 2002 application is described later in this rule in the section titled ''Description of Geographic Region.''

On July 25, 2003, we published in the **Federal Register** (68 FR 44020) a proposal to promulgate regulations under section 101(a)(5)(A) of the MMPA that would allow the Industry to take small numbers of polar bears and Pacific walrus incidental to year-round oil and gas industry exploration, development, and production operations in the Beaufort Sea and adjacent northern coast of Alaska.

The comment period on the proposed rule was open from July 25, 2003, through August 25, 2003. To expedite the rulemaking process, a comment period of 30 days was selected because the previous regulations authorizing the incidental, unintentional take of small numbers of polar bears and Pacific walrus during year-round oil and gas industry exploration, development, and production operations in the Beaufort Sea and adjacent northern coast of Alaska had expired on March 31, 2003.

We are issuing new regulations that will remain in effect for 16 months to ensure that we have adequate time to thoroughly assess effects of Industry activities over the longer period (5 years) requested by Industry. We will assess the effects of Industry activities for the requested period (5 years) and expect to publish a longer-term proposed rule during the term described in this final rule.

Description of Regulations

The regulations that we are issuing include: Permissible methods of taking; measures to ensure the least practicable adverse impact on the species and the availability of these species for subsistence uses; and requirements for monitoring and reporting. The geographic coverage and the scope of industrial activities assessed in these regulations are the same as those in the regulations we issued on March 30, 2000. New LOAs will be issued following the effective date of these final regulations.

These regulations do not authorize the actual activities associated with oil and gas exploration, development, and production. Rather, they authorize the incidental, unintentional take of small numbers of polar bears and Pacific walrus associated with those activities. The U.S. Minerals Management Service (MMS), the Corps, and the U.S. Bureau of Land Management are responsible for permitting activities associated with oil and gas activities in Federal waters and on Federal lands. The State of Alaska is responsible for activities on State lands and in State waters.

With final incidental take regulations, persons seeking taking authorization for particular projects will apply for an LOA to cover take associated with exploration, development, and production activities pursuant to the regulations. Each group or individual conducting an oil and gas industry-

related activity within the area covered by these regulations may request an LOA. Each applicant for an LOA must submit a plan to monitor the effects of authorized activities on polar bears and walrus. Each LOA applicant must also include a Plan of Cooperation on the availability of these species for subsistence use by Alaska Native communities that may be affected by Industry operations. The purpose of the Plan is to minimize the impact of oil and gas activity on the availability of the species or the stock to ensure that subsistence needs can be met. The Plan must provide the procedures on how Industry will work with the affected Native communities, including a description of the necessary actions that will be taken to: (1) avoid interference with subsistence hunting of polar bears and Pacific walrus; and (2) ensure continued availability of these species for subsistence use.

We will evaluate each request for an LOA for a specific activity and specific location, and may condition each LOA for that activity and location. For example, an LOA issued in response to a request to conduct activities on barrier islands with known active bear dens, or a history of polar bear denning, may be conditioned to require avoidance of a specific den site by 1 mile, intensified monitoring in a 1-mile buffer around the den, or avoiding the area until a specific date. More information on applying for and receiving an LOA can be found at 50 CFR 18.27(f).

Description of Geographic Region

These regulations would allow Industry to incidentally take small numbers of polar bear and Pacific walrus within the same area, referred to as the Beaufort Sea Region, as covered by our previous regulations. This region is defined by a north-south line at Barrow, Alaska, and includes all Alaska coastal areas, State waters, and Outer Continental Shelf waters east of that line to the Canadian border. The onshore region is the same north-south line at Barrow, 25 miles inland and east to the Canning River. The Arctic National Wildlife Refuge is not included in the area covered by these regulations.

Description of Activities

In accordance with 50 CFR 18.27, Industry submitted a request for the promulgation of incidental take regulations pursuant to section 101(a)(5)(A) of the MMPA. Activities covered in this regulation include Industry exploration, development, and production of oil and gas, as well as environmental monitoring associated with these activities. These regulations do not authorize incidental take for offshore production sites other than the Northstar Production area.

Exploration activities may occur onshore or offshore and include: Geological surveys; geotechnical site investigations; reflective seismic exploration; vibrator seismic data collection; airgun and water gun seismic data collection; explosive seismic data collection; vertical seismic profiles; subsea sediment sampling; construction and use of drilling structures such as caisson-retained islands, ice islands, bottom-founded structures (steel drilling caisson, or SDC), ice pads and ice roads; oil spill prevention, response, and cleanup; and site restoration and remediation.

Exploratory drilling for oil is an aspect of exploration activities. Exploratory drilling and associated support activities and features include: transportation to site; setup of 90–100 person camps and support camps (requiring lights, generators, snow removal, water plants, wastewater plants, dining halls, sleeping quarters, mechanical shops, fuel storage, camp moves, landing strips, aircraft support, health and safety facilities, data recording facility, and communication equipment); building gravel pads; building gravel islands with sandbag and concrete block protection, ice islands, and ice roads; gravel hauling; gravel mine sites; road building; pipelines; electrical lines; water lines; road maintenance; buildings; facilities; operating heavy equipment; digging trenches; burying pipelines and covering pipelines; sea lift; water flood; security operations; dredging; moving floating drill units; helicopter support; and drill ships such as the SDC, CANMAR Explorer III, and the Kulluk.

Development activities associated with oil and gas industry operations include: Road construction; pipeline construction; waterline construction; gravel pad construction; camp construction (personnel, dining, lodging, maintenance shops, water plants, wastewater plants); transportation (automobile, airplane, and helicopter traffic; runway construction; installation of electronic equipment); well drilling; drill rig transport; personnel support; and demobilization, restoration, and remediation.

Production activities include: personnel transportation (automobiles, airplanes, helicopters, boats, rolligons, cat trains, and snowmobiles) and unit operations (building operations, oil production, oil spills, cleanup, restoration, and remediation).

Alaska's North Slope encompasses an area of 88,280 square miles and contains 8 major oil and gas fields in production: Endicott-Duck Island, Prudhoe Bay, Kuparuk River, Point McIntyre, Milne Point, Badami, Northstar, and Colville River. These 8 fields include 21 current satellite oilfields: Sag Delta North, Eider, North Prudhoe Bay, Lisburne, Niakuk, Niakuk-Ivashak, Aurora, Midnight Sun, Borealis, West Beach, Polaris, Orion, Tarn, Tabasco, Palm, West Sak, Meltwater, Cascade, Schrader Bluff, Sag River, and Alpine. Exploration and delineation of known satellite fields identified within existing production fields would also be appropriate for coverage under the provisions of this rule.

During the period covered by the regulations, we anticipate a level of activity per year at existing production facilities similar to that during the timeframe of the previous regulations. In addition, during the period of the rule, we anticipate that the levels of new annual exploration and development activities will be similar to those of the previous 3 years. At this time no additional production sites are planned within the next 16 months, except possibly satellite fields, associated with existing major oil and gas fields and addressed through existing Environmental Assessments or existing Environmental Impact Statements.

Biological Information

Pacific Walrus

The Pacific walrus (*Odobenus rosmarus*) typically inhabits the waters of the Chukchi and Bering seas. Most of the population congregates near the ice edge of the Chukchi Sea pack ice west of Point Barrow during the summer. Walrus migrate north and south following the annual advance and retreat of the pack ice. In the winter, walrus inhabit the pack ice of the Bering Sea, with concentrations occurring in the Gulf of Anadyr, south of St. Lawrence Island, and south of Nunivak Island. The current, conservative minimum population estimate is approximately 200,000 walrus. This estimate is based on surveys conducted in 1990 and is associated with wide confidence intervals. However, no surveys have been conducted since then and the actual size and trend of the population is unknown, although believed to be near the 1990 level. Pacific walrus use five major haulout sites on the west coast of Alaska. There are no known haulout sites from Point Barrow to Demarcation Point on the Beaufort Sea coast.

Walrus occur infrequently in the Beaufort Sea, and although individuals are occasionally seen in the Beaufort Sea, they do not occur in significant numbers to the east of Point Barrow. If walrus are observed, they are most likely to be seen in nearshore and offshore areas during the summer open-water season. They will not be encountered during the ice-covered season.

Walrus sightings in the Beaufort Sea have consisted solely of widely scattered individuals and small groups. For example, while walrus have been encountered and are present in the Beaufort Sea, there were only five sightings of walrus between 146° and 150°W during MMS sponsored aerial surveys conducted from 1979 to 1995.

Pacific walrus mainly feed on bivalve mollusks obtained from bottom sediments along the shallow continental shelf, typically at depths of 80 m (262 ft) or less. Walrus are also known to feed on a variety of benthic invertebrates such as worms, snails, and shrimp and some slow-moving fish; and some animals feed on seals and seabirds. Mating usually occurs between January and March. Implantation of a fertilized egg is delayed until June or July. Gestation lasts 11 months (a total of 15 months after mating) and birth occurs between April and June during the annual northward migration. Calves weigh about 63 kg (139 lb) at birth and are usually weaned by age two. Females give birth to one calf every two or more years. This reproductive rate is much lower than other pinnipeds; however, some walrus may live to age 35–40 and remain reproductively active until late in life.

Polar Bear

Polar bears (*Ursus maritimus*) occur in the circumpolar Arctic and live in close association with polar ice. In Alaska, their distribution extends from south of the Bering Strait to the U.S.-Canada border. Two stocks occur in Alaska: the Chukchi-Bering seas stock, whose minimum size is approximately 2,000; and the Southern Beaufort Sea stock, which was estimated in 2002 to have 2,273 bears.

Females without dependent cubs breed in the spring and enter maternity dens by late November. Females with cubs do not mate. Each pregnant female gives birth to one to three cubs, with two-cub litters being most common. Cubs are usually born in December. Family groups emerge from their dens in late March or early April. Only pregnant females den for an extended period during the winter; however, other polar bears may burrow in depressions to escape harsh winter winds. The reproductive potential (intrinsic rate of increase) of polar bears is low. The average reproductive interval for a polar bear is 3–4 years. The maximum reported age of reproduction in Alaska is 18 years. Based on these data, a female polar bear may produce about 8–10 cubs in her lifetime.

Ringed seals (*Phoca hispida*) are the primary prey species of the polar bear, although polar bears occasionally hunt bearded seals (*Erignathus barbatus*) and walrus calves. Polar bears also scavenge on marine mammal carcasses washed up on shore and have been known to eat anthropogenic nonfood items such as Styrofoam, plastics, car batteries, antifreeze, and lubricating fluids.

Polar bears have no natural predators, and they do not appear to be prone to death by disease or parasites. The most significant source of mortality is humans. Since 1972, with the passage of the MMPA, only Alaska Natives are allowed to hunt polar bears in Alaska. Bears are used by Alaska Natives for subsistence purposes, such as consumption and the manufacture of handicraft and clothing items. The Native harvest occurs without restrictions on sex, age, number, or season, provided that takes are non-wasteful. From 1980 through 2002, the total annual harvest in Alaska averaged 107 bears. The majority of this harvest (69 percent) occurred in the Chukchi and Bering Seas area.

