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EARTHJUSTICE

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BY EMAIL AND FACSIMILE

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**Re: Shell Offshore Inc. Proposed Outer Continental Shelf Lease Exploration Plan,
Camden Bay, Beaufort Sea, Alaska**

Dear Dr. Kendall:

We write to address the completeness determination for the proposed Outer Continental Shelf Lease Exploration Plan for Camden Bay, Beaufort Sea (the “Plan” or “EP”) submitted by Shell Offshore Inc. (“Shell”) on May 4, 2011. Shell’s Plan proposes a major industrial undertaking that involves: a large drill ship, a fleet of associated vessels, including two ice-breakers, and associated aircraft. The operations would emit noise, air, and water pollution. They would also run the risk of a large oil spill, which could severely affect the Arctic. Further, Shell is planning concurrent drilling in the adjacent Chukchi Sea, using another drill ship and accompanying fleet of support vessels, ice-breakers, and aircraft, emitting similarly large amounts of noise, air, and water pollution, and increasing the risk of an oil spill.

The planned drilling would be the first vessel-based exploration drilling to proceed in the Arctic Ocean since the *Deepwater Horizon* disaster. The Gulf of Mexico spill tragically demonstrated the need for fully informed decision-making in the offshore context and, in particular, the need for realistic and complete oil spill response plans prior to any drilling. As described further below, Shell’s Plan falls short of providing information necessary to fully analyze the proposed activities, including Shell’s plans and ability to respond to a large oil spill. The Plan is missing information that is required by regulations promulgated under the Outer Continental Shelf Lands Act (“OCSLA”). 30 C.F.R. §§ 250.211-250.228. This information is critical to the Bureau of Ocean Energy Management, Regulation and Enforcement’s (“BOEMRE”) ability to evaluate the potential effects of Shell’s proposed drilling or ways in which the EP can be modified to avoid such effects. BOEMRE cannot deem the Plan submitted until Shell provides all the information required by OCSLA regulations. 30 C.F.R. § 250.231. Additionally, BOEMRE should not deem the proposed EP submitted until it has complied with

the National Environmental Policy Act (“NEPA”), which in the case of Shell’s current drilling proposal will require preparation of a full environmental impact statement (“EIS”) that analyzes and discloses the potentially significant effects of Shell’s proposed drilling and examines alternatives and mitigation.

Shell’s Plan is incomplete because it relies on a regional oil spill response plan that BOEMRE has not approved.

OCSLA regulations require that an EP either: (1) be accompanied by a facility-specific oil spill response plan, or (2) reference and describe an *approved* regional oil spill response plan and compare the potential worst case discharge from proposed exploration activities to the worst case discharge in the approved regional plan. 30 C.F.R. § 250.219(a). Shell’s EP satisfies neither of these requirements.

Shell’s EP references a newly submitted regional spill plan for the Beaufort Sea. EP at 8-1, *see also* Beaufort Sea Regional Exploration Oil Discharge Prevention and Contingency Plan (May 2011) (“Revised Beaufort Spill Plan”). There is, however, no evidence that BOEMRE has approved the Revised Beaufort Spill Plan as 30 C.F.R. § 250.219(a) requires.

BOEMRE should not deem Shell’s EP complete until it has reviewed and approved a revised spill plan. Shell’s only “approved” regional spill plan was developed *prior* to the *Deepwater Horizon* oil spill. The Revised Beaufort Spill Plan contemplates a worst case discharge that is more than twice the size of the worst case discharge possible from the wells Shell proposes to drill in the EP. *See* EP at 8-3 (worst case discharge of 407,124 barrels of oil); Beaufort Sea Regional Exploration Oil Discharge Prevention and Contingency Plan at 4 (January 2010) (worst case discharge of 165,000 barrels of oil). The revisions fundamentally alter Shell’s original spill plan. BOEMRE should not deem Shell’s EP complete and submitted before the agency reviews and approves the Revised Beaufort Spill Plan. 30 C.F.R. § 250.219(a)(2) (noting that operators may rely only on an “approved” regional plan).¹

Shell’s Plan is incomplete because it fails to describe Shell’s emergency plans for responding to a blowout oil spill in Alaska.

