

**Bureau of Ocean Energy Management  
Alaska OCS Region**

**FINDING OF NO SIGNIFICANT IMPACT**

**Shell Gulf of Mexico, Inc.  
Revised Outer Continental Shelf Lease Exploration Plan  
Chukchi Sea  
2012**

**1. Introduction**

Shell Gulf of Mexico Inc. (Shell) provided to the Bureau of Ocean Energy Management (BOEM) a Revised Exploration Plan (Revised EP)— *Revised Outer Continental Shelf Lease Exploration Plan Chukchi Sea, Alaska* (2012 Shell Revised Chukchi Sea EP or Revised EP)—in October 2011. The 2012 Shell Revised Chukchi Sea EP, which proposes exploratory drilling to evaluate the oil and gas resource potential of six of the company’s Outer Continental Shelf (OCS) leases in the U.S. Chukchi Sea, was deemed submitted by BOEM on November 16, 2011. Shell submitted their Revised EP under BOEM operating regulations at 30 CFR 550 Subpart B. The purpose of Shell’s proposed action is to evaluate the oil and gas resource potential of six leases (OCS-Y-2280, OCS-Y-2267, OCS-Y-2321, OCS-Y-2294, OCS-Y-2278, and OCS-Y-2324) within a prospect known as “Burger” (Figure 1). The need for this action is established by BOEM’s responsibility under the Outer Continental Shelf Lands Act (OCSLA) to make OCS lands available for expeditious and orderly development, subject to environmental safeguards, in a manner consistent with the maintenance of competition and other national needs.

Shell acquired the Burger leases through Chukchi Sea OCS Lease Sale 193 (Lease Sale 193), held in February 2008. Under OCS leasing regulations at 30 CFR 556 and operating regulations at 30 CFR 250.180, a lease expires at the end of its primary lease term unless the lessee is conducting operations on the lease. Shell’s leases have a primary term of ten years (30 CFR 556.37).

The 2012 Shell Revised Chukchi Sea EP makes changes to an initial Chukchi Sea Exploration Plan (initial EP; Shell, 2009) dated May 2009 and deemed submitted by BOEM on October 20, 2009 (see Table 1 for a direct comparison of the two EPs). After completing a technical and environmental review of the initial EP and supporting documents, MMS (now BOEM) issued (on December 7, 2009) an Environmental Assessment (EA)(USDOJ, MMS, 2009a) and a Finding of No Significant Impact (FONSI)(USDOJ, MMS, 2009b). The EA and FONSI are incorporated by reference into this document. The initial EP was approved with conditions on December 7, 2009.

In support of the Revised EP, Shell submitted the following:

- An environmental impact analysis (EIA) as Appendix F of the 2012 Shell Revised Chukchi Sea EP (Shell, 2011).
- Oil Discharge Prevention and Contingency Plan (ODPCP) for the drilling program
- Environmental information and reports
- Site-specific geohazards survey data and assessment
- A Plan of Cooperation (POC) Addendum
- A Marine Mammal Monitoring and Mitigation Plan (4MP)

- A description of Shell's Cultural Awareness and Environmental Awareness Programs
- A description of Shell's Subsistence Advisor Program
- Shell's Application to NMFS for Incidental Harassment Authorization for the Non-Lethal Taking of Whales and Seals in Conjunction with Planned Exploration Drilling Program During 2012 in the Chukchi Sea, Alaska
- Shell's Application for U.S. Fish & Wildlife Service Letter of Authorization
- Shell's Polar Bear, Grizzly Bear, and Pacific Walrus Avoidance and Human Encounter/Interaction Plan
- Other information as required by BOEM regulations and lease stipulations

BOEM has completed a technical and environmental review of the 2012 Shell Revised Chukchi Sea EP and supporting information to ensure the proposed activities would be conducted in a manner consistent with protection of the human, marine, and coastal environments.

