**Written Testimony of Erik Grafe**
**United States House of Representatives**
**Committee on Energy and Commerce**
**Subcommittee on Energy and Power**
**Hearing on H.R. ____,**
**"Jobs and Energy Permitting Act of 2011"**

**April 13, 2011**

Members of the Committee, thank you for the invitation to participate in today's hearing. My name is Erik Grafe, and I am an attorney with Earthjustice, a national non-profit public interest law firm founded in 1971 dedicated to protecting the magnificent places, natural resources, and wildlife of this earth, and to defending the right of all people to a healthy environment. I work and reside in Anchorage, Alaska. My work focuses on protecting the health of the Arctic and its people.

America's Arctic Ocean has sustained human communities for thousands of years and is home to some of the world's most iconic wildlife species, including polar bears, whales, and walrus. However, fundamental gaps exist in scientific understanding of the Arctic Ocean, and much of the data that exists is decades old. Further, global warming is transforming the region. Melting sea-ice is threatening species such as the polar bear and walrus with extinction and affecting subsistence activities like whaling that are central to the traditional way of life of the region's indigenous Inupiat communities. In recent years, offshore oil and gas activities have increasingly threatened the Arctic Ocean. These activities have been rushed forward without adequate baseline data to analyze and manage their effects, without adequate coordination among agencies, without adequate public involvement, and without adequate oil spill technology. As a result, the Inupiat people and others have often been forced to seek redress in the courts to ensure that their voices are heard and that environmental laws are followed. It is

time to reassess the way we make decisions about oil and gas activities in the Arctic Ocean, particularly in light of last spring's *Deepwater Horizon* oil spill. Rather than proceeding in a piecemeal, uncoordinated, and inadequately informed manner, the government should engage in a comprehensive planning process in which science and preparedness guide decisions about whether to allow industrial activities in the Arctic Ocean and, if so, under what conditions.

The bill that occasions today's hearing seeks to exempt offshore oil drilling in the Arctic Ocean from important protections of the Clean Air Act, one of the country's bedrock health laws, and to limit the public's right to participate in decisions that directly affect them. It is a transparent give-away to the oil industry. Since 2006, Shell Oil Company has tried unsuccessfully to push its way into exploration drilling in the Arctic Ocean. It has done so over the objections of communities and conservation organizations and despite an inability to comply with the Clean Air Act. We should not allow an end run around the important protections of the Clean Air Act. Rather than creating loopholes for oil companies—the same sort of loopholes that led to the *Deepwater Horizon* oil spill—Congress should allow the Environmental Protection Agency to do its job under the Clean Air Act and protect the health of the Arctic Ocean and its people.

My testimony today will provide a brief description of the exceptional values of the Arctic Ocean, the expansion of oil and gas activities in the region, and the need for an integrated, science-based management plan that protects the Arctic's people and wildlife before any new offshore drilling is considered in the region. I will also address the region's vulnerability to air pollution from offshore oil drilling, the importance of the Clean Air Act in protecting the Arctic and its people, and the principle reasons why the bill under consideration today should be rejected. Finally, I will address why Congress should be working to break our addiction to oil by

encouraging a transition to sustainable renewable energy future and providing incentives for the many jobs and health benefits such a future will bring, rather than seeking to weaken crucial health and environmental standards for offshore oil drilling.

## I. AMERICA'S ARCTIC OCEAN IS VIBRANT BUT VULNERABLE

### A. America's Arctic Ocean

America's Arctic Ocean has sustained human communities for thousands of years. The Inupiat people have lived in the region and depended upon intact ecosystems to provide resources—such as fish, whales, walrus, seals, and seabirds—to support subsistence since time immemorial. These communities continue to practice subsistence traditions, harvesting a significant amount of food from the ocean and land. These practices are essential to Inupiat people's identity and culture. For many residents of the Arctic, then, there is a direct connection between the continued health of the Arctic Ocean and the health of their food supply and culture. The Arctic Ocean is critical even for those who live in lower latitudes; it exerts a powerful influence over the earth's climate and acts as an air conditioner for the planet.

The Arctic Ocean is also home to some of the world's most iconic wildlife species. To the north, the Chukchi and Beaufort seas support marine mammals such as bowhead, gray, and beluga whales; Pacific walrus; spotted, bearded, ribbon, and ringed seals; and polar bears. Migratory species from around the globe—including gray, humpback, minke, and killer whales, and millions of seabirds, shorebirds, and waterfowl—take advantage of the burst of summer productivity in the Arctic for breeding, feeding, and rearing of their young. To the south, the Aleutian Islands ecosystem is one of the most vibrant, dynamic ocean environments in the world. With over 450 species of fish, tens of millions of seabirds hailing from every continent and representing more than 50 species, 25 species of marine mammals, and coral gardens that rival

the tropics, this rich and unique sea world is an international treasure. Between the Aleutian Islands and the Chukchi Sea lies the Bering Sea and Bristol Bay, home to some of the greatest salmon runs in the world.

Despite the cultural and biological significance of the Chukchi and Beaufort seas, there is a profound lack of basic scientific knowledge about the sea and the wildlife that inhabits it. Scientists lack basic scientific information about the abundance, distribution, migration, and role of almost all marine species in Arctic marine ecosystems. For example, data on the bowhead whale population structure, the fall migration through the Chukchi Sea, the amount of feeding in the Chukchi Sea in autumn, the summer use of the northern Chukchi Sea, and the general location in the lead system during spring migration are limited. Beluga whale feeding areas, late summer distribution, and fall migration patterns are poorly understood. Information on the distribution, abundance, age structure, population trends, and use of habitat is not available for fish populations in the Chukchi Sea. The current status of many marine and coastal bird species that use the Arctic Ocean is unknown or poorly understood.

As a result, scientists have a limited understanding of marine ecosystem structure and functioning in the Arctic. Even where basic information about the Arctic marine ecosystem exists, much of it is old or limited in scope. Studies designed to provide comprehensive information and understanding of the health, biodiversity, and functioning of Arctic marine ecosystems and the potential impacts of industrial activities were conducted 30 years ago pursuant to the Outer Continental Shelf Environmental Assessment Program. Much of the information is outdated for the rapidly changing Arctic, which greatly limits its usefulness in making decisions now.

While there is insufficient available scientific information about the Arctic Ocean to support ecologically sustainable development at this time, Arctic peoples have a wealth of local and traditional knowledge. However, mechanisms are generally lacking to make local and traditional knowledge accessible to agency managers or to integrate it effectively into the decision-making processes that affect Arctic ecosystems.