Unlike exploration plans in the Gulf of Mexico, OCSLA regulations require oil companies operating in Alaska to describe their emergency plans for responding to a blowout. 30 C.F.R. § 250.220(a). Shell’s EP does not contain the required elements (nor does the Revised Beaufort Spill Plan upon which the EP relies).

- As a result of *Deepwater Horizon*, BOEMRE now requires Shell to have a well capping and containment system (NTL 2010-N10 at 2), but Shell’s EP does not explain the company’s

¹ BOEMRE should not approve Shell’s Revised Beaufort Spill Plan without first completing a review of the plan under NEPA and consultation pursuant to the Endangered Species Act (“ESA”).

emergency plans for responding to a blowout using those systems. Shell's EP proposes a well capping and Arctic Containment System that is not described, built, tested or verified as effective in arctic conditions. EP at 9-4, App. L, 1. The EP is incomplete because Shell has provided BOEMRE no description of the system, how Shell plans to deploy and respond using this device (including efforts to curtail other containment and response measures), how it will safely secure the blowout preventer to deploy the device to avoid exacerbating the blowout, why Shell believes the system will be appropriate and effective for the Arctic environment, or the availability of the responders trained and ready to deploy and implement this novel system.

- The EP provides no explanation of how quickly Shell could deploy the system—despite Shell's earlier commitment to the agency that the pre-staged containment dome would be available “for immediate deployment.” Letter from Marvin E. Odum, President, Shell Oil Company to S. Elizabeth Birnbaum, Minerals Management Service (May 14, 2010) at 5.
- Shell states that the well capping and containment system will be unaffected by ice or weather conditions at the surface. Revised Beaufort Spill Plan at 1-31. Shell's EP is incomplete because it does not explain how well capping and the containment system will work in ice and Arctic weather conditions. Yet, Shell proposes to operate until October 31st, and shorefast ice typically starts forming in early October.
- Shell's explanation of its “worst case discharge scenario” in “adverse weather conditions” is incomplete because Shell does not explain why it selected a scenario based on a well blowout on August 1st—even though the EP seeks approval to drill through October and acknowledges a relief well might not be completed until December. EP at 2-5 – 2-6; Revised Beaufort Spill Plan at 1-68.
- Shell's EP for responding to a blowout assumes the company will recover 90 percent of the oil spilled in the open water. Revised Beaufort Spill Plan at 1-33. Shell's EP is incomplete because it fails to provide any evidence or rationale supporting this unprecedented recovery rate.
- Shell does not provide information showing that *Discoverer* is capable of drilling a relief well in December ice conditions. The *Kulluk* has an Arctic Class IV hull design; the *Discoverer* does not. EP at 1-15.
- Shell wants to drill as late as October 31st, but acknowledges that nearshore response for a spill on October 1st would be futile because shorefast ice typically forms by October 4th. Revised Beaufort Spill Plan at 3-27. Shell's oil spill contractor responsible for nearshore recovery operations, Alaska Clean Seas (ACS), acknowledges that nearshore mechanical response could be rendered impossible as of October 1st (i.e., ACS vessels are docked and nearshore mechanical response is impossible) and offshore response could be severely limited. According to ACS, in October offshore oil recovery with vessels drops to 50 percent effectiveness and boom capability drops to 20 percent. ACS, Technical Manual, Vol. 1, Tactics Descriptions at L-7, p.3 (May 2008). By November 1st, recovery with vessels and

boom is impeded by ice 100 percent of the time. *Id.* Shell's EP is incomplete because it fails to address these limitations.