In accordance with the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations at 40 CFR 1501.3(b) and 1508.9, Department of Interior (DOI) regulations implementing NEPA at 43 CFR Part 46, and DOI policy in Section 516 of the Department of the Interior Manual (DM) Chapter 15 (516 DM 15), BOEM prepared an EA to assist BOEM planning and decision-making. In keeping with CEQ regulations at 40 CFR 1506.5(a) and (b) and the intent of BOEM operating regulations at 30 CFR 550.227, the information and analysis provided in Shell's EIA were reviewed, evaluated, and verified, and the results were used in preparing this EA.

## 2. Description of the Proposed Action

Shell proposes to drill six exploration wells within the Burger Prospect in the Chukchi Sea OCS Planning Area. Activities would occur on six leases acquired in Chukchi Sea Lease Sale 193. These leases are OCS-Y-2280, OCS-Y-2267, OCS-Y-2321, OCS-Y-2294, OCS-Y-2278, and OCS-Y-2324 (Figure 1). Shell proposes to commence drilling the wells during the open-water-season (July through October) of 2012 and would continue during subsequent open water seasons until completion of the six-well plan. Shell would conduct drilling operations from the ice-strengthened drillship M/V *Noble Discoverer* (*Discoverer*), to be supported by additional vessels for ice management, anchor handling, crew transport and supplies, waste storage and transport, and spill response.

The *Discoverer* would move through the Bering Strait and into the Chukchi Sea on or about July 1, and would continue on to the Burger Prospect as soon as ice and weather conditions allow. Once the drilling vessel is mobilized to a drill site and securely anchored to the seafloor, drilling operations commence. Exploration drilling activities may continue through October 31, ice conditions permitting.

Shell anticipates that conducting exploratory drilling activities would take an average of 32 days at each drill site. This estimate includes the following:

- Construct a mud line cellar (MLC)
- Drill the well to proposed total depth (PTD)
- Log and evaluate the well
- Conduct a zero-offset vertical seismic profile (ZVSP)
- Plug and abandon the well in accordance with BSEE requirements at 30 CFR 250(q)

The actual number of wells drilled in a given season would depend upon ice conditions, length of time available in each drilling site, and conditions of EP approval. Shell's predicted the

“average” drilling season is long enough for two to three exploration wells to be drilled to PTD. Shell may elect to construct additional MLCs or upper well segments (partial holes) depending on available time and operating conditions. Any well on which exploration drilling operations are suspended at the end of a drilling season would be secured in accordance with BOEM regulations. Shell would then either drill the well to total depth in the subsequent year, or permanently abandon the well. To allow for operational flexibility in response to variable ice conditions, Shell has indicated that it will submit Applications for Permit to Drill (APD) for all six proposed wells during the initial year.

Certain conditions may trigger a suspension of activities at a drill site prior to concluding exploration drilling activities there. Within its Critical Operations and Curtailment Plan (COCP) and Ice Management Plan (IMP), which are attached as Appendices J and K of the 2012 Shell Revised Chukchi Sea EP (Shell, 2011), Shell presents procedures for monitoring and responding to ice in the prospect areas. If certain conditions of the COCP are triggered by environmental conditions at a drill site, Shell would suspend drilling operation, secure the well, and move offsite if necessary. The well would either be drilled to completion later that season, during a subsequent season, or secured and permanently abandoned prior to lease termination.

### **3. Related Environmental Documents**

NEPA requires Federal agencies to conduct an environmental review of certain Federal actions. The OCSLA created a four-stage process for planning, leasing, exploration, and production of oil and gas resources in federal waters. The appropriate level of NEPA review depends on the OCSLA stage (516 DM 15), the scope of the proposed activities, and the agency’s findings on the potential effects of the proposed activities. BOEM has completed numerous NEPA reviews of Chukchi Sea OCS activities. Recent NEPA reviews relevant to the Proposed Action analyzed here include the following:

- Final Supplemental Environmental Impact Statement – Chukchi Sea Planning Area Oil and Gas Lease Sale 193 in the Chukchi Sea, Alaska (OCS EIS/EA BOEMRE 2011-041)
- Environmental Assessment – Shell Gulf of Mexico, Inc., 2010 Exploration Drilling Program, Burger, Crackerjack, and SW Shoebill Prospects, Chukchi Sea Outer Continental Shelf, Alaska, and Finding of No Significant Impact (OCS EIS/EA MMS 2009-061)
- Draft Environmental Impact Statement – Beaufort and Chukchi Sea Planning Areas Oil and Gas Lease Sales 209, 212, 217, and 221 (OCS EIS/EA MMS 2008-0055)
- Final Environmental Impact Statement – Chukchi Sea Planning Area Oil and Gas Lease Sale 193 and Seismic Surveying Activities in the Chukchi Sea (OCS EIS/EA MMS 2007-026)
- Final Environmental Impact Statement – Outer Continental Shelf Oil & Gas Leasing Program: 2007-2012 (OCS EIS/EA MMS 2007-003)
- Final Environmental Impact Statement – Outer Continental Shelf Oil and Gas Leasing Program: 2002-2007 (OCS EIS/EA MMS 2002-2007)

These documents are available on the BOEM Alaska Region website at [http://www.alaska.boemre.gov/ref/eis\\_ea.htm](http://www.alaska.boemre.gov/ref/eis_ea.htm). Relevant sections of these documents are summarized and incorporated by reference into the EA. The EA tiers from the Lease Sale 193 Final EIS (USDOJ, MMS, 2007) and the Lease Sale 193 Final SEIS (USDOJ, BOEMRE, 2011).

The EA also summarizes and incorporates by reference relevant information and analysis from the following documents:

- Revised Outer Continental Shelf Lease Exploration Plan Chukchi Sea, Alaska (2012 Shell Revised Chukchi Sea EP)
- October 10, 2011 Biological Evaluation (BE) to NMFS
- September 30, 2011 BE to USFWS
- Letter of Authorization (LOA) and Incidental Harassment Authorization (IHA) Applications
- Biological Opinion for Beaufort and Chukchi Sea Program Area Lease Sales and associated Seismic Surveys and Exploratory Drilling, USFWS, 2009.
- Biological Opinion for Oil and Gas Leasing and Exploration Activities in the U.S. Beaufort and Chukchi Seas, Alaska; and Authorizations of Small Takes Under the Marine Mammal Protection Act, NMFS, 2008.
- Biological Opinion for Oil and Gas Leasing, Exploration Activities, in the U.S. Beaufort and Chukchi Seas, Alaska, Arctic Regional Biological Opinion, 2006, NMFS.

#### **4. Environmental Evaluation**

Among the issues identified in this site-specific environmental review, the following were among the most prominent:

- Protection of subsistence activities and the Iñupiat culture and way of life.
- Risks of oil spills and their potential impacts to area fish and wildlife resources.
- Disturbance to bowhead whale and other marine mammal migration patterns.
- Harassment and potential harm of wildlife, including marine mammals, from noise, discharges, and vessel operations.

BOEM evaluated three alternatives in the EA: Alternative 1 – No Action, Alternative 2 – The Proposed Action, and Alternative 3 – One Well per Season. BOEM also evaluated one Proposed Mitigation measure, which contained three options.

##### **Alternative 1 – No Action**

Under Alternative 1 – No Action, BOEM would not approve Shell’s proposed exploration drilling activities. This alternative would delay or preclude Shell from evaluating potential hydrocarbon resources of certain lease blocks acquired under Chukchi Sea Lease Sale 193. This alternative would also delay or avoid potential environmental impacts associated with the Proposed Action.

##### **Alternative 2 – The Proposed Action**

Under Alternative 2 – The Proposed Action, BOEM would approve with conditions Shell’s proposal to drill six exploration wells within the Burger prospect. Activities could occur on six leases acquired in Chukchi Sea Lease Sale 193. These leases are OCS-Y-2280, OCS-Y-2267, OCS-Y-2321, OCS-Y-2294, OCS-Y-2278, and OCS-Y-2324 (Figure 1). Shell proposes to commence drilling the wells during the open-water-season (July through October) of 2012 and would continue during subsequent open water seasons. Shell would conduct drilling operations from the *Discoverer*, to be supported by additional vessels for ice management, anchor handling, crew transport and supplies, waste storage and transport, and spill response.