Polar bears in the near-shore Alaskan Beaufort Sea are widely distributed in low numbers, with an average density of about one bear per 30 to 50 square miles. Polar bears congregate on barrier islands in the fall and winter because of available food and favorable environmental conditions. Polar bears will occasionally feed on bowhead whale carcasses on barrier islands. In November 1996, biologists from the U.S. Geological Survey observed 28 polar bears near a bowhead whale carcass on Cross Island, and approximately 11 polar bears within a 2-mile radius of another bowhead whale carcass near the village of Kaktovik on Barter Island. From 2000 to 2003, biologists from the Service conducted systematic coastal aerial surveys for polar bears from Cape Halkett to Barter Island. During these surveys they observed as many as 5 polar bears at Cross Island and 51 polar bears on Barter Island within a 2-mile radius of bowhead whale carcasses. In a survey during October 2002, we observed 109 polar bears on barrier islands and the coastal mainland from Cape Halkett to Barter Island, a distance of approximately 350 kilometers.

Effects of Oil and Gas Industry Activities on Subsistence Uses of Marine Mammals

The subsistence harvest provides Alaska Natives with food, clothing, and materials that are used to produce arts and crafts. Walrus meat is often consumed, and the ivory is used to manufacture traditional arts and crafts. Polar bears are primarily hunted for their fur, which is used to manufacture cold weather gear; however, their meat is also consumed. Although walrus and polar bears are a part of the annual subsistence harvest of most rural communities on the North Slope of Alaska, these species are not as significant a food resource as bowhead whales, seals, caribou, and fish.

Pacific Walrus

The Pacific walrus has cultural and subsistence significance to Alaska Natives. Although it is not considered a primary food source for residents of the North Slope, walrus are still taken by a few Alaskan communities located in the southern Beaufort Sea along the northern coast of Alaska, including Barrow, Nuiqsut, and Kaktovik.

The primary range of Pacific walrus is west and south of the Beaufort Sea. Accordingly, few walrus inhabit, or are harvested in, the Beaufort Sea along the northern coast of Alaska. Therefore, the effect to Pacific walrus of Industry activities described in this rulemaking would most likely be minimal, as they would affect only those individuals inhabiting the Beaufort Sea. Walrus constitute only a small portion of the total marine mammal harvest for the village of Barrow. From 1994 to 2002, 182 walrus were taken by Barrow hunters as reported through the Service Marking, Tagging, and Reporting Program. Reports indicate that only up to 4 of the 182 animals were taken east of Point Barrow, within the geographic area of these incidental take regulations. Furthermore, hunters from Nuiqsut and Kaktovik do not normally hunt walrus east of Point Barrow and have taken only one walrus in that area in the last 13 years.

Polar Bear

Within the area covered by the regulations, polar bears are taken for subsistence use in Barrow, Nuiqsut, and Kaktovik where Alaska Natives utilize parts of the bears to make traditional handicrafts and clothing. Data from our Marine Mammal Management Office indicate that, from July 1, 1993, to June 30, 2002, a total of 194 polar bears was reported harvested by residents of Barrow; 26 by residents of the village of

Nuiqsut; and 26 by residents of the village of Kaktovik. Hunting success varies considerably from year to year because of variable ice and weather conditions.

Native subsistence polar bear hunting could be affected by oil and gas activities in various ways. Hunting areas where polar bears are historically taken may be viewed as tainted if an oil spill were to occur at these sites. Other potential disturbances, such as noise and vehicular traffic, could have limited effects on subsistence activities if these disturbances were to occur near traditional hunting areas and lead to the displacement of polar bears.

Plan of Cooperation

Polar bear and Pacific walrus inhabiting the Beaufort Sea represent a small portion, in terms of the number of animals, of the total subsistence harvest for the villages of Barrow, Nuiqsut, and Kaktovik. Despite this fact, the harvest of these species is important to Alaska Natives. An important aspect of the LOA process, therefore, is that prior to issuance of an LOA, Industry must provide evidence to us that an adequate Plan of Cooperation has been presented to any affected subsistence community, the Eskimo Walrus Commission, the Alaska Nanuuq Commission, and the North Slope Borough. This Plan of Cooperation must provide the procedures on how Industry will work with the affected Native communities and what actions will be taken to avoid interfering with subsistence hunting of polar bear and walrus. For this rule we evaluated the effect of proposed activities on the availability of polar bears and walrus for subsistence use. Although all three communities are located in the geographic area of the rule, the community most likely affected by Industry activities due to its close proximity is Nuiqsut. For this rule we determined that the total taking of polar bears and walrus will not have an unmitigable adverse impact on the availability of these species for subsistence uses during the duration of the regulation. We base this conclusion on: the results of coastal aerial surveys conducted within the area during the past three years; direct observations of polar bears occurring on Cross Island during the village of Nuiqsut's annual fall bowhead whaling efforts; anecdotal reports and recent sighting of polar bears by Nuiqsut residents; and data discussed in the sections of this regulation titlted, ''Effects of Oil and Gas Industry Activities on Pacific Walrus and Polar Bears'' and ''Actual Impacts of Oil and Gas Industry Activities on Pacific Walrus and Polar Bears''. Furthermore, we have received no evidence or reports that bears are being deflected (*i.e.*, altering habitat use patterns by avoiding certain areas) or being impacted in other ways by the existing level of oil and gas activity near Nuiqsut to diminish their availability for subsistence use; nor do we expect any change in the impact of future activities.

Effects of Oil and Gas Industry Activities on Pacific Walrus and Polar Bears

Pacific Walrus

Walrus are not present in the region of activity during the ice-covered season and occur only in small numbers in the defined area during the open-water season. From 1994 to 2000, three Pacific walrus were sighted during the open-water season. In June 1996, one walrus was observed from a seismic vessel near Point Barrow. In October 1996, one walrus was sighted approximately 5 miles northwest of Howe Island. In September 1997, one walrus was sighted approximately 20 miles north of Pingok Island.

Certain activities associated with oil and gas exploration and production during the open-water season have the potential to disturb walrus. Activities that may affect walrus include disturbance by: (1) Noise, including stationary and mobile sources, and vessel and aircraft traffic; (2) physical obstructions; and (3) contact with releases of oil or waste products. Despite the potential for disturbance, there is no indication that walrus have been injured during an encounter by industry activities on the North Slope, and there has been no evidence of lethal takes to date.

1. Noise Disturbance

Reactions of marine mammals to noise sources, particularly mobile sources such as marine vessels, vary. Reactions depend on the individuals' prior exposure to the disturbance source and their need or desire to be in the particular habitat or area where they are exposed to the noise and visual presence of the disturbance sources. Walrus are typically more sensitive to disturbance when hauled out on land or ice than when they are in the water. In addition, females and young are generally more sensitive to disturbance than adult males.

Noise generated by Industry activities, whether stationary or mobile, has the potential to disturb small numbers of walrus. The response of walrus to sound sources may be either avoidance or tolerance. In one instance, prior to the initiation of incidental take regulations, walrus that tolerated noises produced by Industry activities were intentionally harassed to protect them from more serious injury. Shell Western E & P Inc. encountered several walrus close to the drillship during offshore drilling operations in the eastern Chukchi Sea in 1989. On more than one occasion, one walrus actually entered the moon pool of the drillship. (A moon pool is the opening to the sea on a drillship for a marine drill apparatus. The drill apparatus protrudes from the ship through the moon pool to the sea floor.) Eventually, the walrus had to be removed from the ship for its own safety.

A. Stationary Sources—It is highly improbable that noise from stationary sources would impact walrus. Currently, Endicott, the saltwater treatment plant, and Northstar, are the only offshore facilities that could produce noise that has the potential to disturb walrus. Walrus are rare in the vicinity of these facilities, although one walrus hauled out on Northstar Island in the fall of 2001.

B. Mobile Sources—Open-water seismic exploration produces underwater sounds, typically with airgun arrays, that may be audible numerous kilometers from the source. Such exploration activities could potentially disturb walrus at varying ranges. In addition, source levels are thought to be high enough to cause hearing damage in pinnipeds close in proximity to the sound. Therefore, it is possible that walrus within the 190 dB re 1 μPa safety radius of seismic activities (Industry standard) could suffer temporary threshold shift; however, the use of acoustic safety radii and monitoring programs are designed to ensure that marine mammals are not exposed to potentially harmful noise levels. Previous open-water seismic exploration has been conducted in nearshore ice-free areas. This is the area where any expected open-water seismic exploration will occur in the duration of this rule. It is highly unlikely that walrus will be present in these areas, and therefore, it is not expected that seismic exploration would disturb walrus.

C. Vessel Traffic—Noise produced by routine vessel traffic could potentially disturb walrus in the Beaufort Sea. However, walrus densities are highest along the edge of the pack ice, and Industry vessel traffic typically avoids these areas. The reaction of walrus to vessel traffic is highly dependent on distance, vessel speed, as well as previous exposure to hunting. Walrus in the water appear to be less readily

disturbed by vessels than walrus hauled out on land or ice. In addition, barges and vessels associated with Industry activities travel in open water and avoid large ice floes or land where walrus are likely to be found. Thus, vessel activities are likely to impact at most a few walrus.

D. Aircraft Traffic—Aircraft overflights may disturb walrus. Reactions to aircraft vary with range, aircraft type, and flight pattern, as well as walrus age, sex, and group size. Adult females, calves, and immature walrus tend to be more sensitive to aircraft disturbance. Most aircraft traffic, however, is in nearshore areas, where there are typically few to no walrus.

2. Physical Obstructions

Based on known walrus distribution and numbers in the Beaufort Sea near Prudhoe Bay, it is unlikely that walrus movements would be displaced by offshore stationary facilities, such as the Northstar or Endicott, or vessel traffic. There was no indication that the walrus that used Northstar Island as a haulout in 2001 was displaced from its movements. Vessel traffic could temporarily interrupt the movement of walrus, or displace some animals when vessels pass through an area. This displacement would probably have minimal or no effect on animals and would last no more than a few hours at most.

3. Contact With Releases of Oil or Waste Products

The potential releases of oil and waste products associated with oil and gas exploration and production during the open-water season and the associated potential to disturb walrus are discussed following the polar bear discussion in this section.

Polar Bear

Oil and gas activities could impact polar bears in various ways during both open-water and ice-covered seasons. These impacts could result from the following: (1) Noise from stationary operations, construction activities, vehicle traffic, vessel traffic, aircraft traffic, and geophysical and geological exploration activities; (2) physical obstruction, such as a causeway or an artificial island; (3) human-animal encounters; and (4) oil spills or contact with hazardous materials or production wastes.

1. Noise Disturbance

Noise produced by Industry activities during the open-water and ice-covered seasons could potentially result in takes of polar bears. During the ice-covered season, denning female bears, as well as mobile, non-denning bears, could be exposed to oil and gas activities and potentially affected in different ways. The best available scientific information indicates that female polar bears entering dens, or females in dens with cubs, are more sensitive than other age and sex groups to noises.

Noise disturbance can originate from either stationary or mobile sources. Stationary sources include: Construction, maintenance, repair, and remediation activities; operations at production facilities; flaring excess gas; and drilling operations from either onshore or offshore facilities. Mobile sources include: Vessel and aircraft traffic; open-water seismic exploration; winter vibroseis programs; geotechnical surveys; ice road construction and associated vehicle traffic; drilling; dredging; and ice-breaking vessels.