- Shell has reduced its estimate for the number of days it takes to drill a relief well from its earlier exploration and spill plans. According to Shell's last EP, completing a relief well would take "approximately 34 days for a 14,000 ft (4,300 m) TVD blowout well depending on the depth of the intercept point." Shell, 2010 Outer Continental Shelf Lease Exploration Plan, Camden Bay, Alaska at 51 (June 2009). In the current proposal, Shell states it would take 25 days. EP at 2-5 – 2-6. Shell does not explain this reduction in time or explain why it was appropriate to eliminate certain steps in the drilling process (i.e., construction of a relief well cellar, resupply the alternative rig, weather-related downtime). BOEMRE's 2011 technical analysis of a relief well operation, by contrast, specifically contemplated additional time for these procedures.
- Shell states that The Response Group, of Houston, Texas, conducted the oil spill trajectory modeling using OilMap software, Revised Beaufort Spill Plan 1-60, 1-64 – 1-66, 1-69, but Shell does not provide information on whether OilMap is capable of modeling a subsea blowout in Arctic conditions. Shell's modeling does not show how oil moves from the subsea wellhead to the surface. Nor does it provide information on how currents below the water surface could affect spill trajectory in the presence of ice (e.g. oil trapped under ice and travelling long distances without response access).
- Shell's "worst case discharge scenario" fails to provide current wind data for its modeling of an oil spill. Its oil spill trajectory is based on wind data that is more than 23 years old. Revised Beaufort Spill Plan at 1-68. Shell's EP is incomplete because it does use current data or explain why these old data are used.
- Given the limitations of mechanical recovery in a late season spill response, Shell relies substantially on *in situ* burning to remove oil, but Shell has not provided BOEMRE with information demonstrating that burning is a viable method in late fall/early winter Arctic conditions. To the contrary, Shell states that within hours of reaching the surface oil will be so emulsified that ignition will be "difficult to impossible." Revised Beaufort Spill Plan at 3-32.
- For planning purposes, Shell assumes a small amount of shoreline oiling will occur. For a spill of 16,000 barrels of oil per day, it only assigns two skimming vessels, two workboats, three skimmers, and 63 feet of boom to nearshore recovery operations. Revised Beaufort Spill Plan at 1-80. Shell only provides four workboats with 2,000 feet of boom for shoreline containment. *Id.* Shell includes an oil spill trajectory map that shows shoreline oiling within 72 hours; yet, the scenario narrative concludes that "shoreline impact is not expected with the current trajectory." *Id.* at 1-74. Shell's EP is incomplete because it fails to explain how it can recover all the oil to prevent shoreline oiling, especially given the limited resources the company will have available.

Shell's Plan is incomplete because it fails to describe the company's plans for responding to loss of or damage to its drilling rig.

In Alaska, OCSLA regulations require oil companies to describe their plans responding to the “loss or disablement of a drilling unit” 30 C.F.R. § 250.220(a). Yet, Shell limits its commitment to having an alternative relief well rig to exploration operations in previously un-penetrated hydrocarbon formations. “It is Shell’s expectation that this second rig will be in Alaska while exploratory drilling is underway in *previously un-penetrated hydrocarbon formations* below the surface casing point.” Revised Beaufort Spill Plan at 1-27 (emphasis added). Shell’s EP is incomplete because it does not provide information regarding an alternative drilling rig to drill a relief well in cases when Shell is drilling previously penetrated formations. BOEMRE requires EPs to include the company’s “arrangements for drilling relief wells.” NTL 2010-N06 at 3.

Shell's Plan is incomplete because it fails to describe the company's plans for responding to loss of or damage to its support vessels, including its ice breakers and oil spill response vessels.

In Alaska, OCSLA regulations require oil companies to describe their plans responding to the “loss of or damage to support craft.” 30 C.F.R. § 250.220(a). Shell does not explain how it will address the loss or damage to its support vessels.