Compounding the lack of comprehensive, current data about the Arctic Ocean ecosystem, water temperatures and sea ice cover, which play important roles in Arctic marine ecology, are changing at a startling pace. Climate change is warming the Arctic nearly twice as fast as the rest of the world. In September 2007, the Arctic sea-ice extent hit a new record minimum that was 23 percent lower than the previous record low in 2005, 39 percent lower than the long term average from 1979-2000, and 50 percent below sea-ice conditions of the 1950s-1970s.[1] The sea-ice extent in the winter is also declining, as is the age and thickness of the ice that remains, while the length of the sea ice melt season is increasing.[2] The ice is melting far faster than projected by scientific models, with 2007 ice extent falling far below what any of the models projected for that year.[3] In fact the extent of Arctic sea ice loss in 2007 had already exceeded average scientific projections for 2050.[4]

Climate-related change, such as loss of sea ice cover, has profound effects on Arctic peoples, opportunities for the subsistence way of life, and Arctic marine ecosystems. Reduced ice cover makes fishing, hunting, and travel more difficult and unpredictable for Arctic peoples. Loss of sea ice also will have dramatic effects on many Arctic species. It almost certainly will result in a fundamental restructuring of the Arctic marine food web and may shift the flow of

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[1] *See* 73 Fed. Reg. 28212, 28220-21 (May 15, 2008).
[2] *Id.* at 28222-23.
[3] *Id.* at 28233 (Figure 7).
[4] *Id.* (2007 ice extent below model ensemble mean for 2050).

productivity from primarily benthic and ice-associated food webs to pelagic food webs. The reduction of sea ice also eliminates habitat for ice-dependent species such as walrus and polar bears. Loss of sea ice cover, the potential for seasonally ice-free conditions across the Arctic, and other climate-related changes are—and will continue to be—major stressors for many species in the Arctic. These changes may lead to local loss or extinction of species that cannot adapt to the rapidly changing conditions.

The Arctic is also projected to be one of the first regions to be affected significantly by increased ocean acidification. Roughly one-third of the carbon dioxide that is added to the atmosphere from the combustion of fossil fuels will dissolve into seawater. There, it reacts to form carbonic acid, which increases the acidity of the water. This reaction is accelerated in cooler, less saline waters such as those of the Arctic Ocean. The Arctic's ice cover has acted as a barrier to carbon dioxide absorption and has slowed acidification of the polar sea. But as sea ice disappears, the surface waters of the Arctic Ocean will likely absorb carbon dioxide from the atmosphere at higher rates. Acidification will fundamentally shift the biogeochemical cycling of the Arctic Ocean. Among the most immediate impacts will be to shellfish and other marine organisms that create their shells and other hard parts from calcium carbonate. Increasing acidity will also change the growth rates of photosynthetic phytoplankton, the toxicity of marine toxins, the availability of ammonia for uptake by marine plants, and the efficiency of respiration in fish and other marine organisms. Changes brought about by ocean acidification could outstrip the adaptive capacity of many Arctic marine species.

## B. Oil and Gas Activities in America's Arctic Ocean

Oil and gas activities are a relatively new phenomenon in America's Arctic Ocean. The first federal lease sale was held in this region just over thirty years ago, and even once the first

sales were held, activities proceeded very slowly. Over the past decade, however, even in the face of rapid climate change and gaps in basic scientific baseline data that prevent informed management decisions, the pace of oil and gas activities in the Arctic Ocean has increased dramatically. These oil and gas activities are large-scale industrial undertakings involving drill ships, seismic surveying vessels that shoot very loud air guns into the water every several seconds over large areas to map subsurface geology, ice-breakers, supply vessels, helicopters, and airplanes. This activity introduces noise pollution into the water, disturbing marine mammals and other species that depend on sound to navigate, communicate, and locate food. It introduces pollution into the air and into the ocean. Drilling for oil also, of course, introduces the risk of oil spills into the ocean, where ice, storms, darkness, and the Arctic's remoteness would make clean-up nearly impossible. Ironically, the increased interest in drilling for oil in the Arctic Ocean, with its accompanying risks, is partly related to easier access as sea-ice extent shrinks due to climate change.

The current expansion of oil and gas activities in the Arctic began in the 2002-07 Outer Continental Shelf Oil and Gas Leasing Program, which scheduled three sales in the Beaufort Sea. The 2007-12 Outer Continental Shelf Oil and Gas Leasing Program dramatically expanded the areas open to oil and gas leasing in the North Aleutian Basin, Chukchi Sea, and Beaufort Sea from approximately 9.4 million acres to 78 million acres. Pursuant to those plans, the Minerals Management Service (MMS), renamed the Bureau of Ocean Energy Management, Regulation and Enforcement (BOEMRE) following the 2010 *Deepwater Horizon* oil spill, held three separate lease sales in the Beaufort Sea that put more than 943,000 acres under lease to oil companies. In 2008, MMS held Lease Sale 193 in the Chukchi Sea and leased over 2.7 million acres to oil and gas companies. It was the first such sale in the Chukchi Sea since 1991, and

prior to the sale there were no active leases or wells in the sea. Numerous oil companies, including Shell, ConocoPhillips, and Statoil, have indicated that they will seek permits to conduct exploration drilling in the Arctic Ocean beginning as early as 2012.

Oil and gas expansion in the Chukchi and Beaufort seas has been rushed and uncoordinated. Many agencies have management responsibilities in the Arctic, including the Environmental Protection Agency (EPA), the National Oceanic and Atmospheric Administration (NOAA), the Fish and Wildlife Service (FWS), the U.S. Coast Guard, and BOEMRE. Yet these agencies have not coordinated their permitting of oil and gas projects in recent years, complicating assessment and mitigation of the impacts of these activities. As a result of agencies' failure to coordinate, use adequate science, or seek community input when reaching decisions about offshore drilling in the Arctic Ocean, local communities and others in many instances have been forced to seek redress in the courts to ensure their voices are heard and to enforce compliance with the law. For example, in 2007 and 2008, the Ninth Circuit Court of Appeals enjoined drilling in the Beaufort Sea pursuant to lawsuits filed by local government, Alaska Native, and conservation entities that identified flaws in MMS's analysis and disclosure under the National Environmental Policy Act (NEPA).[5] In 2009, the District of Columbia Circuit Court of Appeals vacated the 2007-2012 Outer Continental Shelf Leasing Program, finding that the Program's environmental sensitivity rankings were "irrational" and violated the Outer Continental Shelf Lands Act.[6] In 2010, the Alaska District Court remanded the environmental impact statement and enjoined drilling on leases issued pursuant to Chukchi Sea

[5] *See Alaska Wilderness League v. Kempthorne*, Nos. 07-71457, 07-71989, 07-72183 (9th Cir. July 19, 2007) (suspending exploration drilling program); *Alaska Wilderness League v. Kempthorne*, Nos. 07-71457, 07-71989, 07-72183 (9th Cir. Aug. 15, 2007) (order granting a stay of drilling pending adjudication of the case); *Alaska Wilderness League v. Kempthorne*, 548 F.3d 815 (9th Cir. 2008) (determining MMS failed to examine fully the potential impacts from drilling noise and disturbance on endangered bowhead whales and subsistence activities in violation of NEPA), *vacated and withdrawn*, 559 F.3d 916 (9th Cir. 2009), *dismissed as moot*, 571 F.3d 859 (9th Cir. 2009).