A. Stationary Sources—All production facilities on the North Slope in the area to be covered by this rulemaking are currently located within the landfast ice zone. Typically, most polar bears occur in the active ice zone, far offshore, hunting throughout the year; although some bears also spend a limited amount of time on land, coming ashore to feed, den, or move to other areas. At times, usually during the fall season when the ice edge is near shore and then quickly retreats northward, bears may remain along the coast or on barrier islands for several weeks until the ice returns.

During the ice-covered season, noise and vibration from Industry facilities may deter females from denning in the surrounding area, even though polar bears have been known to den in close proximity to industrial activities. In 1991, two maternity dens were located on the south shore of a barrier island within 2.8 km (1.7 mi) of a production facility. Recently, industrial activities were initiated while two polar bears denned close to the activities. During the ice-covered seasons of 2000–2001 and 2001–2002, dens known to be active were located within approximately 0.4 km and 0.8 km (0.25 mi and 0.5 mi) of remediation activities on Flaxman Island without any observed impact to the polar bears.

In contrast, information exists indicating that polar bears within the geographic area of these regulations may have abandoned dens in the past due to exposure to human disturbance. For example, in January 1985, a female polar bear may have abandoned her den due to rollagon traffic, which occurred 250–500 m from the den site. While such events may have occurred, information indicates they have been infrequent and isolated, and will continue to be so in the future.

Noise produced by stationary Industry activities could elicit several different responses in polar bears. The noise may act as a deterrent to bears entering the area, or the noise could potentially attract bears. Attracting bears to these facilities could result in a human-bear encounter, which could result in unintentional harassment, lethal take, or intentional hazing (under separate authorization) of the bear.

B. Mobile Sources—In the southern Beaufort Sea, during the open-water season, polar bears spend the majority of their lives on the pack ice, which limits the chances of impacts on polar bears from Industry activities. Although polar bears have been documented in open water, miles from the ice edge or ice floes, this is a relatively rare occurrence. In the open-water season, Industry activities are generally limited to vessel-based exploration activities, such as ocean-bottom cable (OBC) and shallow hazards surveys. These activities avoid ice floes and the multi-year ice edge.

C. Vessel Traffic—Vessel traffic would most likely result in short-term behavioral disturbance only. During the open-water season, most polar bears remain offshore in the pack ice and are not typically present in the area of vessel traffic. Barges and vessels associated with Industry activities travel in open water and avoid large ice floes.

D. Aircraft Traffic—Routine aircraft traffic should have little to no effect on polar bears. However, extensive or repeated overflights of fixed-wing aircraft or helicopters could disturb polar bears throughout the year. Behavioral reactions of non-denning polar bears should be limited to short-term changes in behavior and would have no long-term impact on individuals and no impacts on the polar bear population. In contrast, denning bears may abandon or depart their dens early in response to noise and vibrations produced by extensive aircraft overflights. Mitigation measures, such as minimum flight elevations over polar bears, or areas of concern, and flight restrictions around known polar bear dens, are routinely implemented to reduce the likelihood that aircraft disturbs bears.

E. Seismic Exploration—Although polar bears are typically associated with the pack ice during summer and fall, open-water seismic exploration activities can encounter polar bears in the central Beaufort Sea in late summer or fall. It is unlikely that seismic exploration activities or other geophysical surveys during the open-

water season would result in more than temporary behavioral disturbance to polar bears. Polar bears normally swim with their heads above the surface, where underwater noises are weak or undetectable.

Noise and vibrations produced by oil and gas exploration and production activities during the ice-covered season could potentially result in impacts on polar bears. During this time of year, denning female bears as well as mobile, non-denning bears could be exposed to and affected differently by potential impacts from oil and gas activities. Disturbances to denning females, either on land or on ice, are of particular concern. As part of the LOA application for seismic surveys during denning season, Industry provides us with the proposed seismic survey routes. To minimize the likelihood of disturbance to denning females, we evaluate these routes along with information about known polar bear dens, historic denning sites, and probable denning habitat.

A standard condition of LOAs requires Industry to maintain a 1-mile buffer between survey activities and known denning sites. In addition, we may require Industry to avoid denning habitat until bears have left their dens. To further reduce the potential for disturbance to denning females, we have conducted research, in cooperation with Industry, to enable us to accurately detect active polar bear dens. We have evaluated the use of remote sensing techniques, such as Forward Looking Infrared (FLIR) imagery and the use of scent-trained dogs to locate dens. Based on these methodologies, the use of FLIR technology coupled with using trained dogs to locate occupied polar bear dens as a verification is a viable technique that could help to minimize impacts from oil and gas industry activities on denning polar bears. These techniques will be included as conditions of LOAs as appropriate. In addition, Industry has sponsored cooperative research evaluating noise and vibration propagation through substrates and the received levels of noise and vibration in polar bear dens. This information will be used to refine site-specific mitigation measures.

2. Physical Obstructions

There is little chance that Industry facilities would act as physical barriers to movements of polar bears. Most facilities are located onshore where polar bears are only occasionally found. The offshore and coastal facilities are most likely to be approached by polar bears. The Endicott Causeway and West Dock facilities have the greatest potential to act as barriers to movements of polar bears because they extend continuously from the coastline to the offshore facility. Yet, because polar bears appear to have little or no fear of man-made structures and can easily climb and cross gravel roads and causeways, bears have frequently been observed crossing existing roads and causeways in the Prudhoe Bay oilfields. Offshore production facilities, such as Northstar, may be approached by polar bears, but due to their layout (*i.e.*, continuous sheet pile walls around the perimeter) the bears may not gain access to the facility itself. This situation may present a small scale, local obstruction to the bears' movement, but also minimizes the likelihood of human-bear encounters.

3. Human-Polar Bear Encounters

Encounters with humans can result in the harassment or (rarely) the death of polar bears. Unlike most mammals, polar bears typically do not fear humans and are extremely curious. Polar bears are most likely to encounter humans during the ice-covered season, when both humans and bears are found on the land-fast ice and adjacent coastline. Polar bears can also come in contact with humans along the coast or on islands, particularly near locations where subsistence whalers haul bowhead whales on shore to butcher them.

Depending upon the circumstances, bears can be either repelled from or attracted to sounds, smells, or sights associated with Industry activities. In the past, such interactions have been addressed through the LOA process which requires the applicant to develop a polar bear interaction plan for each operation. These plans outline the steps the applicant will take, such as garbage disposal procedures, to minimize impacts to polar bears by reducing the attraction of Industry activities to polar bears. Interaction plans also outline the chain of command for responding to a polar bear sighting. In addition to interaction plans, Industry personnel participate in polar bear interaction training while on site. Employee training programs are designed to educate field personnel about the dangers of bear encounters and to implement safety procedures in the event of a bear sighting. The result of these polar bear interaction plans and training allows personnel on site to detect bears and respond appropriately. Most often, this response involves deterring the bear from the site. Personnel are instructed to leave an area where bears are seen. If it is not possible to leave, in most cases bears can be displaced by using pyrotechnics (*e.g.*, cracker shells) or other forms of deterrents (*e.g.*, the vehicle itself, vehicle horn, vehicle siren, vehicle lights, spot lights, etc.). The purpose of these plans and training is to eliminate the potential for lethal takes of bears in defense of human life. No bears have been killed and no Industry personnel have been injured as a result of Industry activities since regulations have been in place. Therefore, we believe, such mitigation measures have minimized polar bear/human interactions and will continue to be requirements of future LOAs as appropriate.

Although very unlikely, it is possible that on-ice vehicle traffic could physically run over an unidentified polar bear den. Known dens around the oilfield are monitored by the Service and Industry. The oil and gas industry communicates with the Service to determine the location of Industry's activities relative to known dens. General LOA provisions require Industry operations to avoid known polar bear dens by 1 mile. There is the possibility that an unknown den may be encountered during Industry activities. If a previously unknown den is identified, communication between Industry and the Service and the implementation of mitigation measures, such as the 1-mile exclusion area around the den, help ensure that disturbance is minimized.

Contact With Oil or Waste Products by Pacific Walrus and Polar Bears

The discharge of oil or waste products into the environment could potentially impact polar bears and walrus depending on the location (*i.e.*, onshore or offshore), size of the spill, environmental conditions, and success of cleanup measures. Spills of crude oil and petroleum products associated with onshore production facilities during ice-covered and open-water seasons are usually minor spills (*i.e.*, 1 to 50 barrels per incident) that are contained and cleaned up immediately. They can occur during normal operations (*e.g.*, transfer of fuel, handling of lubricants and liquid products, and general maintenance of equipment). Fueling crews have personnel that are trained to handle operational spills. If a small offshore spill occurs, spill response vessels are stationed in close proximity and respond immediately. Production related spills, generally larger, could occur at any production facility or pipeline connecting wells to the Trans-Alaska Pipeline System. These large spills have been modeled to examine potential impacts on marine mammals.

1. Physical Effects of Oil on Pacific Walrus and Polar Bear

Walrus could contact oil in water and on potential haulouts (ice or islands), while polar bears could contact spilled oil in the water, on ice, or on land. In 1980, Canadian scientists performed experiments that studied the effects to polar bears of exposure to oil. More information is available regarding the effects of oil on polar bears than walrus.

Effects on experimentally oiled polar bears (where bears were forced to remain in oil for prolonged periods of time) included acute inflammation of the nasal passages, marked epidermal responses, anemia, anorexia, and biochemical changes indicative of stress, renal impairment, and death. In experimental oiling, many effects did not become evident until several weeks after exposure to oil.

A. *External Oiling*— Oiling of the pelt causes significant thermoregulatory problems by reducing the insulation value of the pelt in polar bears. Excessive oiling could cause mortality as well. Polar bears rely on their fur as well as their layer of blubber for thermal insulation. Experiments on live polar bears and pelts showed that the thermal value of the fur decreased significantly after oiling, and oiled bears showed increased metabolic rates and elevated skin temperatures. Irritation or damage to the skin by oil may further contribute to impaired thermoregulation. Furthermore, an oiled bear would ingest oil because it would groom in order to restore the insulation value of the oiled fur. In one field observation, biologists documented a bear in Cape Churchill, Manitoba, with lubricating oil matted into its fur on parts of its head, neck, and shoulders. The bear was re-sighted two months later, at which time he had suffered substantial hair loss in the contaminated areas. Four years later, the bear was recaptured and no skin or hair damage was detectable, which suggests that while oiling can damage the fur and skin, in some instances this damage is only temporary.

Walrus do not rely on fur for thermal insulation, using a layer of blubber for warmth. Hence, they would be less susceptible to similar insulative and pelt impacts of external oiling than bears.

Petroleum hydrocarbons can also be irritating or destructive to eyes and mucous membranes, and repeated exposure could have detrimental consequences to polar bears and walrus. In one experimental study, ringed seals quickly showed signs of eye irritation after being immersed in water covered by crude oil. This progressed to severe inflammation and corneal erosions during the 24-hour experiment. When the animals were returned to uncontaminated water, the eye condition resolved within 3–4 days. This reaction could be expected in other marine mammals, such as polar bears and walrus.

