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Written Testimony for Oversight Hearing on "Arctic Resources and American Competitiveness"

United States House of Representatives, Committee on Natural Resources, Subcommittee on Energy and Mineral Resources
June 16, 2015

Good morning, Mr. Chairman and Members of the Committee. Thank you for the invitation to participate in today's hearing. My name is Michael LeVine, and I am Pacific Senior Counsel for Oceana. Oceana is an international, nonprofit, marine conservation organization dedicated to using science, law, and public engagement to restore and maintain the world's oceans. Our headquarters are in Washington, DC, and we have offices, staff, or affiliates in eleven states and twelve foreign countries. Oceana has more than 600,000 members and supporters from all 50 states and from 150 countries around the globe. Our Pacific work is headquartered in Juneau, Alaska, and, together, our Pacific staff has more than 150 years of experience working and living in Alaska.

The Arctic stands at the crossroads of the energy, economic, and environmental challenges facing this country. It is home to vibrant communities, provides important habitat for iconic wildlife, and helps regulate the world's climate. The Arctic region is also warming at twice the rate of the rest of the planet and is threatened by the impacts from potential offshore oil and gas activities. As Shell's ill-fated 2012 efforts and the *Deepwater Horizon* disaster unfortunately demonstrated, the pursuit of energy resources in increasingly remote and dangerous ocean waters creates significant risk for important marine resources. Good decisions, therefore, require comprehensive planning, preparedness, and a transparent balancing of costs and benefits.

Until and unless companies prove that they can operate safely, responsibly, and in a manner that protects the environment and opportunities for the subsistence way of life, they should not be allowed to drill for oil in the Arctic Ocean. The fundamental need for demonstrated response and responsibility creates an opportunity to show the world that comprehensive management, based on science and precaution, can provide what Americans want—science and safeguards before industrial activities, affordable energy, and a healthy environment.

In order to allow for this forward-looking, holistic management, government rules must keep pace with corporate innovation and desires. New requirements for spill prevention and response proposed by the Department of the Interior (DOI) reflect important but incremental improvement toward this goal. My testimony today will focus on the risks facing the Arctic Ocean, the need for comprehensive planning, and some of the new requirements proposed by DOI.

I. THE ARCTIC REGION IS UNIQUE AND THREATENED

Despite harsh conditions, the Arctic is home to vibrant communities and healthy ecosystems. The region is also threatened by a warming climate, ocean acidification, and potential large-scale industrial activities.

A. The Arctic Ocean

Thousands of people inhabit the Arctic region of the United States, which is entirely in Alaska. The majority of these residents consider themselves to be Alaska Natives and, for many, their culture is inseparable from subsistence, including: sharing food; teaching youth how to fish, hunt, and gather resources; and celebrating successful harvests.

Arctic waters also support some of the world's most iconic wildlife species, such as whales, polar bears, walrus, and ice seals. Each summer, millions of birds, including more than 100 species, migrate from nearly every corner of the world to feed and nest in the Arctic. More than 100 fish species live in the U.S. Arctic Ocean, including Arctic grayling, Arctic char, all five species of Pacific salmon, capelin, herring, and various species of cod and sculpin.

The Arctic region is warming roughly twice as fast as the rest of the world, and the scientific consensus is that this warming results from human-caused emissions of greenhouse gases. In part because the Arctic region plays a critical role in the global climate system and helps shape weather patterns in the northern hemisphere, the changes in the Arctic have implications for the rest of the world. Loss of sea ice cover in the fall is already associated with changing weather patterns across the northern hemisphere.

Carbon dioxide emissions are also causing ocean acidification. The Arctic is at particular risk from the effects of acidification, which is predicted to alter fundamentally Arctic Ocean ecosystems and may have substantial effects on the people and animals dependent on them.