[6] *Ctr. for Biological Diversity v. U.S. Dept. of Interior*, 563 F.3d 466, 472 (D.C. Cir. 2009).

Lease Sale 193 after determining that MMS violated NEPA by failing to adequately address literally hundreds of instances of missing data about the sea and to analyze the effects of natural gas development.[7]

Shell's attempts to drill exploration wells in the Arctic Ocean illustrate well how shortcuts lead to bad agency decisions. Beginning in 2006, Shell Oil sought to obtain approval to drill in the Beaufort Sea, directly in the fall migration path of the endangered bowhead whale, the heart of Inupiat subsistence culture. Shell proposed to use two drill ships operating simultaneously, each accompanied by icebreakers and numerous other support vessels, to drill up to twelve exploration wells over three years. Despite the scale of the industrial undertaking, Shell sought to avoid preparation of an environmental impact statement or a public comment process for the project. MMS approved the exploration plan on the basis of an abbreviated environmental assessment, and, as described above, the Ninth Circuit stayed the drilling. In 2007, Shell also insisted on disaggregating emissions from its multiple drill sites to avoid having to apply technology controls to its ships under the Clean Air Act's Prevention of Significant Deterioration (PSD) program. When the Region 10 office of EPA issued minor source permits for Shell's proposed, the Environmental Appeals Board (EAB), an administrative body within the EPA set up to review the agencies decisions, remanded the permits for failing to meet the requirements of the Clean Air Act.[8] In 2008, Shell again tried to obtain minor source permits, but eventually withdrew the permits before the EAB could review them. For its plans to drill in 2010, which proposed operations in both the Chukchi and Beaufort seas and were in many ways larger in scale than its 2007 plan, Shell again sought approval from MMS without preparation of an environmental impact statement. And, although it applied to EPA for major source permits

[7] *Native Vill. of Point Hope v. Salazar*, 730 F. Supp. 2d 1009 (D. Alaska 2010).
[8] *In re Shell Offshore Inc., Kulluk Drilling Unit and Frontier Discoverer Drilling Unit*, OCS Appeal Nos. 07-01 and 07-02 (EAB, Sept. 14, 2007).

under the Clean Air Act, it still sought shortcuts, trying, for example, to postpone the time at which its drill ship became subject to regulation. EPA Region 10 issued two PSD permits to Shell in the spring of 2010, but the EAB determined that these permits violated the Clean Air Act and remanded them, finding "clearly erroneous" EPA's analysis of whether the Inupiat communities along the Arctic coast would experience disproportionately adverse health effects from drilling emissions and determining that EPA did not provide a "cogent, reasoned explanation of its" adoption of Shell's approach to determining when the drill ship become a stationary source subject to regulation.[9]

Shell continues to try to take shortcuts that skirt the law. In January of this year, after EPA Region 10 had been ordered to reconsider the air permits it issued to Shell, Shell pressed the EPA in filings with the EAB to exempt its operations from newly applicable health standards, such as the new nitrogen oxides ($NO_2$) ambient air quality standards, when it re-issues revised permits. In March of this year, Shell announced plans to use two drill ships to simultaneously drill up to four wells in the Chukchi Sea up to two wells in the Beaufort Sea each year in 2012 and 2013. This would be the biggest single drilling campaign the American Arctic Ocean has ever seen. Shell has applied to EPA for only a minor source permit for the drill ship it proposes to use in the Beaufort Sea, which would avoid the application of pollution control technology to the ageing ship.

The poor decisions described above can largely be ascribed to Shell's consistent attempts to take shortcuts and to limit the analysis of and public participation in permitting decisions. Agencies should not yield to Shell and others' pressure to skirt environmental laws in permitting offshore oil drilling; and this Committee should resist pressure to amend those laws to exempt oil

[9] *In re Shell Gulf of Mexico, Inc. & Shell Offshore, Inc.*, OCS Appeal Nos. 10-01 through 10-04 at 3, 8 (EAB, Dec. 30, 2010).

companies from their requirements. Permitting oil and gas activities to go forward without full compliance with existing environmental and health laws and without an adequate understanding of the Arctic Ocean ecosystem is risky and potentially devastating. Offshore oil exploration is loud, dirty, and large. It poses significant threats to the health of the Arctic Ocean. The most obvious and dramatic of these threats, as the world recently witnessed in the *Deepwater Horizon* tragedy, is a large oil spill in Arctic waters. A significant oil spill in Arctic waters could have crippling effects on the ecosystem, wildlife, and people in the Arctic. Spilled oil could kill or severely injure marine mammals including whales, seals, polar bears, walrus, seabirds, and fish, and could destroy now pristine waters and shorelines. It could render subsistence resources unusable for multiple years. All of these impacts likely would have a dramatic, negative effect on the people who depend on these animals and places. Further, there is no proven technology to clean up a spill in the remote, icy conditions of the Arctic Ocean, and a spill at the wrong time could gush for months under the winter sea-ice before attempts could be made to stop it.

Oil and gas activities also cause a substantial amount of noise in the Arctic marine environment, where marine mammals and fish rely heavily on sound to communicate and to locate food. In addition to bringing noisy icebreakers, drill rigs, and other vessels to the Arctic, oil and gas exploration involves shooting seismic guns to the ocean floor. These seismic surveys are used by the oil and gas industry to generate a picture of the offshore subsurface geology. The sounds they make are literally deafening. A single seismic air-gun blast is many times louder than a rocket launching and is comparable to a volcano erupting beneath the ocean. However, unlike a rocket launch or a volcanic eruption, these guns do not blast just once. They sound repeatedly over vast expanses of the Arctic Ocean for days, weeks, and even months at a time, and can be heard underwater from hundreds of miles away. The noise from seismic surveys can

disrupt important behaviors such as feeding, breathing, communication and social bonding of marine mammals within several miles of an active survey. In addition to the direct threats from oil spills, noise, and air pollution, oil and gas activities bring industrialization to a place where all facets of life traditionally have focused on a relationship with the land and sea. This industrialization continues to dramatically affect Arctic people.