B. *Ingestion and Inhalation of Oil*— Oil ingestion by polar bears through consumption of contaminated prey, and by grooming or nursing, could have pathological effects, depending on the amount of oil ingested and the individual's physiological state. Death could occur if a large amount of oil were ingested or if volatile components of oil were aspirated into the lungs. Indeed, two of three bears died in the Canadian experiment and it was suspected that the ingestion of oil was a contributing factor to the deaths. Experimentally oiled bears ingested much oil through grooming. Much of it was eliminated by vomiting and in the feces, but some was absorbed and later found in body fluids and tissues.

Ingestion of sublethal amounts of oil can have various physiological effects on a polar bear, depending on whether the animal is able to excrete and/or detoxify the hydrocarbons. Petroleum hydrocarbons irritate or destroy epithelial cells lining the stomach and intestine, and thereby affect motility, digestion, and absorption. Polar bears may exhibit these types of symptoms, such as affected motility, digestion, and absorption if they ingest oil.

Polar bears and walrus swimming in, or bears walking adjacent to, an oil spill could inhale petroleum vapors. Vapor inhalation by polar bears and walrus could result in damage to various systems, such as the respiratory and the central nervous systems, depending on the amount of exposure.

C. *Indirect Effects of Oil*—Oil may affect food sources of walrus and polar bears. A local reduction in ringed seal numbers as a result of direct or indirect effects of oil could, therefore, temporarily affect the local distribution of polar bears. A reduction in density of seals as a direct result of mortality from contact with spilled oil could result in polar bears not using a particular area for hunting. Possible impacts from a loss of a food source could reduce recruitment or survival. Also, seals that die as a result of an oil spill could be scavenged by polar bears. This would increase bears' exposure to hydrocarbons and could result in lethal impact or reduced survival to individual bears. Additionally, potentially lethal impacts caused by an oil spill to an area's benthic community could divert walrus from using the area as a food source.

2. Potential Oil Spill and Waste Products Impacts on Pacific Walrus and Polar Bears

A. Pacific Walrus. Onshore oil spills would not impact walrus unless oil moved into the offshore environment. During the open-water season, if a small spill occurs at offshore facilities or by vessel traffic, few walrus would likely encounter the oil. In the event of a larger spill during the open-water season, oil in the water column could drift offshore and possibly encounter a limited number of walrus. During the ice-covered season, spilled oil would be incorporated into the thickening sea ice. During spring melt, the oil would then travel to the surface of the ice, via brine channels, where most could be collected by spill response activities.

Few walrus are found in the Beaufort Sea east of Barrow and low to moderate numbers are found along the pack-ice edge 241 km (150 mi) or more northwest of Prudhoe Bay. Thus, the probability of individual walrus occurring in the vicinity of industry and encountering oil, as a result of an oil spill from Industry activities, is low.

B. *Polar Bear.* Polar bears could encounter oil spills during the open-water and ice-covered seasons in offshore or onshore habitat. Although the majority of the Southern Beaufort Sea polar bear population spends a large amount of its time offshore on the pack ice, individual bears could encounter oil from a spill regardless of ocean conditions.

Small spills (1–50 barrels) of oil or waste products throughout the year by Industry activities could impact small numbers of bears. As stated previously, the effects of fouling fur or ingesting oil or wastes, depending on the amount of oil or wastes involved, could be short term or result in death. In April 1988, a dead polar bear was found on Leavitt Island, approximately 9.3 km (5 nmi) northeast of Oliktok Point. The cause of death was determined to be poisoning by a mixture that included ethylene glycol and Rhodamine B dye; however, the source of the mixture was unknown.

During the ice-covered season, mobile, non-denning bears would have a higher probability of encountering oil or other production wastes than denning females. Current management practices put in place by Industry minimize the potential for such incidents by requiring the proper use, storage, and disposal of hazardous materials. In the event of an oil spill, it is also likely that polar bears would be deliberately hazed to move them away

from the area, further reducing the likelihood of impacting the population.

To date, large oil spills from Industry activities in the Beaufort Sea and coastal regions that have impacted polar bears have not occurred, although the development of offshore production facilities has increased the potential for large offshore oil spills. In a large spill (*e.g.*, 3,600 barrels: the size of a rupture in the Northstar pipeline and a complete drain of the subsea portion of the pipeline), oil would be influenced by seasonal weather and sea conditions. These would include temperature, winds, and, for offshore events, wave action and currents. Weather and sea conditions would also affect the type of equipment needed for spill response and how effective spill cleanup would be. For example, spill response has been unsuccessful in the cleanup of oil in broken ice conditions. These factors, in turn, would dictate how large spills impact polar bear habitat and numbers.

The major concern regarding large oil spills is the impact a spill would have on the survival and recruitment of the Southern Beaufort Sea polar bear population. Currently, this bear population is approximately 2,200 bears. The most recent population growth rate was estimated at 2.4 percent annually based on data from 1982 through 1992, although the population is believed to have slowed its growth or stabilized since 1992. In addition, the maximum sustainable harvest is 80 bears for this population (divided between Canada and Alaska). In Alaska, the annual subsistence harvest has fluctuated around 36 bears. The annual subsistence harvest for the Southern Beaufort Sea population (Alaska and Canada combined) has been approximately 62 bears.

The bear population may be able to sustain the additional mortality caused by a large oil spill of a small number of bears, such as 1–5 individuals; however, the additive effect of numerous bear deaths (*i.e.*, in the range of 20–30) caused by an oil spill or secondary effects of the spill caused through a local reduction in seal productivity or scavenging of oiled seal carcasses coupled with the subsistence harvest and other potential impacts, both natural and human-induced, may reduce population rates of recruitment and survival. The removal rate of bears from the population would then increase higher than what could be sustained by the population, potentially causing a decline in the bear population and affecting bear productivity and subsistence use.

Actual Impacts of Oil and Gas Industry Activities on Pacific Walrus and Polar Bears

Pacific Walrus

The actual impact to Pacific walrus in the central Beaufort Sea from oil and gas activities has been minimal. From 1994 to 2000, only three Pacific walrus were encountered in the Beaufort Sea. All were sighted during open-water seismic programs.

Polar Bear

Actual impacts on polar bears by the oil and gas industry during the past 30 years have been minimal as well. Polar bears have been encountered at or near most coastal and offshore production facilities, or along the roads and causeways that link these facilities to the mainland. During this time, only 2 polar bear deaths related to oil and gas activities have occurred. In winter 1968–1969, an industry employee on the Alaskan North Slope shot and killed a polar bear. In 1990 a female polar bear was killed at a drill site on the west side of Camden Bay. In contrast, 33 polar bears were killed in the Canadian Northwest Territories from1976 to 1986 due to encounters with industry. Since the beginning of the incidental take program, including measures that minimize impacts to the species, no polar bears have been killed due to encounters associated with current Industry activities in the Prudhoe Bay area (Alpine to Badami).

The majority of actual impacts on polar bears have resulted from direct human-bear encounters. Monitoring efforts by Industry required under previous regulations for the incidental take of polar bears and walrus have documented various types of interaction between polar bears and Industry. During a 7-year period (1994–2000), while incidental take regulations were in place, Industry reported 258 polar bear sightings. During this period, polar bears were sighted during 32 of the 115 activities covered by incidental take regulations. Approximately two-thirds of the sightings (171 of 258 sightings) occurred during production activities, which suggests that Industry activities that occur on or near the Beaufort Sea coast have a greater possibility for encountering polar bears than other Industry activities. Sixty-one percent of polar bear sightings (157 of 258 sightings) consisted of observations of polar bears traveling through or resting near the monitored areas without a perceived reaction to human presence, while 101 polar bear sightings involved bear-human interactions.

Twenty-one percent of all bear-human interactions (21 of 101 sightings) involved anthropogenic attractants, such as garbage dumpsters and landfills, where these attractants altered the bear's behavior. Sixty-five percent of polar bear-human interactions (66 of 101 sightings) involved Level B harassment to maintain human and bear safety by preventing bears from approaching facilities and people. We have no indication that these types of encounters that cause this type of minor alteration of the behavior and movement of individual bears have any long-term effects on those bears, related to recruitment or survival. We, therefore, believe that the small number and types of encounters anticipated to occur between polar bears and Industry are unlikely to have any significant effect on the polar bear population.

Risk Assessment Analysis

For Pacific walrus and polar bears, oil spills are of most concern when they occur in the marine environment, where spilled oil can accumulate at the water surface and ice edge, in leads, and similar areas of importance to marine mammals. Thus, offshore production activities, such as Northstar, have the potential to cause negative impacts on marine mammals because as additional offshore oil exploration and production occurs, the potential for large spills increases.

Due to the concern of a potential offshore oil spill, a risk assessment was performed to investigate the probability of mortality in polar bears due to an oil spill and the likelihood of occurrence in various ice conditions. Pacific walrus were not included in the risk assessment due to a lack of data regarding walrus abundance and distribution in the Beaufort Sea and because small numbers are present only seasonally in the Beaufort Sea.

The Northstar production field was used as a basis for the assessment because Northstar is currently the only offshore production field not connected to the mainland and serviced by an island. Northstar transports crude oil from a gravel island in the Beaufort Sea to shore via a 5.96-mile buried subsea pipeline. The pipeline is buried in a trench in the sea floor deep enough to reduce the risk of damage from ice gouging and strudel scour (*i.e.*, erosion to the sea floor caused by large volumes of water siphoning at high velocities through openings in the sea ice resulting in unstable pipeline bedding). Production of Northstar began in 2001, and currently 70,000 barrels of oil pass through the pipeline daily.

The quantitative rationale for a negligible impact assessment was based on a risk assessment that considered oil spill probability estimates for the Northstar production field, an oil spill trajectory model, and a polar bear distribution model. The Northstar FEIS provided estimates of the probability that one or more spills greater than 1,000 barrels of oil (a large volume spill) will occur over the project's life of 15 years. We considered only spill probabilities for the drilling platform and subsea pipeline, as these are the spill locations that would affect polar bears.

Methodology

Initially, Applied Sciences Associates, Inc., was contracted by BP Exploration Alaska Inc. to run the OILMAP oil spill trajectory model. The size of the modeled spills was set at 3,600 barrels, simulating rupture and drainage of the entire subsea pipeline. Each spill was modeled by tracking the location of 100 ''spillets,'' each representing 36 barrels. In the model, spillets were driven by wind, and their movements were stopped by the presence of sea ice. Open water and broken ice scenarios were each modeled with 250 simulations. A solid ice scenario was also modeled, in which oil was trapped beneath the ice and did not spread. In this event, we found it unlikely that polar bears will contact oil, and therefore removed this scenario from further analysis. Each simulation was run to cover a period of 4 days, with no cleanup or containment efforts simulated. At the end of each simulation, the size and location of each spill was represented in a geographic information system, or GIS.