B. Oil and Gas Activities in the U.S. Arctic Ocean

Since at least the 1970s, companies have thought that oil and gas might be produced from under the U.S. Arctic Ocean, and the federal government has advanced that interest. Oil companies spent billions of dollars in the 1980s and 90s purchasing leases and drilling exploration wells. These efforts were both controversial and unsuccessful, and the companies largely walked away from their investments. By 2000, no leases were owned in the Chukchi Sea and almost none in the Beaufort.

Corporate focus again returned to the U.S. Arctic Ocean in the 2000s. Between 2003 and 2008, more than three million acres of leases were sold in the Beaufort and Chukchi seas, and several companies, led by Royal Dutch Shell, began preparing for exploration. As in the previous decades, these efforts generated substantial controversy and have proven unsuccessful; no exploration wells have been completed on these leases, and companies' commitments again appear to be waning. In the Beaufort Sea, roughly half of the nearly 1.4 million acres of leases that were sold have been relinquished or have expired. In the Chukchi Sea, ConocoPhillips and Statoil have announced indefinite delays of their exploration programs. Only Shell continues to push forward aggressively.

These facts suggest that we might be on the downward side of a second boom-and-bust cycle for Arctic Ocean oil and gas. They also suggest that the potential for the Arctic Ocean to provide an amount of oil that is meaningful on a world scale might be overstated. OPEC nations currently

control more than 1,200 billion barrels of proven reserves, and there are roughly 280 billion barrels of proven reserves in non-OPEC nations. The federal government has estimated that the U.S. Arctic Ocean might contain as much as 23.6 billion barrels of technically recoverable oil and 104.4 trillion cubic feet of technically recoverable natural gas. Even if that is accurate, those reserves are unproven, and the total amount of crude oil is less than two percent of what is already proven in the world.

Moreover, offshore drilling in the United States—particularly in the Arctic Ocean—will not substantially affect the price consumers pay for gasoline. Nor will it make us significantly less dependent on foreign sources of oil.

C. Oil and Gas Activities Create Significant Risks for the Arctic Ocean

Offshore drilling activities create significant risks from both routine activities and disastrous events; these risks are amplified in the remote, dangerous, and unpredictable Arctic Ocean. The most apparent of these dangers, of course, is a catastrophic oil spill, which would have dramatic impacts on the people and wildlife in the Arctic region. For example, while acknowledging the "limited information" available upon which to make an assessment, the federal government has estimated that, "[f]or a catastrophic oil spill, it is assumed that two entire years of Arctic marine mammal subsistence harvests and one and one-half years of Bowhead whale harvests would be lost." Given the aftermaths of the *Exxon Valdez* and *Deepwater Horizon* spills, this estimate almost certainly understates the impact.

Even routine activities would introduce air, water, and noise pollution to sensitive and important marine ecosystems. Smaller spills are a near certainty, and produced waters, drilling muds, and cuttings can have toxic effects in the marine environment. Local residents and entities, including the North Slope Borough and Alaska Eskimo Whaling Commission, have expressed significant concern about the potential impacts of these discharges.

Although unusual, large marine oil spills during drilling operations cannot be considered rare or unforeseen occurrences. In 2010, the *Deepwater Horizon* exploded and sank, killing eleven people and causing millions of gallons of oil to spill, uncontrolled, into the Gulf of Mexico over 89 days. That disaster, though, is only the most vivid example. It followed other blowouts, including, among others: the 2009 Montara spill in New Zealand's Timor Sea; the 1979 Ixtoc I spill in the Gulf of Mexico; and the 1969 oil spill off the coast of Santa Barbara. Importantly, and unfortunately, the *Deepwater Horizon* disaster occurred on an exploration well, and it demonstrated the magnitude of the potential impact from a catastrophic accident during exploration.