##### **Alternative 3 – One Well per Season**

Under Alternative 3 – One Well per Season, BOEM would approve with conditions the Proposed Action, but would limit exploration drilling to one well (drilled to total depth) per season.

Multiple mud line cellars and “spuds” (a type of partial well where an initial casing is set) may be drilled in a given season, but Shell could only access the hydrocarbon-bearing zone or zones of one well per year. As a result, this alternative could spread the positive impacts, negative impacts, and risks associated with oil and gas exploration activities across additional open-water seasons.

### **Proposed Mitigation**

Implementing the Proposed Mitigation Measures would establish a late season drilling hiatus. During the hiatus period, no exploratory drilling would be allowed below the last casing point set prior to penetrating a zone capable of flowing liquid hydrocarbons in measurable quantities. The duration of the hiatus period would depend on the Option (of three total) selected by the decision-maker while approving with conditions Shell’s Revised EP. The date on which the late season drilling hiatus commenced is calculated for each drilling season based on best available data concerning recent sea ice extent. In the unlikely event of a well control incident leading to an oil spill, each of the three options could serve to increase the time available for open water response and cleanup, thereby reducing the quantity of oil spill and the severity of adverse environmental effects.

## **5. Conclusions**

The overall conclusions of the analysis of the action alternatives are summarized below.

### **Biological Resources**

No significant impacts to lower trophic, fish, marine mammal, bird, or terrestrial mammal resources are anticipated as a result of the proposed exploration drilling or support activities in Alternative 2. Activities and impact producing factors may include the following: drilling noise; waste, sediment and water discharges; vessel traffic and noise; aircraft traffic and noise; ice breaking and ice management; mooring and mudline cellar construction; air pollution; or small hydrocarbon spills. Large and very large oil spills could result in impacts that would rise to the level of significance; however, the probability of such an occurrence is low. With the mitigations incorporated in the proposed activities, effects on species in the vicinity of the Burger prospect are expected to be negligible to minor—effects would be below the thresholds that define significant effects for biological resources in Appendix B of the EA.

Likewise, Alternative 3 is also not expected to have significant impacts to lower trophic, fish, marine mammal, bird, or terrestrial mammal resources. This alternative would likely extend the total duration of the drilling program, but the impacts would remain negligible to minor for all the resources, which is below the significance thresholds.

### **Subsistence Activities, Sociocultural Systems, Public Health, and Economy:**

No significant impacts to subsistence activities, sociocultural systems, public health, and economy resources are anticipated as a result of the proposed exploration drilling or support activities in Alternative 2. Effects on Barrow, Wainwright, Point Lay and Point Hope subsistence activities and related sociocultural systems are expected to be negligible. The number of local residents employed for the proposed activities is expected to be small and the effect to be negligible at the community level. While large and very large oil spills could result in impacts that would rise to the level of significance, the probability of such an occurrence is so low that the Alternative 2 will not result in a reasonably foreseeable significant impact. The proposed activities are expected to have a negligible effect on the economy of Barrow, Wainwright, Point Lay and Point Hope. Business interactions between Shell and local communities are not expected

to adversely affect public health. These effects are below thresholds that define significant effects for these resources defined in Appendix B of the EA.

Likewise, Alternative 3 is also not expected to have significant impacts to subsistence activities, sociocultural systems, public health, and economy resources. This alternative would likely extend the total duration of the drilling program, but the impacts would remain negligible for all the resources, which is below the significance thresholds.

### **Air Quality**

Emissions from Shell's proposed exploration activities are not expected to significantly deteriorate the existing good air quality of the Chukchi Sea and adjacent coastal areas. While large and very large oil spills could result in impacts that would rise to the level of significance, the probability of such an occurrence is so low that the Proposed Action will not result in a foreseeable significant impact. Air quality impacts from the proposed activities are expected to be minor. These effects are below thresholds that define significant effects for air quality defined in Appendix B of the EA.