The trajectory model was dependent on numerous assumptions, some of which underestimate, while others overestimate, the potential risk to polar bears. These assumptions relate to, and include: variation in spill probabilities during the year; the length of time that oil was in the environment and was subject to the spill trajectory model; whether or not containment occurred in various runs of the trajectory model; types of efforts and effects of efforts to deter wildlife during spills; contact by bears with a modeled spillet resulting in mortality; and the presence and size of bear groups. We assumed that the annual probability of a spill was equal during any season of the year. Any differences in seasonal spill probabilities would have a corresponding increase or decrease in risk. The model assumed oil would remain in the environment for 4 days; increasing that period of time would increase the risk to polar bears, while decreasing the period would decrease the risk. We assumed that containment of oil in broken-ice conditions would not be effective; however, any successful containment of oil under other water conditions would correspondingly reduce the risk of oiling to wildlife. We assumed that deterrent hazing of wildlife did not take place. If instituted, hazing could reduce the likelihood of polar bears encountering oil. We assumed that polar bear distribution was not affected by sights, smells, or sounds associated with a spill and that polar bears were neither attracted to nor displaced by these factors.

Similarly, the risk assessment model accounted for average movements and likelihood of polar bears being present in any given location based on a history of movements from satellite-collared females. The model did not consider aggregations of polar bears that may be present seasonally in the study area, nor did it consider whether other sex and age classes of polar bears have movements similar to adult females. If aggregations were to occur, then the risk to polar bears could increase. If the distribution of other sex-age classes differs from adult females, then risk may correspondingly increase or decrease for these sex-age classes.

Lastly, we assumed that polar bears located within the distribution grid that intersected with oil spillets modeled in the trajectory model were oiled and that mortality occurred, although this may not occur naturally. In evaluating the impacts of all these assumptions, we determined that the assumptions that overestimate and underestimate mortalities were generally in balance.

Impacts to polar bears from the oil spill trajectory model were derived using telemetry data from the U.S. Geological Survey, Biological Resources Division (USGS). Telemetry data suggest that polar bears are widely distributed in low numbers across the Beaufort Sea with a density of about one bear per 30–50 square miles. Movement and distribution information was derived from radio and satellite relocations of collared adult females. The USGS developed a polar bear distribution model based on an extensive telemetry data set of over 10,000 relocations. Using a technique called ''kernel smoothing,'' they created a grid system centered over Northstar and estimated the number of bears expected to occur within each 0.25-km^2 grid cell. Each of the simulated oil spills was overlaid with the polar bear distribution grid. In the simulation, if a spillet passed through a grid cell, the bears in that cell were considered killed by the spill. In the open water scenario, the estimated number of bears killed ranged from less than 1 to 78 bears, with a median of 8 bears. In the broken ice scenario, results ranged from less than 1 to 108, with a median of 21. These results are based on an ''average'' distribution of polar bears and do not include potential aggregation of bears, such as on Cross Island in the fall.

The Service then analyzed the spill trajectory and polar bear distribution to estimate the probability of an oil spill during the 16-month regulation period and the likelihood of occurrence of oil spills causing mortality for various numbers of bears. Assuming this probability was uniform throughout the year, the probability during any particular set of ice conditions was proportional to the length of those conditions. The probability of polar bear mortality in the event of an oil spill was calculated from mortality levels in excess of 5, 10, and 20 bears. Likelihood of occurrence is the product of the probabilities of spill and mortality. Hence, the overall likelihood is the sum of likelihoods over all ice conditions.

Results

We calculated that the probability of a spill that will cause mortality of one or more bears is 0.4–1.3 percent. As the threshold number of bears is increased, the likelihood of that event decreases; the likelihood of taking more bears becomes less and less. Thus, the probability of a spill that will cause a mortality of 5 or more bears is 0.3–1.1 percent; for 10 or more bears is 0.3–0.9 percent; and for 20 or more bears is 0.1–0.5 percent. We note that the values of these probabilities differ slightly from those presented in the Proposed Rule. The reason for this difference is that the Proposed Rule relied on calculations for probabilities of an oil spill resulting in polar bear mortality for a three-year period (*i.e.*, the length of time used during the last rulemaking). The corrected values presented in this rule reflect the probabilities over a 16-month period. Although the values differ slightly, the final results of the analysis are similar; there is still a very low probability that there will be an oil spill that will result in bear mortality.

In addition, using exposure variables and production estimates from the Northstar EIS, we estimated that the likelihood of one or more spills greater than 1,000 barrels in size occurring in the marine environment is 1–5 percent during the period covered by the regulations.

Discussion

The greatest source of uncertainty in our calculations was the probability of an oil spill occurring. The oil spill probability estimates for the Northstar Project were calculated using data for sub-sea pipelines outside of Alaska and outside of the Arctic. These spill probability estimates, therefore, do not reflect conditions that are routinely encountered in the Arctic, such as permafrost, ice gouging, and strudel scour. They may include other conditions unlikely to be encountered in the Arctic, such as damage from anchors and trawl nets. Consequently, we have some uncertainty about oil spill probabilities as presented in the Northstar FEIS. However, if the probability of a spill were actually twice the estimated value, the probability of a spill that will cause a mortality of one or more bears is still low (about 6 percent).

In addition to the results from the risk analysis, anecdotal information supported our determination that any take associated with Northstar will have a negligible impact on the Beaufort Sea polar bear population. This information was based on observations of polar bear aggregations on barrier islands and coastal areas in the Beaufort Sea, which may occur for brief periods in the fall, usually 4 to 6 weeks. The presence and duration of these aggregations are influenced by the presence of sea ice near shore and the availability of marine mammal carcasses, notably bowhead whales from subsistence hunts. In order for any take associated with a Northstar oil spill to have more than a negligible impact on polar bears, an oil spill would have to occur, an aggregation of bears would have to be present, and the spill would have to contact the aggregation. We believe the probability of all these events occurring simultaneously is low, but are not quantified.

We concluded that if an offshore oil spill were to occur during the fall or spring broken-ice periods, a significant impact to polar bears could occur. We also recognize that some of the impact may result from latent effects of the spill on bears themselves or locally through secondary impacts to the environment and its value for feeding, such as foraging or scavenging on oiled seal carcasses. In balancing the level of potential impacts with the probability of occurrence, however, we conclude that the probability of a large-volume spill that would cause latent effects that result in significant polar bear takes is low.

Additionally, because of the small volume of oil associated with onshore spills, the rapid response system in place to clean up spills, and the protocol available to deter bears away from the affected area for their safety, we concluded that onshore spills would have little impact on the polar bear population. Therefore, the total expected taking of polar bear caused by Industry discharge of oil or waste products into the environment will have no more than a negligible impact on this species.

In making this finding, we are following Congressional direction in balancing the potential for a significant impact with the likelihood of that event occurring. The specific Congressional direction that justifies balancing probabilities with impacts follows:

If potential effects of a specified activity are conjectural or speculative, a finding of negligible impact may be appropriate. A finding of negligible impact may also be appropriate if the probability of occurrence is low but the potential effects may be significant. In this case, the probability of occurrence of impacts must be balanced with the potential severity of harm to the species or stock when determining negligible impact. In applying this balancing test, the Service will thoroughly evaluate the risks involved and the potential impacts on marine mammal populations. Such determination will be made based on the best available scientific information. 53 FR at 8474; accord, 132 Cong. Rec. S 16305 (Oct. 15, 1986).

Summary of Take Estimate for Pacific Walrus and Polar Bear

Pacific Walrus

Since walrus are typically not found in the region of Industry activity, the probability is small that Industry activities, such as offshore drilling operations, seismic, and coastal activities, will affect walrus. Walrus observed in the region have typically been lone individuals, further reducing the number of potential takes expected. Only 3 walrus were observed by Industry during its activities between 1994 to 2000. In addition, the majority of walrus hunted by Barrow residents were harvested west of Point Barrow, outside of the area covered by incidental take regulations, while Kaktovik harvested only one walrus. Given this information, no more than a small number of walrus are likely to be taken during the length of this rule. Any takes would most likely be nonlethal.

Polar Bear

Industry exploration, development, and production operations could potentially disturb polar bears. These disturbances are expected to be primarily nonlethal, short-term behavioral reactions resulting in displacement with minimal impacts to individuals. Polar bears could be displaced from the immediate area of activity due to noise and vibrations. They could be attracted to sources of noise and vibrations out of curiosity, which could result in human-bear encounters. Denning females with cubs could prematurely abandon their dens due to noise and vibrations produced by certain industrial activities at close distances. Also, noise and vibration from stationary sources could keep females from denning in the vicinity of the source. These disturbances are not expected to affect the rates of recruitment or survival of the Southern Beaufort Sea polar bear population.

Contact with or ingestion of oil could also potentially affect polar bears. Small oil spills are likely to be cleaned up immediately and should have little opportunity to affect polar bears. The probability of a large spill occurring is very small. However, if such a spill were to occur at an offshore oil facility, polar bears could come into contact with oil. The impact of a large spill would depend on the location and size of the spill, environmental factors, and the success of cleanup measures.

The Service estimates that only a small number of polar bear takes will occur during the length of the regulations. These takes are expected to be nonlethal. However, it is possible that a few unintentional lethal takes could occur under low probability circumstances. For example, a scenario of an unintentional lethal take could be a road accident where a vehicle strikes and kills a polar bear.

Based on past LOA monitoring reports, we believe that takes resulting from the interactions between Industry and Pacific walrus and polar bears have had a negligible impact on these species. Additional information, such as recorded subsistence harvest levels and incidental observations of polar bears near shore, suggests that these populations have not been adversely affected. The projected levels of activities during the period covered by the regulations (existing development and production activities, as well as proposed exploratory activities) are similar in scale to previous levels. In addition, current mitigation measures will be kept in place.

Conclusions

Based on the previous discussion, we make the following findings regarding this action.

Impact on Species

The Pacific walrus is only occasionally found during the open-water season in the Beaufort Sea. Industry impacts would be no more than negligible for the walrus population.

The Beaufort Sea polar bear population is widely distributed throughout its range. Polar bears typically occur in low numbers in coastal and nearshore areas where most Industry activities occur. Hence, impacts that might be significant for individuals or small groups of animals are expected to be no more than negligible for the polar bear population as a whole.

We reviewed the effects of the oil and gas industry activities on marine mammals, which included impacts from stationary and mobile sources such as noise, physical obstructions, and oil spills. Based on past LOA monitoring reports, we conclude that any take reasonably likely to or reasonably expected to occur as a result of projected activities will have a negligible impact on polar bear and Pacific walrus populations.

The Northstar development is currently the only offshore facility in production with a subsea pipeline. Concerns about potential oil spills in the marine environment as a result of this development were raised in the Northstar FEIS. We have analyzed the likelihood of an oil spill in the marine environment of the magnitude necessary to kill a significant number of polar bears, and found it to be minimal. Thus, after considering the cumulative effects of existing development and production activities, the likelihood of impacts occurring, and proposed exploratory activities, both onshore and offshore, we find that the total expected takings resulting from oil and gas industry exploration, development, and production activities will have a negligible impact on polar bear and Pacific walrus populations.

Even though the probability of an oil spill that will cause significant impacts to the walrus and polar bear population is extremely low, in the event of a catastrophic spill we will reassess the impacts to polar bear and walrus and reconsider the appropriateness of authorizations for incidental taking through section 101(a)(5)(A) of the MMPA.