Gaps in basic information about the Arctic Ocean severely hamper attempts to analyze and disclose the potential impacts of oil and gas activities in the region, let alone manage and mitigate them. As described further below, in the face of information gaps and in the absence of an effective way to clean up spilled oil in the Arctic Ocean, the government must not rush to permit offshore drilling in the Arctic; it must proceed cautiously and deliberately and obtain the information it needs to effectively manage the region to protect its people and wildlife.

## II. A COMPREHENSIVE SCIENCE-BASED PLANNING PROCESS THAT PROTECTS THE ARCTIC OCEAN AND ITS PEOPLE MUST PRECEED OIL DRILLING IN THE ARCTIC OCEAN

As described above, the Arctic Ocean is home to invaluable cultural and natural treasures. But it is also under tremendous stress from rapid climate change and, increasingly, oil and gas activities. In light of the large gaps in basic science about the region and the tremendous risks associated with oil drilling in the Arctic Ocean, the various government agencies responsible for managing the Arctic Ocean must coordinate more closely. Before oil drilling is considered in the Arctic Ocean, these agencies must understand the ecosystem, including how it is shifting due to climate change, and must ensure that, if drilling is allowed, a spill could be contained and cleaned in the Arctic's extreme remote, stormy, dark, and icy conditions. Without a better understanding of the ecosystem, it is not possible to make informed management decisions about whether, where, and how to permit drilling. Without proven effective means to

clean up an oil spill if one happens, it is irresponsible and deeply unfair to the Inupiat communities along the Alaskan coast to allow oil drilling in the Arctic Ocean.

## A. Comprehensive Research Plan

Working together, Arctic Ocean resource management agencies, including NOAA, FWS, EPA, BOEMRE, and the U.S. Geological Survey (USGS), must undertake a comprehensive research program that provides the basic information required to protect the resources and subsistence activities of the Arctic. The research program could be similar to the Outer Continental Shelf Environmental Assessment Program undertaken some 30 years ago.

Over the past several years, a widespread consensus has developed, that there are major gaps in our basic understanding of the Arctic Ocean, and that this lack of data hinders informed management of the region.

- In January 2011, the National Commission on the BP *Deepwater Horizon* Oil Spill and Offshore Drilling stated in its final report: "Scientific understanding of environmental conditions in sensitive environments . . . in areas proposed for more drilling, such as the Arctic, is inadequate. The same is true of the human and natural impacts of oil spills."[10] In light of these concerns, the Commission recommended "an immediate, comprehensive federal research effort to provide a foundation of scientific information on the Arctic (with periodic review by the National Academy of Sciences), and annual stock assessments for marine mammals, fish, and birds that use the Beaufort and Chukchi Seas."[11] The report

[10] National Commission on the BP *Deepwater Horizon* Oil Spill and Offshore Drilling, Deep Water The Gulf Oil Disaster and the Future of Offshore Drilling Report to the President at vii (January 2011) (Spill Commission Report), *available at* http://www.oilspillcommission.gov/final-report; *see also id.* at 301 ("Environmental and biological conditions are at least as well understood along the Atlantic coast as in the Gulf—and there are also important facilities, such as Coast Guard installations in place; in contrast, equivalently detailed geological and environmental information does not exist for the Arctic exploration areas of greatest interest for energy exploration—and industry and support infrastructures are least developed, or absent, there.").
[11] *Id*. at 303.

concludes that specific information should be gathered through research "with specific timeframes in mind in order to inform the decision-making process."[12]

- In July 2010, the Interagency Ocean Policy Task Force stated in its final report that one of the priority needs for addressing environmental stewardship of the rapidly changing Arctic Ocean is "[i]mprovement of the scientific understanding of the Arctic system and how it is changing in response to climate-induced and other changes."[13]
- In May 2010, Secretary Salazar canceled the remaining Arctic leases sales in the 2007-12 Outer Continental Shelf Leasing Program, stating "that the country must take a cautious approach in the Arctic, and gather additional scientific information about resources, risks, and environmental sensitivities before making decisions about potential future lease sales in frontier areas."[14] He directed the USGS to conduct an evaluation of scientific needs in the region "[t]o better understand the resilience of Arctic coastal and marine ecosystems to potential OCS resource extraction activities."[15]
- Also in May 2010, the U.S. Arctic Research Commission stated: "Fundamental baseline scientific information is lacking for living resources in . . . much of the region, and basic biological aspects, such as the ecology of the area, and the spatial habitat of flora and fauna that might be at risk from spills are poorly known."[16]
- In September 2009, the NOAA stated in comments on the Bush Administration's proposed 2010-15 Outer Continental Shelf Leasing Program for: "NOAA believes that no leasing

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[12] *Id*. at 303.
[13] Council on Environmental Quality, Final Recommendations of the Interagency Ocean Policy Task Force at 40 (July 19, 2010), *available at* http://www.whitehouse.gov/files/documents/OPTF_FinalRecs.pdf.
[14] Department of the Interior, Fact Sheet, A Comprehensive, Science-Based Offshore Energy Plan at 1 (May 27, 2010), *available at* http://www.doi.gov/deepwaterhorizon/loader.cfm?csModule=security/getfile&PageID=33566.
[15] *Id.*
[16] U.S. Arctic Research Commission, White Paper, U.S. Arctic Research Commission Recommends Steps to Expanded U.S. Funding for Arctic/Subarctic Oil Spill Research– Final Draft at 2 (May 26, 2010), *available at* http://www.arctic.gov/publications/usarc_oilspill_5-26-10.pdf.

should occur in the Arctic Sea [sic] under this proposed plan until additional information is gathered and additional research is conducted and evaluated regarding oil spill risk; adequate response and preparedness to spills in the Arctic; and possible human dimension impacts on Alaska Native cultures from oil and gas exploration activities and potential oil spills."[17] It noted that "[t]here are also gaps in our understanding of how some species utilize habitat in the Arctic and how behavioral responses to seismic airguns may or may not exclude marine mammal from these habitats, particularly in the face of potentially increasing levels of exploration and development."[18]

- In August 2009, the North Pacific Fishery Management Council voted to implement the Fishery Management Plan for the Arctic, which closed the Arctic Ocean management area to commercial fishing "until sufficient information is available to support the sustainable management of a commercial fishery."[19] The Council stated further that "[v]ery little is known of [Arctic] marine fish distribution, abundance, diversity, or habitat use patterns in the winter,"[20] that "[i]n 2008, data were scarce for estimating the abundance and biomass of fishes in the Alaskan Arctic,"[21] and that "[f]urther information and work is necessary to determine the extent to which benthic and pelagic food webs may be linked in the Alaskan Arctic as they are in the Bering Sea."[22]
- In environmental impact statements prepared in connection with oil and gas lease sales in the Arctic Ocean under prior Outer Continental Shelf Leasing Programs, BOEMRE repeatedly