The potential risk from a catastrophic accident is magnified by the fact that there is no proven method to respond to spilled oil in the Arctic. The National Commission on the BP *Deepwater Horizon* and Offshore Drilling found that "successful oil spill response methods from the Gulf of Mexico, or anywhere else, cannot simply be transferred to the Arctic." The National Academy of Sciences similarly determined that "no current cleanup methods remove more than a small fraction of oil spill in marine waters, especially in the presence of broken ice." As explained

below, traditional methods of recovery—booms and skimmers, in-situ burning, and dispersants—which are already of limited utility, are unlikely to be successful in the Arctic.

The significant lack of infrastructure in the U.S. Arctic would further hinder any response effort. Coast Guard Commandant Robert Papp explained that, "[t]here is nothing up there to operate from at present and we're really starting from ground zero" when it comes to available infrastructure. The Arctic is also remote and isolated; the nearest Coast Guard station is in Kodiak, roughly 1000 miles from the likely locations of oil and gas exploration, and the nearest deepwater port is Dutch Harbor. There are not hotels or other housing capable of accommodating thousands of responders. Nor is there an easy way to move equipment or personnel from one location to another.

The risks inherent in operating in the U.S. Arctic Ocean were unfortunately demonstrated by the series of mishaps and problems that befell Shell in its 2012 exploration efforts. Most spectacularly, Shell's drilling rig, the *Kulluk*, ran aground near Kodiak, Alaska after breaking free from a tow vessel in late December 2012. Shell had chosen to move the *Kulluk* across the Gulf of Alaska during December in order to avoid paying $6 million in Alaskan state taxes. A series of poor decisions contributed to the grounding, which the Coast Guard ultimately attributed to "inadequate assessment and management of risks…."

Among other problems, Shell also experienced significant difficulties with its drilling vessel, the *Noble Discoverer*, which dragged anchor in Dutch Harbor on its way to the Chukchi Sea and nearly grounded. Once in the Chukchi Sea, the *Noble Discoverer* was forced to detach from the bottom when a massive ice pack floated dangerously close; this action contributed to violations of the company's air pollution permits. There was a fire aboard the *Noble Discoverer* as the vessel made its way south from the Chukchi, and the vessel was towed to Seward, where it was boarded by the Coast Guard and investigated for pollution and safety violations. Eventually, the *Noble Discoverer* was "loaded onto a heavy lift vessel to be dry-towed to Asia," and Noble Drilling, Shell's contractor, was fined more than $12 million.

Shell's containment dome was tested in Puget Sound, Washington, under conditions that were far more moderate than those to which it could be subject in Arctic waters. Following the brief trial, the head of the Alaska office of the Bureau of Safety and Environmental Enforcement ("BSEE") reported that the dome had "breached like a whale" and that its top had been "crushed like a beer can."

The company's failures in 2012 resulted in a series of government investigations, reports, and fines. The new rule proposed by DOI is, at least in part, an effort to learn from the government and corporate failures in 2012.

II. PLANNING AND PREPAREDNESS SHOULD GUIDE DECISIONS ABOUT WHETHER AND UNDER WHAT CONDITIONS TO ALLOW OFFSHORE OIL AND GAS ACTIVITIES IN THE ARCTIC

Ultimately, allowing industrial activities like oil and gas leasing, exploration, and development amounts to a tradeoff—accepting risks that are certain for benefits that may or may not outweigh

them. The public at large bears the risks, while large, private companies, many of them foreign, stand to benefit the most from these activities. As companies consider the Arctic Ocean, the risks increase and the potential rewards are becoming less certain.

A full and fair evaluation of the potential costs and benefits must take into account all of those circumstances and should not be affected by the fact that companies have invested substantially to purchase leases or pursue exploration. Even if companies relinquish those rights—as they did in the 1990s—any oil that is there will remain. In the future, new technologies might allow for more profitable production, innovation might result in functional response techniques, and we might conclude then that the benefits of exploration or development is worth the risk. There is no compelling reason to try to force ourselves to that place now.