Our finding of ''negligible impact'' applies to oil and gas exploration, development, and production activities. As with our past incidental take regulations for these actions, each LOA will require actions to minimize interference with normal breeding, feeding, and possible migration patterns to ensure that the effects to the species remain negligible. We may add additional measures depending upon site-specific and species-specific concerns. Conditions can include the following: (1) These regulations do not authorize intentional taking of polar bear or Pacific walrus. (2) For the protection of pregnant polar bears during denning activities (den selection, birthing, and maturation of cubs) in known and confirmed denning areas, Industry activities may be restricted in specific locations during specified times of the year. These restrictions will be applied on a case-by-case basis after assessing each LOA request. In potential denning areas, we will advise operators using a den habitat map and, as appropriate, will require pre-activity surveys (*e.g.*, aerial surveys, FLIR surveys, or polar bear scent-trained dogs) to determine the presence or absence of dens; in known denning areas we may require enhanced monitoring during activities. (3) Each activity covered by an LOA requires a site-specific plan of operation and a site-specific polar bear interaction plan. The purpose of the required plans is to ensure that the level of activity and possible takes will be consistent with our finding that the cumulative total of incidental takes will have a negligible impact on polar bear and Pacific walrus, and where relevant, will not have an unmitigable adverse impact on the availability of these species for subsistence uses.

Impact on Subsistence Take

We find, based on the best scientific information available, including the results of monitoring data, that any take reasonably likely to result from the effects of Industry activities during the period of the rule in the Beaufort Sea and adjacent northern coast of Alaska will not have an unmitigable adverse impact on the availability of polar bears and Pacific walrus for taking for subsistence uses.

Polar bears are hunted primarily during the ice-covered season, and the proposed activities are expected to have a negligible effect on the distribution, movement, and numbers of polar bears found during this time period in the regulation area. Walrus are primarily hunted during the open-water season, and the proposed oil and gas activities are also expected to have a negligible effect on the distribution, movement, and numbers of walrus in the region. We reached these conclusions based on data and analyses discussed in the sections of this regulation titled, ''Effects of Oil and Gas Industry Activities on Pacific Walrus and Polar Bears'' and ''Actual Impacts of Oil and Gas Industry Activities on Pacific Walrus and Polar Bears,'' and also because there is no indication of past adverse effects, and because past Plans of Cooperation appear to have been effective. In addition, regular communication between the Industry and Native communities through Plans of Cooperation will further reduce the likelihood of interference with subsistence harvest. Therefore, we find that the anticipated effects of Industry relevant to subsistence are unlikely to have an adverse effect on subsistence use.

If there is evidence during the period of the rule that oil and gas activities may adversely affect the availability of polar bear or walrus for take for subsistence uses, we will reevaluate our findings regarding permissible limits of take and the measures required to ensure continued subsistence hunting opportunities.

Monitoring and Reporting

We require an approved plan for monitoring and reporting the effects of oil and gas industry exploration, development, and production activities on polar bear and walrus prior to issuance of an LOA. Monitoring plans are required to determine effects of oil and gas activities on polar bear and walrus in the Beaufort Sea and the adjacent northern coast of Alaska. Monitoring plans must identify the methods used to assess changes in the movements, behavior, and habitat use of polar bear and walrus in response to Industry activities. Monitoring activities are summarized and reported in a formal report each year. The applicant must submit a monitoring and reporting plan at least 90 days prior to the initiation of an activity. We base each year's monitoring objective on the previous year's monitoring results. For exploration activities the applicant must submit a final monitoring report to us no later than 90 days after the completion of the activity. Since development and production activities are continuous and long-term, we will issue LOAs, which include conditions for the submittal of monitoring and reporting plans for the life of the activity or until the expiration of the regulations, whichever occurs first. Prior to January 15 of each year, we will require that the operator submit development and production activity monitoring results of the previous year's activity. We require approval of the monitoring results for continued coverage under the LOA.

Discussion of Comments on the Proposed Rule

The proposed rule, which was published in the **Federal Register** (68 FR 44020) on July 25, 2003, included a request for public comments. The closing date for the comment period was August 25, 2003. We received seven comments. Two commenters indicated support for the rule but did not provide specific comments. One commenter provided new comments but also incorporated by reference their comments on the 2000 proposed rule (65 FR 16828). For those past comments, we refer the commenter to our previous responses (65 FR 16828). The following issues were raised by the commenters.

Specific Comments and Responses

Comment: Some commenters stated their opposition to any form of incidental killing of wildlife, indicating their opinion that the incidental take program was developed as a vehicle to grant permission to the oil and gas industry to kill polar bears and walrus.

Response: The authorization of incidental take of marine mammals is provided for under section 101(a)(5)(A) of the MMPA. Take is defined as ''to harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill any marine mammal.'' Intentional take is not authorized by these regulations. Incidental take is authorized only after the Service finds that any expected take will have no more than a negligible impact on the species. During the past nine years of incidental take regulations, there are no known instances where a polar bear or walrus was killed by Industry activities. When polar bears do encounter Industry activities, appropriate measures are taken to safeguard the lives of both humans and bears. Section 101(5)(B) authorizes the Secretary to withdraw or suspend the authorization if these regulations are not complied with, or if the take allowed under the regulations is having or may have a more than negligible impact on the species or stock of concern.

Comment: No number or percentage of a population is included as an upper limit on the number of polar bears or walrus that could be killed over a given period of time while ensuring a sustainable population.

Response: The assessment of effects does not attempt to describe the allowable maximum sustainable incidental take mortality that could occur. We evaluated the potential effect of the predicted take to determine if the impact of this level of take would be negligible. If an unanticipated mortality of polar bears occurs, we will evaluate this level and the effect on polar bear population rates of recruitment and survival and, if warranted, reconsider or revise the negligible effect finding of this rule.

Comment: Polar bears may be more affected by an oil spill than an initial mortality survey may indicate.

Response: We agree that there may be secondary or latent effects on polar bears from an oil spill. These effects are additive to the potential direct effects discussed in the section on oil spills in the proposed rule. The final rule has been revised to reflect our analysis of such latent effects and the finding that the potential secondary or latent effects, along with potential direct effects, will have a negligible impact, considering the likelihood of these effects occurring.

Comment: The proposed rule is inconsistent with the incidental take provisions of the MMPA. (The commenter did not identify specific inconsistencies.)

Response: Incidental take is authorized under section 101(a)(5)(A) of the MMPA. While the MMPA placed a moratorium on the taking of any marine mammal, section 101(a) of the MMPA identifies exceptions to the moratorium. Section 101(a)(5)(A) of the MMPA provides for the incidental but not intentional take of small numbers of marine mammals, provided that the total take will have a negligible impact on the population and will not affect the availability of the species for subsistence users.

Comment: A more comprehensive analysis of incidences of harassment of polar bears is necessary prior to issuing these regulations.

Response: Polar bear/human interaction data (1994—2003) occurring during Industry activities was incorporated into the analysis of this rule. The level and effects of hazing during this period were not significant and resulted in a negligible impact finding. The general objective of hazing polar bears is to encourage the movement of bears transient to coastal habitats back onto the pack-ice environment. The type and degree of hazing depend on specific circumstances, and in many instances only passive forms of hazing are necessary, such as positioning of vehicles or noise to displace bears from areas occupied by people. Cracker shell shotgun fire or deterrent rounds may be used when concerns for human safety are more immediate. We will continue to evaluate the data to determine if trends exist regarding the location and timing of hazing events and, if necessary, we will refine how hazing is conducted in the future. The hazing of polar bears reduces potential impacts to polar bears and thus reduces potential effects of industrial activities and helps to support a negligible impact finding.

In addition, any future improvements to monitoring and reporting requirements may be implemented as conditions to future LOAs as warranted.

Comment: No alternatives were analyzed, such as issuing regulations that cover a narrower geographical scope (*e.g.*, only lands falling within existing leases).

Response: The current geographic scope of the regulations accurately addresses the areas of ongoing or expected Industry activities and provides the framework for our assessment of potential impacts. Narrowing the scope of the regulations or evaluating lesser alternatives of reduced scale or frequency would not allow us to adequately address potential cumulative impacts. The alternatives considered in our environmental assessment were to issue regulations or not to issue regulations covering the full geographic area in which similar and interrelated Industry activities occur.

Comment: The regulations should not include the State or Federal Outer Continental Shelf waters offshore of the Arctic National Wildlife Refuge.

Response: We acknowledge that the State and Federal Outer Continental Shelf waters offshore the Arctic National Wildlife Refuge are important movement, feeding, and denning habitats to polar bears. However, these regulations do not authorize the actual Industry activities in this or other areas. The geographic scope of the regulations was based on that area in which Industry has already been authorized to conduct exploration, development, and production activities; that area in which Industry applied for MMPA coverage; and that area which allows us to accurately assess Industry's effects on polar bears and walrus.

Comment: The Service has conflated the MMPA's requirement that the number of takings be small and that the number of takings has a negligible impact on a species or stock.

Response: We disagree with this comment and believe that our analysis has fully considered the MMPA requirement that the number of takes be small and that takings have a negligible impact on species or stock. Based on the monitoring information we have acquired to date, we conservatively estimate that the average number of polar bears and walrus that may modify their behavior as a result of the oil and gas industry is small. In most cases, takes are a behavioral change that will be temporary, minor behavioral

modifications that we believe will have no effect on rates of recruitment or survival. Other takes will be associated with deterrence or, hazing, events. We believe these events will have no effect on rates or recruitment and survival as well. Lethal takes are extremely rare, but they may also occur (only 2 polar bear deaths have been attributed to oil and gas activities in Alaska during the past 30 years). Although the small potential for a lethal take occurring continues to exist throughout the length of this rule, it is unlikely that a lethal take will have little effect on the rates of recruitment or survival of the population as a whole.

Takes that may have effects on recruitment and survival are associated with oil spills. We calculated that the probability of a spill that will cause mortality of one or more bears is 0.4–1.3 percent. As the threshold number of bears is increased, the likelihood of that event decreases; that is, the likelihood of taking more bears becomes less and less. The probability of a spill that will cause a mortality of 5 or more bears is 0.3–1.1 percent; for 10 or more bears is 0.3–0.9 percent; and for 20 or more bears is 0.1–0.5 percent.

Comment: The Service should establish a mechanism to evaluate and authorize the incidental taking of marine mammals resulting from activities associated with, but occurring outside of, the geographic location of the proposed regulation (*e.g.*, ship traffic that passes through the Bering and Chukchi seas and supplies industry operations in the Beaufort Sea).

Response: This suggestion goes beyond the scope of this rule and beyond the petitioner's request. We considered past oil and gas support activities beyond the geographic area of the rule. The vast majority of the secondary industry support activities occur during the open water season associated with barge re-supply when encounters with polar bears or walrus would be minimal. We determined that the potential effect of these activities was not significant and did not contribute cumulatively to the impacts within the geographic area requested. We concluded that the boundaries that were requested were accurate to monitor effects of the oil and gas activity on polar bears and Pacific walrus occurring within the Beaufort Sea. If concerns for the potential takes associated with Industry support activities beyond the current geographical area of the regulations increase in the future, we may consider this issue elsewhere.

Comment: Prior to finalizing the regulations, the Service should conduct a thorough analysis of possible impacts of oil and gas activities on the availability of polar bears to the village of Nuiqsut.