- Shell’s proposal is incomplete because it could be jeopardized by a single point of failure. Shell is proposing to have only one oil storage tanker, constituting more than 90 percent of Shell’s oil storage capability. Revised Beaufort Spill Plan at A-12 – A-13. Yet, Shell never explains the company’s plans for storing oil if that single tanker is damaged or destroyed as OCSLA’s regulations require.
- Shell is planning to use an anchor handling/ice management vessel to support spill response. Revised Beaufort Spill Plan at A-2, *see also id.* at 1-89 (*Hull 247* constitutes Task Force-2 with a storage capacity of 13,000 barrels). Yet, Shell acknowledges that the vessel will be managing ice up to 38 percent of the time when within 25 miles of the drilling site. *Id.* at A-2. Shell includes this vessel’s skimming and storage capability in its spill response plan; if the vessel is damaged, Shell has insufficient skimming and storage capability 12 hours out of every day. *Id.* at 1-73.
- Shell does not explain to BOEMRE how it can maintain safe drilling and operating conditions if one of its ice breakers is damaged or lost. One of the most important aspects of Shell’s drilling plan is the need for ice management to prevent damage to the drill rig and ensure the safety of the drilling crews. *See* 75 Fed. Reg. 803, 804 (Jan. 6, 2010) (“Shell Exploration & Production Company indicated that it is highly likely that any allision or inability to identify, monitor or mitigate ice-related hazards that might be encountered [during Shell’s drilling] would result in a catastrophic event.”). Yet, the EP provides no explanation for responding to the loss of or damage to Shell’s ice support vessels, including precautions for protecting the *Kulluk* or the *Discoverer* from ice hazards without its icebreakers.

Shell's Plan is incomplete because it does not describe the new oil spill containment structure.

OCSLA regulations require Shell to describe any new or unusual technology it will use to carry out the proposed exploration activities. 30 C.F.R. § 250.213(d). The subsea capping and Arctic Containment System is new technology that has not been used in the Alaska Region, nor has it been used previously under the anticipated operating conditions. *See* 30 C.F.R. § 250.200. In fact, Shell has not even built this new system to know whether it will work in arctic conditions. However, Shell's EP fails to describe the technology, claiming "[t]here is no new or unusual technology proposed." EP at 2-4.

Shell's Plan is incomplete because neither it nor the Revised Beaufort Spill Plan include all of the NTL 2010-06 commitments Shell made related to oil spill prevention, source control, and containment.

Shell's EP and Revised Beaufort Spill Plan omit a description of:

- The installation of a second set of blind shear rams in the blowout preventer ("BOP") stack (prevention);
- The relocation of the BOP stack remotely-operated vehicle ("ROV") hot stab from the bottom of the BOP to the top in order to improve its availability (source control and containment);
- A redundant ROV hot stab panel on a seafloor sled located a safe distance away from the well, as a means to operate the BOP if the ROV hot stab panel on the BOP is inaccessible (source control and containment); and
- Redundant ROV and diver capability on a support vessel, along with launch and recovery systems for each.

Shell's Plan is incomplete because it fails to provide information sufficient for BOEMRE to comply with NEPA and other environmental laws.

The environmental impact analysis ("EIA") Shell includes with its Plan does not provide information necessary for BOEMRE to comply with NEPA and other environmental laws, as required by the agency's regulations. *See* 30 C.F.R. § 250.227; *id.* at 250.233(b). The EIA contains many summary and unsupported conclusions about the effects of Shell's proposed drilling, lacks site-specific analyses and details sufficient to allow BOEMRE to meaningfully assess the impacts of this proposed project, and does not incorporate the most up-to-date information about the region and its wildlife. Set forth below are examples of the missing information from the EIA that Shell must provide before BOEMRE deems its Plan complete:

- The EIA fails to analyze the effects of an oil spill larger than 48 barrels of oil from Shell's proposed drilling. Although Shell references an analysis of a large spill from a gravel island in an eight-year-old EIS prepared in connection with the sale of Beaufort Sea leases, EP,