Instead, the federal government should focus on fundamental reform of the manner in which choices are made about whether and under what conditions to allow offshore oil and gas activities in the Arctic Ocean. Doing so requires obtaining needed science, demonstrating effective response, facilitating an open and transparent balancing of costs and benefits, identifying and protecting important ecological areas, and ensuring that decisions are consistent with the need to take action to address climate change.

As Chair of the Arctic Council, United States decisions about whether and under what conditions to allow exploration will be scrutinized by the rest of the world. We can use that opportunity to demonstrate leadership and provide a path toward responsibility, safety, and fairness.

III. DOI'S PROPOSED SAFETY AND PREVENTION RULE IS NECESSARY BUT NOT SUFFICIENT

DOI has proposed improving spill prevention and response requirements in the Arctic Ocean. The proposed rule reflects incremental improvement, but it does not take the place of necessary comprehensive planning or fulfill the clear need to preclude drilling activities until and unless spill prevention and response techniques have been demonstrated to be effective in Arctic Ocean conditions. With those caveats, it is clear that the new prevention and response rule is needed, the changes are warranted and should be implemented, and the rule can be improved.

A. DOI's Proposed Rule Includes Important Prevention and Response Requirements

The incremental changes proposed by DOI could help improve operations and reduce the risk from a catastrophic accident. In particular, the requirements for same season relief well capability, source control, pollution reduction, and planning are needed improvements.

1. Same Season Relief Well Capability

Currently, the only certain way to stop a blowout permanently is to drill a relief well. Given the risks inherent in exploring in the Arctic Ocean, the ineffectiveness of removal techniques, and the complete inability to undertake any response during large parts of the year, same season relief well capability is necessary to protect important ocean resources.

As explained below, surface control techniques, like capping stacks, clearly should be among the tools available to respond to a blowout. Capping stacks, however, are not equivalent to same season relief well capability and are not always successful. In the event that surface control methods, like a capping stack, do not work or cannot be deployed, a relief well would be needed to control the blowout. More specifically, a relief well could be the only way to control a well blowout in a number of scenarios, including when: debris is blocking access for well capping equipment; hazardous conditions at the surface make top kills unsafe; the use of other intervention techniques may exacerbate the blowout; capping the well may cause an underground or broached blowout; or an underground blowout occurs.

Moreover, even if a capping stack or other surface control equipment can be used to slow or stop a blowout, it is likely that a relief well will be needed to permanently kill the well. As was the case in the *Deepwater Horizon* disaster, it may be that a capping stack can be used to gain control of a well and that a relief well is needed to kill the well. Having both is neither redundant nor unnecessary.

Relief wells have been necessary to control and kill blowouts. For example, the 2013 Walter well gas blowout occurred 55 miles off the coast of Louisiana in 154 feet of water. A relief well was needed to permanently kill the well. This scenario also demonstrates that blowouts often can result in unsafe conditions or damage to the original drilling rig, requiring a second drilling rig to complete the relief well operations. In the Gulf of Mexico, there are hundreds of other transportable rigs; in the U.S. Arctic region, there may not be any. Relief well intervention has also been needed to control other blowouts in the Gulf of Mexico and around the world, including in Nigeria, Qatar, the Timor Sea, and Norway.

Moreover, given the fact that response operations are impossible for much of the year in the Arctic, it is important that operators maintain the ability to complete a relief well during the drilling season. After the open water season, ice, weather, and other conditions could make drilling a relief well impossible until the next summer—eight months later. Thus, if a capping stack could be effectively deployed, it would remain on the ocean floor throughout the winter—when there would be limited opportunity to maintain or even monitor it—until a relief rig became available.

It, therefore, makes sense to limit drilling operations in the Arctic Ocean to periods of time when the drilling rig and oil spill response systems can operate, minus the time required to drill a relief well before ice encroaches on the drill site. In other words, allowing companies to drill right up until the last feasible day creates unnecessary risk. A blowout that occurred near the end of the drilling season could flow unabated through the winter when no response is possible. Maintaining a window of time that would allow for a relief well to be completed and response to be mounted is a needed concession to the realities of operating in the harsh Arctic environment.