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[17] National Oceanic and Atmospheric Administration (NOAA), Comments on the U.S. Department of the Interior/Minerals Management Service Draft Proposed Outer Continental Shelf Oil and Gas Leasing Program for 2010-2015 at 5 (Sept. 9, 2009).
[18] *Id.* at 9.
[19] North Pacific Fishery Management Council, Fishery Management Plan for Fish Resources of the Arctic Management Area at ES-1 (Aug. 2009).
[20] *Id.* at 43.
[21] *Id.* at 9.
[22] *Id.* at 58.

acknowledged that gaps in basic science about the Arctic Ocean hinder the agency's assessment of the effects of oil and gas activities there. For example, MMS stated in the final environmental impact statement for Chukchi Sea Lease Sale 193 the lack of data on "marine mammal distributions and habitat use in offshore areas of the Chukchi Sea," prevented it from determining the potential level of effects oil and gas development could have on marine mammals.[23] A draft supplemental environmental impact statement for the lease sale, prepared pursuant to a court-ordered reconsideration of the leases, required a 140-page appendix to chronicle the instances in the original environmental impact statement in which MMS acknowledged that it did not have data potentially relevant to the effects of oil and gas activity in the sea.[24] Similar data gaps exist for the Beaufort Sea.[25]

Agencies that manage the Arctic Ocean should work together to obtain baseline data for the region. They should undertake a research program designed to provide comprehensive data on the health, biodiversity, and functioning of Arctic marine ecosystems and the potential impacts of industrial activities there. A comprehensive effort to study the ecosystem as a whole and to integrate or comprehensively synthesize the more-focused studies that are ongoing in the Arctic Ocean is needed.

Any future comprehensive study program must consider traditional knowledge and wisdom of indigenous communities along the coast of the Arctic Ocean that have lived and

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[23] Bureau of Ocean Energy Management, Regulation and Enforcement (BOEMRE), Chukchi Sea Planning Area Oil and Gas Lease Sale 193 in the Chukchi Sea, Alaska, Draft Supplemental EIS, OCS EIS/EA BOEMRE 2010-034 at App. A (Sep. 2010).

[24] BOEMRE, Chukchi Sea Planning Area, Oil and Gas Lease Sale 193 in the Chukchi Sea, Alaska, Draft Supplemental Environmental Impact Statement, OCS EIS/EA BOEMRE 2010-034 (Sep. 2010) at App. A.

[25] *See, e.g.*, Minerals Management Service (MMS), Environmental Assessment, Proposed OCS Lease Sale 202 Beaufort Sea Planning Area, OCS EIS/EA MMS 2006-001 at 28 (August 2006) ("Information on current distribution and abundance (e.g., density per square kilometer) estimates, age structure, population trends, or habitat use areas are not available or are outdated for fish populations in the western Beaufort Sea."); 109 ("Quantitative data is lacking that specifically addresses the potential cumulative impacts of development on polar bears and the effects of disturbance related to human activities on polar bear-habitat use, as well as recruitment and survival."); 56 ("With the limited background information available regarding large oil spills in the offshore arctic environment, the outcome of a large oil spill is uncertain.").

hunted in the region for millennia. Traditional knowledge can help fill some of the gaps in our understanding of Arctic ecosystems as well as guide future efforts to collect necessary information. Outreach to local communities, governments, tribes, co-management organizations, and other Alaska Native organizations is one way of incorporating not just knowledge, but the holders of that knowledge into the decision-making process. In recent years, an increasing amount of research has focused on traditional knowledge in the Arctic. Major projects, such as the Arctic Council's Arctic Climate Impact Assessment, have incorporated traditional knowledge in efforts to understand what is taking place in the region. Nonetheless, there is much more to be done to make the knowledge of Arctic peoples more widely available, such as incorporating traditional knowledge in management processes that directly impact people.

Some of the mechanisms for such an integrated approach are already being developed. For example, on July 19, 2010, President Obama signed Executive Order 13547, which established a National Policy for the Stewardship of the Ocean, our Coasts, and the Great Lakes.[26] Among other things, the executive order established the National Oceans Council and adopted the Final Recommendations of the Interagency Ocean Policy Task Force. Those recommendations identified changing conditions in the Arctic as one of nine national priority objectives and called on the Council to develop a strategic action plan to address environmental stewardship needs in the Arctic Ocean and adjacent coastal areas in the face of climate-induced and other environmental changes.[27] The National Ocean Council's Arctic strategic action plan can and should set out a plan for an integrated approach to attaining a better understanding of the Arctic Ocean.

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[26] 75 Fed. Reg. 43,023, 43,023 (July 22, 2010).
[27] Council on Environmental Quality, Final Recommendations of the Interagency Ocean Policy Task Force at 6 (July 19, 2010), *available at* http://www.whitehouse.gov/files/documents/OPTF_FinalRecs.pdf.

If the federal government commits to comprehensive, long-term research and monitoring in the Arctic Ocean, managers will be in a much better position to determine if, when, where and how industrial activities should occur. A comprehensive research and monitoring program could be conducted in three simple phases over the next five to seven years: (1) gap analysis and planning (2011-2012); (2)research and monitoring (2013-2016, with monitoring continuing into the future); and (3)integrating new and older information to provide decisions-makers the basic understanding needed to make effective decisions (2016-2017). As described above, each of these phases must be informed by local and traditional knowledge, including planning and peer-review. The basic understanding garnered by this program would enable managers to determine if, when, where, and how industrial activities should occur, and could facilitate the identification of alternatives that may allow for development while protecting the ecosystem and subsistence way of life.[28]

## B. Oil Spill Prevention, Containment, and Cleanup

In addition to a comprehensive effort to gather missing baseline data to guide management decisions in the Arctic Ocean, advances must be made in oil spill prevention and clean-up infrastructure and technology before oil drilling is permitted in the Arctic Ocean. Last spring's *Deepwater Horizon* oil spill tragically demonstrated the consequences of a large oil spill and the limits of containing such a spill, even in the relatively benign conditions of the Gulf of Mexico. As the final report of the National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling made clear, a large spill in the Arctic Ocean would be even more difficult