Response: We have considered this issue and find that the total taking of polar bears will not have an unmitigable adverse impact on the availability of this species to Nuiqsut residents for subsistence uses during the duration of the regulation. We base this conclusion on the results of coastal aerial surveys conducted within the area during the past three years, upon direct observations of polar bears occurring on Cross Island during the village of Nuiqsut's annual fall bowhead whaling efforts, and upon anecdotal reports of Nuiqsut residents. In addition, the Service has not received any evidence or reports that bears are being deflected or being impacted in other ways to diminish their availability for subsistence use by the existing level of oil and gas activity.

Comment: The Service should modify its oil spill risk assessment to properly reflect the assumptions and uncertainties concerning the effects of oil spills on walrus and polar bears.

Response: The oil spill risk assessment represents the best available methodology and is a marked improvement from the previous lack of information on this topic. The Service recognizes the limitations of the oil spill assessment model and the predictive values based on data inputs, assumptions, and model construction. This model is a stochastic model and incorporates levels of variance associated with certain parameters such as environmental conditions and polar bear distribution probabilities. The model presents a range of values representing the number of polar bears that may be oiled resulting from the numerous model run interactions conducted, and an associated frequency of occurrence or likelihood value. We believe that this is the most reliable assessment given the existing information. We are working to improve the model for future use. This will take time, effort, coordination, and funds.

Comment: The Service should initiate a complete analysis of cumulative effects on polar bears and walrus for the future, longer-term regulations.

Response: The Service agrees with this comment. We are currently accumulating information for consideration in a future longer-term rule, such as reviewing elements of existing and future research and monitoring plans that will improve our ability to detect and measure changes in the population.

In this final rule, the cumulative effects of the previous incidental take regulations are considered. Incidental take regulations have been in place in the Arctic oil and gas fields for the past 10 years. Monitoring results indicate that there has been little to no short-term impact on polar bears or Pacific walrus. Additional information, such as subsistence harvest levels and observations of the frequency, timing, and magnitude of polar bear occurrence near shore, provides evidence that these populations have not been adversely affected. For the duration of this rule, we anticipate that the level and effect of oil and gas industry interactions with polar bears and Pacific walrus will be similar to interactions of past years.

Our goal is to continue to collect or improve on the collection of the types of information that have been useful in assessing cumulative effects in the past. We also anticipate that additional analysis and collection of additional data will be necessary to improve upon future longer-range impact assessment.

Comment: In the final regulations, the Service should describe mitigation measures that will be required for industry to minimize impacts to polar bears.

Response: We have revised the regulations to include those mitigation measures that may be required as conditions of LOAs to ensure that the total taking of polar bears and walrus will have a negligible impact on these species and will not have an unmitigable adverse impact on the availability of these species for subsistence uses during the duration of the regulation. Some of the conditions are standard requirements, and others are activity- and site-specific and may vary. The final rule has been expanded and also lists a map that delineates polar bear denning habitat and can include the use of FLIR or polar bear scent-trained dogs to determine the presence or absence of dens as examples of mitigation measures that have been used successfully in the past on a case-by-case basis.

Comment: The Service should develop and implement a monitoring program with sufficient resolution to detect changes in parameters that might be expected to occur.

Response: We find that the independently gathered population data on the Southern Beaufort Sea population demonstrated that development, as guided under the previous regulations, has not affected rates of recruitment and survival of this polar bear population. As scientific methods improve and better information becomes available they will be incorporated into monitoring programs to help to assess potential effects to rates of recruitment and survival and the

population parameters linked to assessing population level impacts from oil and gas development. We also agree that as information and technology improves, the monitoring program will continue to evolve. With this in mind, we convened a small workshop of technical experts during September 3–5, 2003, to consider research, studies, and monitoring that would improve our understanding of the effects of oil and gas activities on polar bears. The product of this effort, considered as a work in progress subject to revision and refinement, will be a proceedings of the workshop that details the various information needs, studies, monitoring, and research. We consider the results of workshop to be the first step in improving our monitoring programs. We also acknowledge that developing a comprehensive research and monitoring program capable of developing information of sufficient resolution to detect changes in population rates of recruitment and survival is a formidable task and a worthy goal.

Effective Date

In accordance with 5 U.S.C. 553(d)(3), we find that we have good cause to make this rule effective immediately upon publication. To protect the affected species and reduce the chances of lethal and nonlethal effects from Industry, we need to implement incidental take and monitoring programs on the North Slope of Alaska coincident with the season of greatest probability for polar bear encounters in the industrial area considered within this rule. The period of greatest probability for polar bear encounters is the fall and early winter period. The mitigation measures required through LOAs have proven to be effective in minimizing effects of oil and gas activities on polar bears and walrus. Furthermore, safety measures included in this process minimize potential lethal encounters between polar bears and personnel at industrial sites. Therefore, it is essential to implement these regulations as soon as possible so that polar bears and walrus may benefit from these protective measures.

Required Determinations

NEPA Considerations

We have prepared an Environmental Assessment (EA) in conjunction with this rulemaking, and have determined that this rulemaking is not a major Federal action significantly affecting the quality of the human environment within the meaning of section 102(2)(C) of the National Environmental Policy Act (NEPA) of 1969. For a copy of the Environmental Assessment, contact the individual identified in the section **FOR FURTHER INFORMATION CONTACT.**

Regulatory Planning and Review

This document has not been reviewed by the Office of Management and Budget (OMB) under Executive Order 12866 (Regulatory Planning and Review). This rule will not have an effect of $100 million or more on the economy; will not adversely affect in a material way the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities; will not create a serious inconsistency or otherwise interfere with an action taken or planned by another agency; does not alter the budgetary effects of entitlements, grants, user fees, or loan programs or the rights or obligations of their recipients; and does not raise novel legal or policy issues. The rule is not likely to result in an annual effect on the economy of $100 million or more. Expenses will be related to, but not necessarily limited to, the development of applications for LOAs, monitoring, record keeping, and reporting activities conducted during Industry oil and gas operations, development of polar bear interaction plans, and coordination with Alaska Natives to minimize effects of operations on subsistence hunting. Compliance with the rule is not expected to result in additional costs to Industry that it has not already been subjected to for the previous 6 years. Realistically, these costs are minimal in comparison to those related to actual oil and gas exploration, development, and production operations. The actual costs to Industry to develop the petition for promulgation of regulations (originally developed in 2002) and LOA requests probably does not exceed $500,000 per year, short of the ''major rule'' threshold that would require preparation of a regulatory impact analysis. As is presently the case, profits will accrue to Industry, royalties and taxes will accrue to the Government, and the rule will have little or no impact on decisions by Industry to relinquish tracts and write off bonus payments.

Small Business Regulatory Enforcement Fairness Act

We have determined that this rule is not a major rule under 5 U.S.C. 804(2), the Small Business Regulatory Enforcement Fairness Act. The rule is also not likely to result in a major increase in costs or prices for consumers, individual industries, or government agencies or have significant adverse effects on competition, employment, productivity, innovation, or on the ability of United States-based enterprises to compete with foreign-based enterprises in domestic or export markets.

Regulatory Flexibility Act

We have also determined that this rule will not have a significant economic effect on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*). Oil companies and their contractors conducting exploration, development, and production activities in Alaska have been identified as the only likely applicants under the regulations. Therefore, a Regulatory Flexibility Analysis is not required. In addition, these potential applicants have not been identified as small businesses, and, therefore, a Small Entity Compliance Guide is not required. The analysis for this rule is available from the person in Alaska identified in the section **FOR FURTHER INFORMATION CONTACT.**

Takings Implications

This rule does not have takings implications under Executive Order 12630 because it authorizes the incidental, but not intentional, take of small numbers of polar bear and walrus by oil and gas industry companies and thereby exempts these companies from civil and criminal liability as long as they operate in compliance with the terms of their LOAs. Therefore, a takings implications assessment is not required.

Federalism Effects

This rule also does not contain policies with Federalism implications sufficient to warrant preparation of a Federalism Assessment under Executive Order 13132. In accordance with the Unfunded Mandates Reform Act (2 U.S.C. 1501, *et seq.*), this rule will not ''significantly or uniquely'' affect small governments. A Small Government Agency Plan is not required. The Service has determined and certifies pursuant to the Unfunded Mandates Reform Act that this rulemaking will not impose a cost of $100 million or more in any given year on local or State governments or private entities. This rule will not produce a Federal mandate of $100 million or greater in any year, *i.e.*, it is not a ''significant regulatory action'' under the Unfunded Mandates Reform Act.

Civil Justice Reform

The Departmental Solicitor's Office has determined that these regulations do not unduly burden the judicial system and meet the applicable standards

provided in sections 3(a) and 3(b)(2) of Executive Order 12988.

Paperwork Reduction Act

The information collection requirements included in this rule are already approved by the Office of Management and Budget (OMB) under the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 *et seq.*). The OMB control number assigned to these information collection requirements is 1018–0070, which expires on September 30, 2004. This control number covers the information collection requirements in 50 CFR 18, subpart J, which contains information collection, record keeping, and reporting requirements associated with the development and issuance of specific regulations and LOAs.

Energy Effects

Executive Order 13211 requires agencies to prepare Statements of Energy Effects when undertaking certain actions. This rule provides exceptions from the taking prohibitions of the MMPA for entities engaged in the exploration, development, and production of oil and gas in the Beaufort Sea and adjacent coastal areas of northern Alaska. By providing certainty regarding compliance with the MMPA, this rule will have a positive effect on Industry and its activities. Although the rule requires Industry to take a number of actions, these actions have been undertaken by Industry for many years as part of similar past regulations. Therefore, this rule is not expected to significantly affect energy supplies, distribution, or use and does not constitute a significant energy action. No Statement of Energy Effects is required.

List of Subjects in 50 CFR Part 18

Administrative practice and procedure, Alaska, Imports, Indians, Marine mammals, Oil and gas exploration, Reporting and record keeping requirements, Transportation.

Final Regulation Promulgation

■ For the reasons set forth in the preamble, the Service amends part 18, subchapter B, of chapter 1, title 50, of the Code of Federal Regulations as set forth below.

PART 18—MARINE MAMMALS

■ 1. The authority citation of 50 CFR part 18 continues to read as follows:

Authority: 16 U.S.C. 1361 *et seq.*

■ 2. Amend part 18 by adding a new subpart J to read as follows:

Subpart J—Taking of Marine Mammals Incidental to Oil and Gas Exploration, Development, and Production Activities in the Beaufort Sea and Adjacent Northern Coast of Alaska

Sec.

18.121 What specified activities does this subpart cover?
18.122 In what specified geographic region does this subpart apply?
18.123 When is this subpart effective?
18.124 How do I obtain a Letter of Authorization?
18.125 What criteria does the Service use to evaluate Letter of Authorization requests?
18.126 What does a Letter of Authorization allow?
18.127 What activities are prohibited?
18.128 What are the mitigation, monitoring, and reporting requirements?
18.129 What are the information collection requirements?

Subpart J—Taking of Marine Mammals Incidental to Oil and Gas Exploration, Development, and Production Activities in the Beaufort Sea and Adjacent Northern Coast of Alaska

§ 18.121 What specified activities does this subpart cover?

Regulations in this subpart apply to the incidental, but not intentional, take of small numbers of polar bear and Pacific walrus by you (U.S. citizens as defined in § 18.27 (c)) while engaged in oil and gas exploration, development, and production activities in the Beaufort Sea and adjacent northern coast of Alaska.