App. F at 4-152 – 4-160, that analysis is insufficient for BOEMRE to comply with NEPA. For example:

- it does not provide information to enable BOEMRE to analyze a subsea oil spill;
 - it does not provide information to enable BOEMRE to analyze a spill lasting more than 15 days; and
 - it does not provide BOEMRE with project-specific trajectories based on contemporary data.
- The EIA fails to provide information about potential alternatives to Shell’s drilling proposal, for example avoiding drilling during the fall bowhead migration or employing different forms of sound mitigation.
 - The EIA fails to acknowledge or analyze a recent determination by the National Marine Fisheries Service that the area near the proposed drill-sites has special significance as a feeding site for bowhead whales during their fall migration.
 - The EIA does not include any analysis of potential harm to bowhead whale cow-calf pairs. Females with young are thought to be more responsive to noise and human disturbance, and yet the EIA does not consider the possible effects of disrupting their migration or deflecting their route away from an important feeding area.
 - The EIA does not explain when drilling will resume after the August 25th cessation of activities for the Nuiqsut and Kaktovik bowhead whale hunts. This information is important to assessing effect to migrating bowhead whales and other migratory species such as beluga whales.
 - Although it acknowledges that consideration of Shell and others’ planned Chukchi Sea drilling, EP, App. F. at 4-128, the EIA does not analyze the cumulative effects on migrating marine mammals such as bowhead whales of such concurrent drilling, *see id.* at 4-131 – 132, 4-135.
 - The EIA fails to analyze the air pollution impacts from Shell’s proposed drilling, stating only that the emissions will not harm health or the environment because the Environmental Protection Agency will regulate them. EP, App. F at 4-5. BOEMRE has an independent obligation to examine air pollutant impacts in the outer continental shelf, and Shell’s EIA must provide information to support this conclusion. 30 C.F.R. § 250.218. The EIA does not analyze black carbon emissions from Shell’s drilling or their effect on the environment.

Shell’s Plan is incomplete because it is missing additional information required by OCSLA regulations.

As with Shell’s prior submissions, Shell’s current EP suffers from varying forms of incompleteness ranging from missing citations to old data to illegible diagrams to misplaced descriptions and sections, which we trust the agency will identify and require Shell to remedy.

Nonetheless, based on a preliminary review, we detail below some of the more important of these other omissions:

- Shell’s EP does not include adequate mitigation measures that would “avoid or minimize” the take of bowhead whales, protected by the ESA and Marine Mammal Protection Act. 30 C.F.R. § 250.223(b). Despite its Marine Mammal Monitoring and Mitigation Plan, Shell acknowledges that its planned drilling within the bowhead whale migratory corridor could affect thousands of whales over the life of the project.
- Shell’s EP does not include data describing the onshore effects of the *Discoverer’s* air emissions in the Beaufort Sea required by OCSLA regulations. 30 C.F.R. § 250.218(f) (exploration plan must describe air modeling results); § 250.303(e) (applicant must determine the drilling’s contribution to onshore pollution levels); EP at 7-20 (providing information for *Chukchi Sea* but not Beaufort Sea).
- Shell’s EP does not include meteorological reports. 30 C.F.R. § 250.216(b); EP at 5-3 – 5-5.

For the reasons described above, BOEMRE cannot deem Shell’s Plan complete in its current form. It must require Shell to provide additional information on its oil spill planning, the environmental impacts of its proposed operations, and a number of other important issues under the OCSLA regulations. Further, BOEMRE should not deem Shell’s Plan complete until the agency has completed an analysis of the Plan under NEPA. Shell’s offshore vessel-based exploration drilling would be the first to proceed in the Arctic Ocean in nearly ten years and would be the first Arctic exploration drilling permitted since the *Deepwater Horizon* spill. It is critical that BOEMRE receive all the information necessary to fully analyze the proposal, its potential effects, and alternatives. Shell’s current submission falls short of providing that information, and it must be deemed incomplete.

Sincerely,

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