[28] President Obama and Secretary Salazar have directed the U.S. Geological Survey to assess information gaps and "environmental sensitivities in Arctic areas." *See* Secretary Salazar Unveils Arctic Studies Initiative that will Inform Oil and Gas Decisions for Beaufort and Chukchi Seas, *available at* http://www.doi.gov/news/pressreleases/2010_04_13_releaseA.cfm. This review of Arctic science is a good first step and could form the basis for a comprehensive gap analysis and subsequent development of a research and monitoring plan.

to contain and clean up. In its report, the Commission expressed "serious concerns about Arctic oil-spill response, containment, and search and rescue."[29] The Commission Report explained: "The remoteness and weather of the Arctic frontier create special challenges in the event of an oil spill."[30] It specifically cautioned that "[s]uccessful oil-spill response methods from the Gulf of Mexico, or anywhere else, cannot simply be transferred to the Arctic."[31] For example, the Commission explained "[s]pill trajectory and weather models based on Arctic conditions must [] be developed."[32]

Additionally, the Commission expressed concerns that "[c]urrent federal emergency response capabilities in the region are very limited."[33] The Report noted that "[t]he Coast Guard does not have sufficient ice-class vessels capable of responding to a spill under Arctic conditions: two of its three polar icebreakers have exceeded their service lives and are non-operational" and that "[w]ithout a presence in the Arctic, it would be very difficult for the Coast Guard to conduct any emergency search and rescue operations."[34] These and other concerns echo the problems identified by communities, conservation groups, and others in recent years.[35]

In light of these concerns, the Commission made three recommendations for action *before* the government "makes a fully informed determination that drilling in a particular area is appropriate."[36] First, the government should ensure that the spill response plans proposed by industry are adequate for each stage of development and that the underlying financial and

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[29] Spill Commission Report at 304.
[30] *Id*. at 303.
[31] *Id*.
[32] *Id*. at 304.
[33] *Id*.
[34] *Id*.
[35] Indeed, a recent oil spill in Norway when a container ship, the "Godafoss", ran aground off of Norway's southern coast on February 17 demonstrates the immense difficulties of cleaning up oil in the icy conditions that prevail in the Arctic Ocean. *See* APRN, Cleanup Slow Going in Norway Spill (Feb. 28, 2011), *available at* http://eyeonthearctic.rcinet.ca/en/news/norway/85-environment/745-cleanup-slow-going-in-norway-spill.
[36] Spill Commission Report at 304.

technical capabilities have been satisfactorily *demonstrated* in the Arctic.[37] Second, the Coast Guard and the oil companies operating in the Arctic "should carefully delineate their respective responsibilities in the event of an accident, including search and rescue, and then . . . build and deploy the necessary capabilities."[38] Third, Congress should provide "the resources to establish Coast Guard capabilities in the Arctic, based on the Coast Guard's review of current and projected gaps in its capacity."[39]

The Commission's recommendations bolster the conclusion that decisions to allow drilling in the Arctic Ocean are premature given the state of our baseline understanding and ability to respond to a major oil spill. Certainly, before dangerous oil drilling is considered in the Arctic Ocean, a comprehensive research plan needs to be undertaken to gather information about the region that can form the basis of informed management decisions about whether, where, and how to permit oil drilling in the Arctic Ocean.

## III. THE CLEAN AIR ACT IS VITAL TO PROTECTING THE ARCTIC AND ITS PEOPLE

As described above, it is premature to consider drilling for oil in the Arctic Ocean. However, if drilling is considered, it is essential that those decisions be made considering only activities subject to the full protections of the Clean Air Act.

### A. The Arctic is Particularly Vulnerable to Air Pollution

If not properly regulated, air pollution in the Arctic could have dramatic adverse effects on the health of the region's indigenous Inupiat communities and can accelerate already dramatic climate change in the region, with potentially global implications.

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[37] *Id*.
[38] *Id*.
[39] *Id*.

As described above, the Inupiat have a long and vibrant heritage of relying upon the abundant marine life in this area to feed their people. Their subsistence way of life is the basis of their culture and critical to the Inupiat diet. The rush to discover marketable oil and gas resources, develop new shipping routes, and otherwise access the American Arctic Ocean threatens dramatic adverse impacts on Inupiat culture and the fragile environment upon which the culture is based. Air pollution from increased industrial activity, particularly oil and gas activity, is a primary concern, because operations that pollute the air and water also contaminate the food sources upon which the Inupiat rely and threaten their health.

Communities along the North Slope of Alaska have markedly higher rates of pulmonary disease than the general U.S. population, and may have genetic predispositions to disease that differ from other U.S. populations. As abundant public health data has demonstrated, the Inupiat are substantially more vulnerable to morbidity and mortality from air pollution than are other Americans. For example, rates of chronic lung disease on the North Slope are dramatically higher than in the general U.S. population.[40]

As EPA and other federal agencies have acknowledged, the Arctic and its people are also particularly vulnerable to the effects of climate change, and the region is warming faster and changing more precipitously than most other regions in the world.[41]

Climate change is already harming Arctic communities and thousand-year-old Alaska Native cultural traditions. "Among the most profound changes is the loss of sea ice, which is at the lowest levels in 800 years."[42] This loss of sea ice has caused subsistence hunters to "travel farther across thinner ice, and sometimes open seas, to access the animals" on which they

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[40] MMS, Beaufort Sea and Chukchi Sea Planning Areas Oil and Gas Lease Sales 209, 212, 217, and 221 Draft Environmental Impact Statement, OCS EIS/EA MMS 2008-0055 (2008 DEIS) at 3-232 (Nov. 2008).
[41] *See, e.g.*, 74 Fed. Reg. 66,496, 66,535 (Dec. 15, 2009).
[42] Anne E. Gore, *Broken Promises: The Reality of Oil Development in America's Arctic*, (Broken Promises) at 41 (2009) *available at* http://wilderness.org/files/Broken-Promises-Report.pdf.

depend, and has even directly harmed populations of animals that serve as subsistence resources.[43] Available methods of processing and storing subsistence resources are already growing less effective as "ice cellars are melting and food spoilage is becoming more common."[44] This harm to subsistence resources endangers the welfare of the Inupiat people, because of the central role these resources play in community health and cultural traditions. Subsistence diets are high in health-promoting nutrients, while "[r]eplacement of subsistence foods with store-bought foods in Alaska Native communities increases the risk of 'metabolic disorders' such as hypertension, diabetes, and high cholesterol and the common complications of these disorders, such as cardiovascular disease and strokes."[45] "The loss of sea ice, coupled with melting permafrost, is also accelerating coastal erosion, forcing communities to relocate, and threatening habitat for waterfowl, and caribou, which are also important food sources for indigenous people."[46] If the fundamental role of subsistence is displaced by industrial development in the region, very significant increases in obesity and diabetes in the impacted communities would be predicted to follow.