Likewise, Alternative 3 is also not expected to have significant impacts to air quality. This alternative would likely extend the total duration of the drilling program, but the impacts would remain negligible for all the resources, which is below the significance thresholds.

### **Water Quality**

Discharges from Shell's proposed activities would occur over relatively short periods of time (weeks). Impacts to marine water quality from the proposed action are expected to be highly localized and minor. Large and very large oil spills could result in impacts that would rise to the level of significance; however, the probability of such an occurrence is low. These effects are below thresholds that define significant effects for water quality defined in Appendix B of the EA.

Likewise, Alternative 3 is also not expected to have significant impacts to water quality. This alternative would likely extend the total duration of the drilling program, but the impacts would remain negligible for all the resources, which is below the significance thresholds.

## **6. Significance Review**

BOEM evaluated the proposed activities using the level of effects defined in Appendix B of the EA, and with consideration of context and intensity as defined under 40 CFR 1508.27. Accordingly, the potential effects of the proposed action were evaluated within contexts such as society as a whole, the affected region, the affected interests, and the specific locality. The intensity, or severity, of potential impacts in these contexts was considered as follows:

### **1) Impacts that may be both beneficial and adverse. A significant effect may exist even if the Federal agency believes that on balance the effect may be beneficial.**

In determining the significance of effects of the action alternatives, BOEM evaluated both adverse and beneficial impacts from the proposed activities. Potential adverse impacts to the physical environment, biological resources, and subsistence activities, with consideration of all required mitigation measures incorporated into the proposed activities, are expected to be below thresholds that define significant effects in Appendix B of the EA. The potential economic impacts for the North Slope Borough and local residents employed in support of the proposed

activities are expected to be temporary and negligible, though beneficial. Therefore, consideration of both adverse and beneficial effects of the action alternatives does not render the potential impacts significant.

**2) The degree to which the proposed action affects public health or safety.**

In determining the significance of effects of the action alternatives, BOEM evaluated the degree to which the proposed activities may have an effect on public health or safety. BOEM considered the distance of the proposed activities from local communities; operation of onshore support facilities; potential effects of expected allowable discharges and emissions under Environmental Protection Agency (EPA) water and air permits; potential effects of the analyzed 48 barrel fuel spill; and the potential for the proposed activities to interfere with subsistence activities. The community closest to the drilling area is Wainwright, roughly 78 miles to the southeast.

Activities associated with the EP would be staged from existing infrastructure in Wainwright and Barrow. Goods and services would be obtained from local village contractors, when available, and these business interactions are not expected to adversely affect community health. Impacts to water and air quality are expected to be minor. In the event of a small fuel spill, the diesel fuel is not expected to persist long enough to contact the coast or harm coastal communities. Shell's proposed exploration activities incorporate specific measures to avoid interference with subsistence activities, including a Plan of Cooperation, a Subsistence Advisory Program, aircraft routes that avoid subsistence use areas and are as short as possible, and minimum flight altitudes. These mitigating measures are an integral part of Shell's proposal and will be required and enforced by BOEM if the proposed action is approved. Therefore, consideration of potential effects of the action alternatives on public health or safety does not render the potential impacts significant.

**3) Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.**

In determining the significance of effects of the action alternatives, BOEM evaluated the degree to which the proposed activities may have an effect on unique geographic resources. The closest such resource, Ledyard Bay Critical Habitat Unit, is located 54 miles to the South of the proposed exploration drill sites. Routine operations can result in potential impact producing factors, such as noise and pollution. These impact producing factors may occur in offshore areas adjacent to the proposed drilling area, but impacts would be at most negligible and would not affect any historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas. Consideration of potential site specific effects of the action alternatives on unique geographic areas does not render the potential impacts significant.