Requiring same-season relief well capability and seasonal limitations would bring the United States government more into alignment with best practices implemented in other Arctic nations and by local entities. Both Canada and Greenland have a two-rig drilling policy, both countries require that a relief well rig be located in the same area of drilling at the same time, and both

impose seasonal limitations. The North Slope Borough—the local government entity along the northern Chukchi and Beaufort Sea coasts—requires that operators maintain a relief well drilling plan that identifies alternative drilling rigs and relief well sites along with equipment that can be used in an emergency.

2. Source Control

As demonstrated during the *Deepwater Horizon* well blowout, Source Control and Containment Equipment (SCCE)—such as a capping stack, cap and flow system, and containment dome—can be used successfully to control a blowout. Requiring these tools to be available and designed, constructed, and proven to work in Arctic conditions can help mitigate the impacts of a blowout. The problems Shell encountered deploying its containment dome in calm waters in Puget Sound highlight the need for testing in Arctic conditions.

Without SCCE, operators would be forced to rely on tactics such as mechanical recovery, in-situ burning, and chemical dispersants that carry with them their own risks and operating limits and that are not likely to be successful. Arctic conditions would hamper the already limited effectiveness of these techniques and would create significant "response gaps"—periods of time in which the response tactic is ineffective or impossible to deploy because environmental conditions, such as sea ice, wind, and visibility, exceed operating limits.

After the *Deepwater Horizon* disaster, it was estimated that two to four percent of the spilled oil was collected using booms and skimmers. In the Arctic, even that estimate might be optimistic. Difficult weather and marine conditions would make it challenging or impossible to deploy boom and to operate skimmers. In-the-water tests in spring and fall 2000 off Prudhoe Bay showed that these techniques are not likely to be effective in the presence of even small amounts of ice.

In-situ burning could only be effective when wind, waves, temperature, visibility, and sea-ice coverage are moderate enough to allow for the deployment of equipment and ignition of the oil. The Nuka Research and Planning Group calculated that environmental conditions would preclude vessel-based in-situ burning 50 percent of the time in the Chukchi Sea and 54 percent of the time in the Beaufort Sea; aerial in-situ burning would be precluded 68 percent of the time in the Chukchi Sea and 72 percent of the time in the Beaufort Sea.

A similar response gap exists for air and vessel-based application of chemical dispersants. Even if they could be applied, dispersants may not be effective in the wake of an Arctic spill. A 2001 study "found that dispersants were less than 10% effective when applied to Alaska North Slope crude oil spilled on water at the temperature and salinity common in the estuaries and marine waters of Alaska." Chemical dispersants also may "dramatically accelerate dissolution of the more toxic components of the oil they disperse[], which may expose sea life to higher risk of toxic effects" and may themselves have toxic impacts on marine wildlife that consume them, either directly or through their prey.

3. Pollution reduction

As described above, Arctic Ocean ecosystems are unique and fragile; they support healthy populations of wildlife and are vitally important to communities. Offshore oil and gas drilling would introduce air, water, and noise pollution to this environment. In particular, drilling muds and cuttings can have toxic effects in the marine environment. Local residents and entities, including the North Slope Borough and Alaska Eskimo Whaling Commission, have expressed significant concern about the potential impacts of these discharges on marine mammals. The most effective way to protect sensitive marine environments and opportunities is to preclude operators from discharging drilling byproducts into the ocean.

DOI has the authority to impose these requirements. The Clean Water Act defines EPA's obligations with regard to water pollution. DOI has independent authority to ensure that operations are safe and protective of the marine environment.