The rapidly warming Arctic also threatens with extinction iconic ice-dependent species that call the Arctic Ocean home. The Department of Interior has found the polar bear threatened with extinction and listed it under the Endangered Species Act. The primary threat to the species

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[43] *Id.*
[44] 2008 DEIS at J-23.
[45] *Id.* at J-14; *see also generally* S.O. Ebbesson et al., *Diabetes is Related to Fatty Acid Imbalance in Eskimos*, 58 International J. of Circumpolar Health 108 (1999); R. Shephard & A. Rode, The Health Consequences of Modernization: Evidence from Cirumpolar Peoples (1996); T. Curtis et al., *Changing Living Conditions, Lifestyle, and Health*, 64 International J. of Circumpolar Health 442-450 (2005); M. Jorgensen et al., *Diabetes and impaired glucose tolerance among the Inuit of Greenland*, 26 Diabetes Care 1766 (2002); B. Zinman, *Diabetes in indigenous populations: genetic susceptibility and environmental change*, *available at* http://www.d4pro.com/idm/site/vol_16,_no_1,_2004.htm; S Ebesson et al., *Diabetes and impaired glucose tolerance in three Alaskan Eskimo Populations*, 21 Diabetes Care 563 (1998); P. Hogan et al., *Economic Costs of Diabetes in the U.S. in 2002*, 26 *Diabetes Care* 917 (2003).
[46] Broken Promises at 41.

is the climate-change induced melting of the Arctic sea ice.[47] Interior has also deemed the Pacific walrus, another ice-dependent species that calls the Arctic Ocean home, to be threatened with extinction because of rapid climate change.[48]

Protecting the Arctic and its people from air pollution that directly threatens human health, the health of subsistence resources, and causes or contributes to already rapid climate change is therefore of the highest concern.

**B. Air Pollution from Offshore Oil Drilling is a Major Concern**

Offshore oil drilling is a large industrial undertaking that emits tons of pollution harmful to human health and the environment. Although millions of acres have been leased to oil companies in the last decade, there has been almost no new exploration drilling in the Arctic Ocean over that period. However, there is immense pressure by industry to start drilling: Shell has said it wants to drill up to four wells in the Chukchi Sea and two wells in the Beaufort Sea using two different drill ships to drill simultaneously in each sea starting as early as 2012, and ConocoPhillips and Statoil also have announced that they intend to drill in the Chukchi Sea starting as early as 2013.

The scale of the industrial activity at issue in these drilling plans is well illustrated by plans Shell proposed in 2010 to conduct exploration drilling in the Chukchi and Beaufort seas.

Shell's proposed exploration program was a massive industrial undertaking. Shell planned to conduct its drilling in both the Chukchi and the Beaufort seas using the 514-foot-long, ice-reinforced drill ship *Frontier Discoverer*, which would be affixed to the seafloor using eight, seven-ton anchors. The *Discoverer* would be accompanied by a fleet of large vessels comprised of an ice-management vessel, an anchor-handling vessel, a supply vessel, a berthing vessel, at

[47] 73 Fed. Reg. 28212 (May 15, 2008).
[48] 76 Fed. Reg. 7634 (Feb. 10. 2011).

least two oil-response vessels, and other work boats. Frequent helicopter and fixed-wing aircraft trips and the establishment of shore-bases at Wainwright, Barrow, and Deadhorse would support the drilling operations.

Shell's proposed 2010 operations would have potentially emitted thousands of tons of pollution into the air, including particulate matter, sulfur dioxide, nitrogen oxide, and carbon monoxide, all of which threaten human health.[49] The lion's share of Shell's pollution—between 75 and 96 percent of the total of each regulated pollutant—would have been emitted not by the drill ship itself but by the vessels supporting that ship, like the ice-breakers.[50]

To put the operations in context, Shell's 2010 Chukchi Sea drilling alone would have released as much particulate matter ($PM_{10}$) pollution as over 825,000 cars driving 12,000 miles in a year.[51] With numerous companies holding leases in the Arctic Ocean, it would be possible to envision as many as 2-3 separate drilling operations per year. This could equate with the emissions of over 2 million cars driving 12,000 miles a year, all within the short, open-water drilling season. Shell's operations would have emitted high levels of fine particulate matter, a major health and, through black carbon, global warming concern. For example, its Beaufort Sea operations had the potential to emit 57 tons per year of fine particulate matter ($PM_{2.5}$). These emissions could almost double the short-term level of fine particulate matter in the coastal community of Kaktovik. However, even these estimates may not even fully have reflected Shell's potential emissions of fine particulate matter, because the EPA did not analyze secondary fine particulate matter formation from emission such as nitrogen oxides ($NO_X$), and

[49] Environmental Protection Agency (EPA), Region 10, Statement of Basis for Proposed OCS PSD Permit No. R10OCS/PSD-AK-09-01, Shell Gulf of Mexico Inc., Frontier Discoverer Drillship, Chukchi Sea Exploration Drilling Program (Jan. 8 2010) (Chukchi Statement of Basis), App. A at A-1.
[50] *Id.*
[51] EPA estimates that the average passenger car emits .14 pounds of particulate matter ($PM_{10}$) per year. EPA Office of Transportation, Emission Facts – Average Annual Emissions and Fuel Consumption for Gasoline-Fueled Passenger Cars and Light Trucks (EPA420-F-05-022) (August 2005), available at https://www.whatcomsmarttrips.org/pdf/Emission%20Facts%202005.pdf.

Shell's Beaufort Sea operations had the potential to emit over 1,371 tons per year of nitrogen oxides ($NO_X$), potentially allowing concentrations to reach more than 78 percent of the applicable air quality limit. Shell's operations also had the potential to emit 94,000 tons of $CO_2$—roughly equivalent to the annual household $CO_2$ emissions of 21,000 people, or roughly three times the entire population of the North Slope Borough.[52]

Shell's emissions from its proposed 2010 operations would have been potentially harmful to the health of residents in Arctic coastal communities. Its emissions of nitrogen dioxide, $NO_2$, for example, was a major cause for concern. Studies indicate an association between nitrogen dioxide and lung function. A Southern California Children's Study "showed that lung function levels among nine to 16 year old children were lower in communities with higher $NO_2$ concentration."[53] Studies as a whole indicate that even short-term spikes in concentrations can prompt additional emergency department visits and hospital admissions for "asthma, bronchitis and emphysema . . . , pneumonia, [and] upper and lower respiratory infections . . . ." 74 Fed. Reg. 34,404, 34,413 (July 15, 2009). Further nitrogen dioxide reacts with other compounds to form other harmful pollutants, like fine particulate matter and ozone.