**4) The degree to which the effects on the quality of the human environment are likely to be highly controversial.**

In determining the significance of effects of the action alternatives, BOEM evaluated the degree to which the potential effects of the proposed activities may be highly controversial. In developing the EA, BOEM reviewed relevant studies, scientific literature, past BOEM NEPA analyses, and NMFS and FWS analyses. BOEM also reviewed public comments, in part to determine if substantial questions exist on whether the proposed action would cause significant degradation of any environmental factor. More specifically, comments were evaluated to determine if the issues raised presented substantial dispute over potential effects of the proposed action or presented substantial questions over the likelihood and significance of adverse impacts from the proposed action. BOEM also evaluated these issues in the context of the United States Geological Survey's (USGS) 2011 report evaluating science needs to inform decisions on Arctic

OCS energy development, as well as information that emerged from the *Deepwater Horizon* event in May 2010.

Stakeholders have expressed concerns over the potential for a loss of well control, the effects of an oil spill, and the adequacy of oil spill prevention and response measures. After careful review of public comments and questions, BOEM analysts did not find new information that discredited BOEM's analysis of these issues. While there is ongoing public concern regarding the acceptable level of risk for a large or very large oil spill in the Arctic (over even *whether* an acceptable level of risk exists for such an event), there is no scientific controversy. Moreover, there is no scientifically supported challenge to the fact that large and very large oil spills remain extremely low probability events.

Similar exploration drilling activities have previously occurred at the project area, without incident. Each component of the proposed action is well-defined and well-understood. Established models for evaluating sound transmission, emissions, and discharges have been utilized to determine the nature, areal extent and intensity of potential impact-producing factors. The proposed activities also include specific and enforceable mitigation measures to reduce adverse effects.

The effects analyses in the EA are based on the best available scientific information. Sufficient information was available to support sound scientific judgments regarding the potential for environmental effects. Concerns raised by stakeholders were fully considered and addressed as appropriate in the EA. No substantial questions remain on the level of potential effects or whether the action alternatives may cause significant effects. Therefore, consideration of the degree to which the potential effects of the action alternatives may be highly controversial does not render the potential impacts significant.

**5) The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.**

In determining the significance of effects of the proposed action, BOEM evaluated the degree to which the potential effects of the action alternatives may be highly uncertain or involve unique or unknown risks. There has been more than two decades of history for exploration drilling in the Arctic OCS. From 1981-2002, a total of 35 wells were drilled in the Arctic OCS. Five of these wells were drilled in the Chukchi Sea, including one well on the Burger prospect itself. The technologies and procedures used in exploration drilling conform to well-established industry standards, and the components of exploration drilling that may impact the environment are well understood. If BOEM approves Shell's Revised EP and exploration drilling occurs, BSEE inspection personnel would be on site throughout the drilling operation to monitor the operation and enforce and verify compliance with conditions of approval of the EP, lease stipulations, and BOEM and BSEE drilling, safety and environmental regulations.

The potential impacts of exploration activities have been addressed in several previous NEPA documents, including EISs and EAs. Estimated probabilities of small, large and very large oil spills are fully analyzed and addressed in Appendix A and Section 2.4.9 of the EA. With respect to the potential effects of a catastrophic oil spill, the EA summarizes and incorporates by reference the extensive analysis of small, large, and very large oil spills, pollution prevention, and spill response provided by the Sale 193 Final EIS and Sale 193 Final SEIS – documents from which the EA tiers.

The effects of the proposed activities are not expected to be highly uncertain nor does the proposed action involve unique or unknown risks. Therefore, consideration of the degree to which the potential effects of the action alternatives may be highly uncertain or involve unique or unknown risks does not render the potential impacts significant.



**6) The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.**

In determining the significance of effects of the action alternatives, BOEM evaluated the degree to which the proposed activities may establish a precedent for future actions or represents a decision in principle about a future consideration. Shell's Revised EP was submitted pursuant to BOEM operating regulations at 30 CFR 550 Subpart B. Shell's proposed exploration of their Chukchi Sea leases is consistent with the overall objective of the OCSLA to determine the extent of the oil and natural gas resources of the OCS at the earliest practicable time. In compliance with OCSLA and Department of the Interior (DOI) policy in 516 DM 15, BOEM conducts technical and environmental review of each EP. No precedent for future actions or decision in principles about future considerations would be made through a decision on these specific proposed activities. Although a successful result of exploration drilling is a prerequisite to any decision on proposed development, approval of an EA does not constrain the decision on any subsequently proposed Development and Production Plan (DPP), and approving an EP does not set a precedent for approving any EP or DPP in the future. This action will not establish a precedent for future actions or represent a decision in principle about a future consideration. Therefore, consideration of the degree to which the action alternatives may establish a precedent for future actions or represent a decision about a future consideration does not render the potential impacts significant.