4. Integrated Operations Plans

Shell's failed 2012 drilling season clearly evidenced the need for better planning, oversight, and appreciation of the complexities and difficulties of operating in the Arctic. The company's efforts to drill exploration wells that year resulted in a series of equipment failures, legal violations, fines, and, ultimately, the grounding of the *Kulluk* drill rig off an island near Kodiak, Alaska. Government investigations followed, and reports from DOI, the Coast Guard, and National Transportation Safety Board, among others, faulted Shell's planning and oversight.

In its review of Shell's 2012 Arctic operations, DOI found that the company's "difficulties have raised serious questions regarding its ability to operate safely and responsibly in the challenging and unpredictable conditions offshore Alaska." The report described the company's troubling lack of preparation for Arctic exploration; its significant problems with contractors; and a failure by Shell to understand the severity of the issues it faced in the region. Specifically, the report noted that "Shell entered the drilling season not fully prepared in terms of fabricating and testing certain critical systems and establishing the scope of its operational plans." Shell's challenges, the report continued, "indicate serious deficiencies in [its] management of contractors, as well as its oversight and execution of operations in the extreme and unpredictable conditions offshore of Alaska."

Among the requirements that came from DOI's investigation was that Shell prepare an "Integrated Operation[s] Plan" (IOP) that "describes its future drilling program and related operations." Given the risks and complexities of operating in the Arctic Ocean—and the clear conclusion that the most recent company to operate there did not appropriately plan for them—an IOP is one important tool to reduce risk. Companies should be required to plan holistically and should be held accountable to that planning.

B. The Additional Protections are Warranted

Much of the objection voiced to the proposed rule focuses on the potential cost and prescriptive nature of some of the requirements in the proposed rule. As explained above, this lens is not yet an appropriate one through which to evaluate potential exploration drilling in the Arctic Ocean. Until and unless companies can operate safely and without harming the health of the ecosystem

or opportunities for the subsistence way of life, exploration activities should not be permitted. Independent of their cost, DOI's proposed rules do not take the place of comprehensive planning or proven response capacity.

Ultimately, if oil and gas exploration is going to be allowed in sensitive, important, and remote locations like the Arctic, it should occur only with the commitment to do everything feasible to prevent and mitigate a catastrophic accident. Companies choosing to work in the Arctic Ocean, therefore, should expect to pay higher costs to address risks and protect the environment. It makes sense that regulatory compliance costs would be higher in the Arctic than in other places.

It is equally logical that the government should prioritize safety and protection of the Arctic marine environment. The rules DOI has proposed are one step in that direction, and if oil and gas activities are not profitable even with these incremental changes, perhaps it is not yet time to pursue them. Indeed, the companies seeking to explore in the U.S. Arctic Ocean are some of the largest and most profitable in the world. If oil and gas can be extracted safely and profitably under a government regime that ensures prevention, prioritizes safety, and protects the marine environment, industry has the resources, ingenuity, and acumen to figure out how to do so. The resource, if there, will still be there if and when it can be exploited safely and responsibly.

Further, it is important to differentiate new costs from requirements that are already in effect. For example, DOI has required Shell to meet several of the requirements outlined above. Shell will have to provide same-season relief well capabilities, stop drilling into hydrocarbon bearing zones with sufficient time to complete a relief well prior to ice encroachment, and provide containment capability, among other requirements. Codifying these important requirements will streamline the application process, and establishes consistent, clear, equitable requirements for all operators. Doing so, however, does not diminish the fact that these costs are already part of the baseline economic profile and included in industry estimates for Arctic OCS exploration. Nor does it account for the fact that multiple rigs can drill multiple wells concurrently or that prudent operators could share resources. Shell, for example, plans to use the *Noble Discoverer* and *Polar Pioneer* to drill wells simultaneously in the Chukchi Sea.

Companies and industry groups have complained that some of the requirements, like the same season relief well capability, are overly prescriptive and that the agency should fundamentally alter its approach to account for a recent National Petroleum Council (NPC) study. As an initial matter, the NPC report is heavily slanted toward input favoring reduced regulation and increased access to Arctic oil and gas reserves—at least nine of the thirteen "Arctic Research Study Leaders" represented industry interests.