§ 18.122 In what specified geographic region does this subpart apply?

This subpart applies to the specified geographic region defined by a north-south line at Barrow, Alaska, and includes all Alaska coastal areas, State waters, and Outer Continental Shelf waters east of that line to the Canadian border and an area 25 miles inland from Barrow on the west to the Canning River on the east. The Arctic National Wildlife Refuge is not included in the area covered by this subpart. Figure 1 shows the area where this subpart applies.

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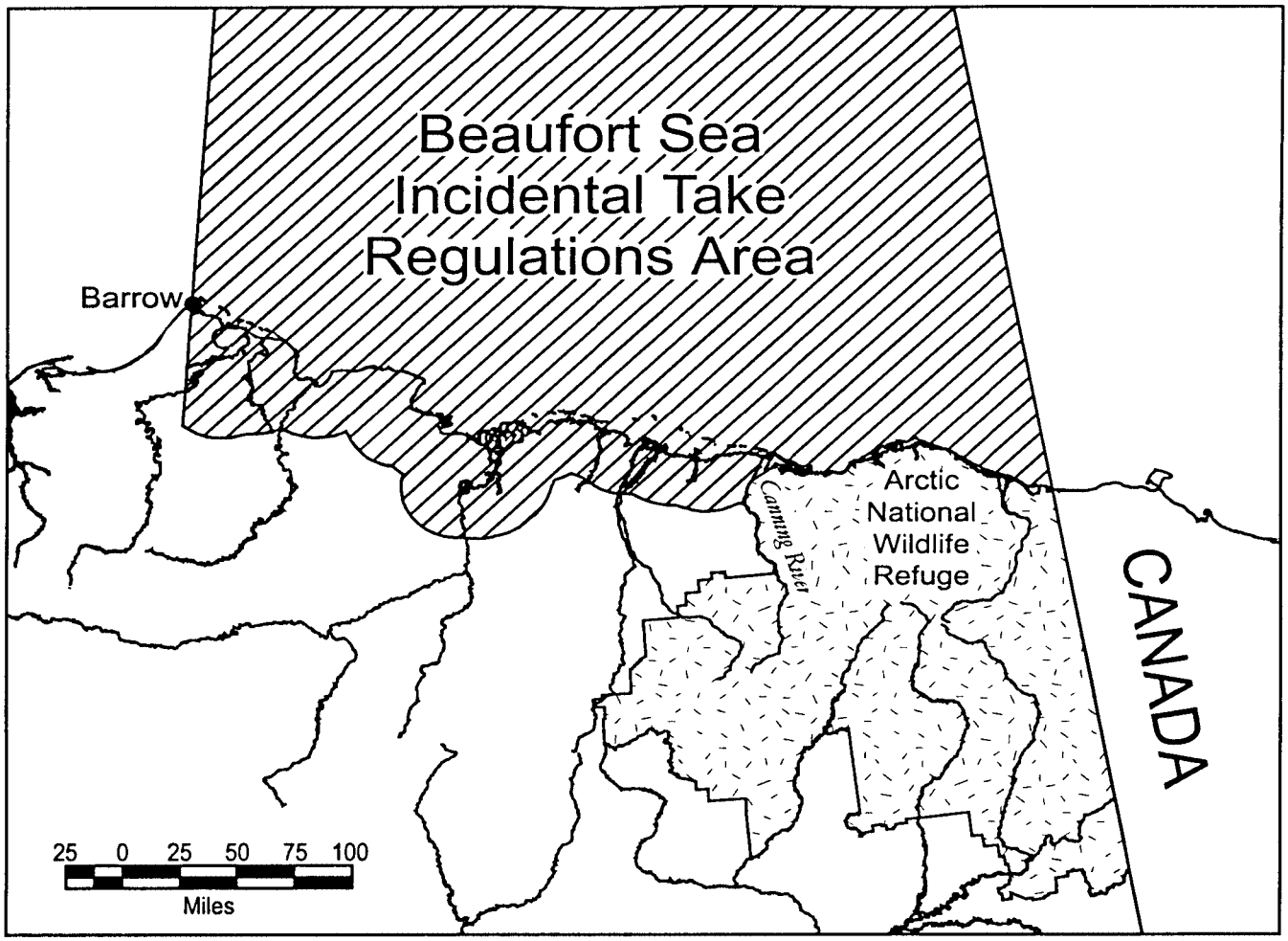

Figure 1. Specific geographic area covered by the Beaufort Sea incidental take regulations.

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§ 18.123 When is this subpart effective?

Regulations in this subpart are effective from November 28, 2003, through March 28, 2005, for year-round oil and gas exploration, development, and production activities.

§ 18.124 How do I obtain a Letter of Authorization?

(a) You must be a U.S. citizen as defined in § 18.27(c) of this part.

(b) If you are conducting an oil and gas exploration, development, or production activity that may cause the taking of polar bear or Pacific walrus in the specified geographic region described in § 18.122 and you want incidental take authorization under this rule, you must apply for a Letter of Authorization for each exploration activity or a Letter of Authorization for activities in each development and production area. You must submit the application for authorization to our Alaska Regional Director (*see* 50 CFR 2.2 for address) at least 90 days prior to the start of the activity.

(c) Your application for a Letter of Authorization must include the following information:

(1) A description of the activity, the dates and duration of the activity, the specific location, and the estimated area affected by that activity.

(2) A site-specific plan to monitor the effects of the activity on the behavior of polar bear and Pacific walrus that may be present during the ongoing activity. Your monitoring program must document the effects on these marine mammals and estimate the actual level and type of take. The monitoring requirements will vary depending on the activity, the location, and the time of year.

(3) A site-specific polar bear awareness and interaction plan.

(4) A Plan of Cooperation to mitigate potential conflicts between the proposed activity and subsistence hunting. This Plan of Cooperation must identify measures to minimize adverse effects on the availability of polar bear and Pacific walrus for subsistence uses if the activity takes place in or near a traditional subsistence hunting area.

§ 18.125 What criteria does the Service use to evaluate Letter of Authorization requests?

(a) We will evaluate each request for a Letter of Authorization based on the specific activity and the specific geographic location. We will determine whether the level of activity identified in the request exceeds that considered by us in making a finding of negligible impact on the species and a finding of no unmitigable adverse impact on the availability of the species for take for subsistence uses. If the level of activity is greater, we will reevaluate our findings to determine if those findings continue to be appropriate based on the greater level of activity that you have requested. Depending on the results of the evaluation, we may grant the authorization as is, add further conditions, or deny the authorization.

(b) In accordance with § 18.27(f)(5) of this part, we will make decisions concerning withdrawals of Letters of Authorization, either on an individual or class basis, only after notice and opportunity for public comment.

(c) The requirement for notice and public comment in paragraph (b) of this section will not apply should we determine that an emergency exists that poses a significant risk to the well-being of the species or stock of polar bear or Pacific walrus.

§ 18.126 What does a Letter of Authorization allow?

(a) Your Letter of Authorization may allow the incidental, but not intentional, take of polar bear and Pacific walrus when you are carrying out one or more of the following activities:

(1) Conducting geological and geophysical surveys and associated activities;

(2) Drilling exploratory wells and associated activities;

(3) Developing oil fields and associated activities;

(4) Drilling production wells and performing production support operations;

(5) Conducting environmental monitoring programs associated with exploration, development, and production activities to determine specific impacts of each activity.

(b) You must use methods and conduct activities identified in your Letter of Authorization in a manner that minimizes to the greatest extent practicable adverse impacts on polar bear and Pacific walrus, their habitat, and on the availability of these marine mammals for subsistence uses.

(c) Each Letter of Authorization will identify conditions or methods that are specific to the activity and location.

§ 18.127 What activities are prohibited?

(a) Intentional take of polar bear or Pacific walrus.

(b) Any take that fails to comply with the terms and conditions of these specific regulations or of your Letter of Authorization.

§ 18.128 What are the mitigation, monitoring and reporting requirements?

(a) We require holders of Letters of Authorization to cooperate with us and other designated Federal, State, and local agencies to monitor the impacts of oil and gas exploration, development, and production activities on polar bear and Pacific walrus.

(b) Holders of Letters of Authorization must designate a qualified individual or individuals to observe, record, and report on the effects of their activities on polar bear and Pacific walrus.

(c) Holders of Letters of Authorization are required to have a polar bear interaction plan on file with the Service, and polar bear awareness training will also be required of certain personnel.

(d) Under a Plan of Cooperation Industry must contact affected subsistence communities to discuss potential conflicts caused by location, timing, and methods of proposed operations. Industry must make reasonable efforts to ensure that activities do not interfere with subsistence hunting and that adverse effects on the availability of polar bear or Pacific walrus are minimized.

(e) We may place an observer on the site of the activity or on board drill ships, drill rigs, aircraft, icebreakers, or other support vessels or vehicles to monitor the impacts of your activity on polar bear and Pacific walrus.

(f) If known occupied dens are located within an operator's area of activity, we will require a 1-mile exclusion buffer around the den to limit disturbance or require that the operator conduct activities after the female bears emerge from their dens. We will review these instances for extenuating circumstances on a case by case basis.

(g) Industry may also be required to use Forward Looking Infrared (FLIR) imagery and/or scent-trained dogs to determine presence or absence of polar bear dens in areas of activity.

(h) A map of potential coastal polar bear denning habitat can be found at: *http://www.absc.usgs.gov/research/sis_summaries/polar_bears_sis/mapping_dens.htm.* This map is available to Industry to ensure that the location of potential polar bear dens is considered when conducting activities in the coastal areas of the Beaufort Sea.

(i) For exploratory activities, holders of a Letter of Authorization must submit a report to our Alaska Regional Director within 90 days after completion of activities. For development and production activities, holders of a Letter of Authorization must submit a report to our Alaska Regional Director by January 15 for the preceding year's activities. Reports must include, at a minimum, the following information:

(1) Dates and times of activity;

(2) Dates and locations of polar bear or Pacific walrus activity as related to the monitoring activity; and

(3) Results of the monitoring activities, including an estimated level of take.

§ 18.129 What are the information collection requirements?

(a) The collection of information contained in this subpart has been approved by the Office of Management and Budget under the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*) and assigned clearance number 1018–0070. We need to collect the information in order to assess the proposed activity and estimate the impacts of potential takings by all persons conducting the activity. We will use the information to evaluate the application and determine whether to issue specific Letters of Authorization.

(b) For the duration of this rule, when you conduct operations under this rule, we estimate an 8-hour burden per Letter of Authorization, a 4-hour burden for monitoring, and an 8-hour burden per monitoring report. You must respond to this information collection request to obtain a benefit pursuant to section 101(a)(5) of the Marine Mammal Protection Act (MMPA). You should direct comments regarding the burden estimate or any other aspect of this requirement to the Information Collection Clearance Officer, U.S. Fish and Wildlife Service, Department of the Interior, Mail Stop 222 ARLSQ, 1849 C Street, NW., Washington, DC 20240, and the Office of Management and Budget, Paperwork Reduction Project (1018–0070), Washington, DC 20503.

Dated: November 20, 2003.

Craig Manson,

Assistant Secretary for Fish and Wildlife and Parks.

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