**7) Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or breaking it down into small component parts.**

In determining the significance of effects of the action alternatives, BOEM evaluated the degree to which the proposed activities may be related to other actions with individually insignificant but cumulatively significant impacts. The EA considered the potential cumulative impacts of the revised EP and other reasonably foreseeable activities and concluded that the contribution of the proposed activities would not create any significant cumulative impacts, either incrementally or synergistically. This action is not part of any larger action than can be expected to result in significant cumulative effects.

**8) The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.**

In determining whether the action alternatives may adversely affect historical resources, BOEM considered the distance of the proposed activities from shore, site clearance and shallow hazards data, and the results of consultations with the Alaska State Historic Preservation Office (SHPO). The proposed exploration drill sites are located more than 75 miles offshore. Allowable discharges and emissions are expected to have no onshore effects. The analyzed 48-bbl fuel spill is not expected to persist long enough to contact the coast. There are no known historic shipwrecks in the vicinity of the proposed drill sites. The site-clearance surveys of the proposed drilling areas do not indicate any surface resources or potential for sub-seafloor prehistoric sites. On November 29, 2011 BOEM wrote a letter informing the SHPO of its determination that the proposed action is not expected to adversely affect historic resources. Therefore, consideration of the degree to which the action alternatives may adversely affect historic resources does not render the potential impacts significant.

**9) The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.**

In determining whether the action alternatives may adversely affect endangered or threatened species or designated critical habitat, BOEM considered the current Biological Opinions (BOs) and other analyses of OCS activities from NMFS and FWS. These analyses, summarized and incorporated by reference in the EA, are:

- Biological Opinion for Beaufort and Chukchi Sea Program Area Lease Sales and associated Seismic Surveys and Exploratory Drilling, USFWS, 2009.
- Biological Opinion for Oil and Gas Leasing and Exploration Activities in the U.S. Beaufort and Chukchi Seas, Alaska; and Authorizations of Small Takes Under the Marine Mammal Protection Act, NMFS, 2008.
- Biological Opinion for Oil and Gas Leasing, Exploration Activities, in the U.S. Beaufort and Chukchi Seas, Alaska, Arctic Regional Biological Opinion, 2006, NMFS.

Shell's proposed exploration activities are within the scope of the activities covered in these BOs.

The BOEM completed formal consultation with NMFS, Alaska Region, on the potential effects of OCS oil and gas leasing and exploration on the Beaufort Sea and Chukchi Sea. NMFS provided a Biological Opinion (BO) for Oil and Gas Leasing and Exploration Activities in the U.S. Beaufort and Chukchi Seas, Alaska and Authorization of Small Takes Under the Marine Mammal Protection Act (USDOC, NOAA, NMFS, 2008). The BO considers the effects of oil and gas leasing and exploration on threatened and endangered species under the jurisdiction of NMFS. The NMFS concluded the described actions are not likely to jeopardize the continued existence of the fin, humpback, or bowhead whale.

The December 2010, NMFS proposal (75 FR 77476) to list ringed seals and the Beringia DPS of bearded seals as threatened under the ESA requires BOEM to evaluate the likelihood that the proposed action would jeopardize the continued existence of these ice seals. BOEM has concluded that the proposed action would not jeopardize the continued existence of these ice seals and further consultation is not required under the ESA.

The BOEM completed formal consultation with FWS, Alaska Region, on the potential effects of OCS oil and gas leasing and exploration in the Beaufort and Chukchi Seas to listed species under FWS jurisdiction. The FWS provided a BO for Beaufort and Chukchi Sea Program Area Lease Sales and Associated Seismic Surveys and Exploratory Drilling dated September 3, 2009 (USDOJ, FWS, 2009). The FWS concluded that it is unlikely that seismic survey and exploratory drilling activities will violate section 7(a)(2) of the ESA. The FWS determined that adverse effects on listed species are anticipated. In the BO, FWS provided incidental take authorization for listed eiders and requires that operators get a Letter of Authorization under the MMPA.