More fundamentally, however, standards based solely on performance metrics, however, are insufficient in this context. Performance-based standards may be effective and efficient to address continuous, repeated needs, like reducing air or water pollution. They are not, however, appropriate for regulating low-probability, high-consequence events like major oil spills because there is not sufficient data or analysis of that data to create effective standards. For rare events like large oil spills, there simply are not enough data against which to measure companies' capabilities or the likely effectiveness of various response techniques. Thus, prescriptive rules—

like the requirement that an operator provide same season relief well capability—are the best way to ensure that response goals are met.

As DOI has proposed, a combination of prescriptive and performance-based standards is most likely to be effective. The prescriptive rules can function as minimum technological requirements subject to application by companies for alternative compliance that can be proven to exceed those requirements.

C. DOI's Proposed Rule Can be Improved

Though it reflects incremental and important improvement, DOI's proposed rule does not go far enough to address the significant concerns and risks associated with Arctic offshore drilling. Most fundamentally, until and unless companies can operate safely, responsibly, and without harming the health of the ecosystem or opportunities for the subsistence way of life, exploration activities should not be permitted. DOI could—and should—mandate that drilling activities not be considered until prevention and response techniques have been demonstrated to be effective in Arctic conditions. The agency has not done so.

Nor does the proposed rule satisfy the need for fundamental reform of the manner in which decisions about whether and under what conditions to allow offshore oil and gas activities. DOI has not modified in any meaningful way the planning and leasing regulations that govern the initial processes through which the agency makes those decisions. Those rules have not kept pace with changes in the industry, and they fail to provide effective guidance, reflect new agency culture, or incorporate updated analytical methodologies.

In that context, there are several specific improvements that would strengthen the proposed rule:

- Improve Oil Spill Response Plans and provide public review. The proposed rule includes some changes to Oil Spill Response Plans, but there is substantially more that should be done to ensure that operators are capable of responding to a worst-case discharge. Moreover, DOI should take advantage of the significant public interest and expertise in oil spill response by requiring that plans are subject to public review and comment.

- Make the IOP subject to review and approval. The proposed IOP process does not include any requirement for agencies to review or approve the IOP, and no public comment period is proposed. To ensure that the IOP is a meaningful exercise, increase accountability, and reduce redundancy, the IOP should be submitted along with a company's Exploration Plan and subject to the same approval/public review process.

- Require zero-discharge of drilling byproducts. Unless evidence can be marshaled to demonstrate that zero-discharge is impossible, it should be required. Such a policy is both feasible and desirable—industry agreed to zero-discharge in an earlier Conflict Avoidance Agreement in the Beaufort Sea. The burden of proof should be placed on the operator to demonstrate technical infeasibility in its Exploration Plan; that burden should not be placed on local residents to request no water pollution for every drilling project.

- Include a well control plan. Written well control plans and contracts with well control experts are industry standard, like other important practices, this minimum standard should be codified in regulation so short-cuts are not taken.

- Increase transparency. Unless there is a reason to withhold data, correspondence, or other information, it should be made available to the public. Relatively simple steps—like publishing letters, approvals, and data on agency websites and committing to accepting public comments on exploration and spill response plans—would go a long way toward building trust and, improving public confidence in government decisions

IV. CONCLUSION

Until and unless companies can operate safely, responsibly, and in a manner that protects the marine environment and opportunities for the subsistence way of life, exploration drilling should not be allowed. DOI's proposed rule is an important step, but it does not go far enough to require that spill response and prevention capability be demonstrated before drilling activities are contemplated. Nor does it take the place of the comprehensive planning need to guide future decisions about whether and under what conditions to authorize oil and gas activities in the Arctic. Moving forward, the United States has the opportunity to demonstrate leadership on the world stage by creating and implementing a proactive, precautionary vision for the Arctic region.