The FWS designated polar bear critical habitat in December 2010 (75 FR 76086) and the BOEM has reinitiated formal consultation regarding the potential for the proposed action to adversely modify designated polar bear critical habitat. Based on the analysis in this EA, BOEM has preliminarily concluded that the proposed action would not adversely modify designated polar bear critical habitat. These findings are part of a new Biological Evaluation which was prepared by BOEM and submitted to FWS on September 30, 2011.

The Pacific walrus was designated a candidate species under the ESA on 10 February 2011 (76 FR 7634). BOEM has preliminarily concluded that the proposed action would not jeopardize the continued existence of the Pacific walrus. These findings are part of a new draft Biological Evaluation being prepared by BOEM for conveyance to FWS in the near future.

Under the ESA, no incidental take of a protected species is authorized unless an Incidental Take Statement (ITS) is issued by NMFS or FWS for the proposed activity. Any BOEM approval of Shell's EP would include enforceable conditions under which an APD would not be approved, and commencement of activities would not be authorized until appropriate ITSs from NMFS and FWS have been issued. BSEE approval of the APD would also include any Reasonable and Prudent Measures and associated Terms and Conditions required through the ESA consultation process. Conditional approval of an APD does not foreclose the formulation or implementation of additional Reasonable and Prudent Measures in future consultations.


The EA also analyzed the proposed activities' potential to adversely affect the threatened and endangered referenced above. Adverse impacts are not expected to exceed a minor level of effect. Therefore, consideration of whether the action alternatives may adversely affect endangered or threatened species or designated critical habitat does not render the potential impacts significant.

**10) Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.**

In determining whether the action alternatives may violate Federal, State, or local law or requirements imposed for the protection of the environment, BOEM considered documentation in Shell's revised EP related to compliance with BOEM operating regulations, applicable lease stipulations, permits and authorizations, and other applicable environmental laws and requirements. BOEM determined that the proposed activities comply with BOEM regulations at 30 CFR 550 Subpart B and with applicable lease stipulations. The revised EP includes a listing of the laws and regulations applicable to the proposed activities and discusses the status of Shell's major permit applications and certifications. BOEM requires compliance with all applicable Federal, State, and local laws and requirements. An approval of Shell's revised EP would include conditions under which commencement of activities is not authorized until Shell's receipt of all necessary permits and authorizations. Therefore, consideration of whether the action alternatives threaten to violate Federal, State, or local law or requirements imposed for the protection of the environment does not render the potential impacts significant.

**7. Finding of No Significant Impact**

I have considered the identified issues and concerns; the EA's evaluation of potential effects from proposed activities; the mitigation incorporated into the proposed action to assure that potential impacts are reduced to the extent practicable and major disputes over the effects of the proposal are avoided; and the review of 40 CFR 1508.27 significance factors above. It is my determination that no substantial questions remain regarding potentially significant impacts and that no potentially significant impacts are expected to occur as a result of the proposed activities under either Alternative 2 or 3. It is my determination that approving these proposed activities does not constitute 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 of 1969.

  
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Senior Advisor  
Alaska OCS Region

  
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Date

Copies of the EA on the 2012 Shell Revised Chukchi Sea EP (OCS EIS/EA BOEM 2011-061) can be obtained by request to Bureau of Ocean Energy Management, Alaska OCS Region, 3801 Centerpoint Drive, Suite 500, Anchorage, AK 99503-5823 or 1-800-764-2627. The EA can be viewed at BOEM's website <http://www.BOEM.gov/alaska>.

Attachment: Environmental Assessment, Shell Gulf of Mexico Inc., Revised Outer Continental Shelf Lease Exploration Plan, Chukchi Sea 2012 (OCS EIS/EA BOEM 2011-061).