Shell's emissions of fine particulate matter ($PM_{2.5}$) were also of concern. Shell proposed operations would have almost doubled fine particulate matter concentrations in Kaktovik and could have caused fine particulate matter levels to reach 83 percent of the National Ambient Air Quality Standards in the Beaufort Sea and 84 percent of the air quality standards in the Chukchi Sea. This is worrisome because fine particulate matter pollution can cause negative health effects. Fine particulate matter pollution can get deep into the lungs, and may even get into the

[52] Shell Offshore Inc., Outer Continental Shelf Pre-Construction Air Permit Application, Frontier Discoverer, Beaufort Sea Exploration Drilling Program at 98 (Jan. 2010); United States EPA, Climate Change – Greenhouse Gas Emissions, In the Home, *available at* http://www.epa.gov/climatechange/emissions/ind_home.html.
[53] World Health Organization, Health Aspects of Air Pollution with Particulate Matter, Ozone and Nitrogen Dioxide at 49 (Jan. 2003).

bloodstream. Exposure to such particles can affect both lungs and heart. According to EPA, numerous scientific studies have linked particulate pollution to a variety of problems, including: increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing; decreased lung function; aggravated asthma; development of chronic bronchitis; irregular heartbeat; nonfatal heart attacks; and premature death in people with heart or lung disease. Particulate matter pollution is most likely to affect people with heart or lung diseases, children, and older adults. However, even healthy people may experience temporary symptoms from exposure to elevated levels of particle pollution. A World Health Organization working group has found that current ambient levels of particulate matter pollution in Europe could "lead to a marked reduction in life expectancy," perhaps up to a few years, primarily due to " increased cardio-pulmonary and lung cancer mortality."[54]

Shell's operations would also contribute to Arctic climate change. Shell's drilling operations have the potential to emit 94,000 tons of carbon dioxide, the most important driver of global and Arctic climate change. Also, a significant fraction of the more than 50 tons per year of fine particulate matter Shell would have emitted would be black carbon.[55] Black carbon is generally regarded as the second most important contributor to Arctic warming after carbon dioxide. Black carbon warms the environment by absorbing sunlight in the atmosphere, thereby capturing heat energy, and it darkens snow and ice after falling to earth, thus reducing the reflection of sunlight and accelerating melting.[56] Emissions of black carbon from sources in the Arctic itself are particularly troubling, as Arctic emissions are far more likely to come in contact

[54] *Id.* at 13-14.
[55] Sarofim et al., Ad hoc Working Group, Current Policies, Emission Trends and Mitigation Options for Black Carbon in the Arctic Region (EPA Draft White Paper) at 21-22 (Apr. 28, 2009).
[56] *Id.* at 7.

with and melt Arctic snow and ice.[57] One recent study indicates that Arctic black carbon emissions are 10-100 times more important with respect to contributing to Arctic black carbon radiative forcing than emissions outside of the Arctic.[58]

### C. The Clean Air Act Protects Human Health from Offshore Drilling Air Pollution

The Clean Air Act is a landmark public health statute that has prevented hundreds of thousands of premature deaths over the past forty years, all while our national GDP has steadily risen. In 2010 alone, the Act is estimated to have prevented 160,000 adult deaths from particle pollution, 230 infant deaths from particle pollution, and 86,000 emergency room visits. By 2020, the Act is estimated to have resulted in two trillion dollars in health benefits, and to save 230,000 lives in that year alone.[59] Among the Act's core provisions are establishing national health-based ambient air quality standards for pollutants and mandating the application of pollution-control technology to reduce air pollution.

Recognizing the threat of air pollution from sources on the outer continental shelf, Congress amended the Clean Air Act in 1990 to include a new provision, section 328, that mandates "requirements to control air pollution from Outer Continental Shelf sources located offshore of the United States."[60] OCS sources include equipment and activities that emit any air pollutant, are regulated under the Outer Continental Shelf Lands Act, and are located on waters above the outer continental shelf, specifically including drill ship exploration.[61] Section 328 requires EPA to ensure that the offshore pollution does not cause violations of the national

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[57] *See id.* at 20 (stating that "[t]he Arctic is more sensitive to black carbon that can be transported into the region").
[58] Hirdman et al., Source identification of short-lived air pollutants in the Arctic using statistical analysis of measurement data and particle dispersion model output, 10 Atmos. Chem. Phys. 669 (Jan. 2010).
[59] *See* EPA, The Benefits and Costs of the Clean Air Act from 1990 to 2020 (Mar. 2011), *available at* http://www.epa.gov/air/sect812/feb11/fullreport.pdf.
[60] 42 U.S.C. § 7627(a)(1).
[61] *Id.* § 7627(a)(4)(C).

ambient air quality standards (NAAQS) and to ensure that OCS sources comply with the PSD provisions of the Clean Air Act.[62]

As the name suggests, the PSD program is intended to prevent existing air quality levels from deteriorating. Its provisions, therefore, seek to protect public health and welfare from the adverse effects of air pollution and to ensure "that economic growth will occur in a manner consistent with the preservation of existing clean air resources."[63] Motivated by a concern that air pollutants could have serious harmful effects to health even at concentrations below primary ambient air quality standards, Congress adopted the PSD provisions, which embody "a policy of maximum practicable protection of health."[64] When adopting the PSD provisions, Congress made clear that practices that "squander[] finite air resources, thereby limiting the potential for long-term economic growth" are contrary to the national interest as reflected in the PSD program.[65] Accordingly, the PSD provisions also "assure that any decision to permit increased air pollution . . . is made only after careful evaluation of all the consequences of such a decision and after adequate procedural opportunities for informed public participation in the decisionmaking process."[66]

A central provision of the PSD program is the requirement that, prior to constructing any "major emitting facility," an applicant must obtain a permit from EPA.[67] To obtain a PSD permit, the owner or operator of a proposed major emitting facility must demonstrate that emissions from construction or operation of the facility will not cause or contribute to a violation of any NAAQS or other applicable emission standard and must conduct monitoring as necessary

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[62] *Id.* § 7627(a)(1) (requiring compliance with "part C of subchapter I" of the Act).
[63] *Id.* §§ 7470(1), (3).
[64] H.R. Rep. 95-294, at 105-127 (1978) *reprinted in* 1978 U.S.C.C.A.N. 1077, 1183-1205, 1206; *see also id.* at 105-127, *reprinted in* 1978 U.S.C.C.A.N. at 1183-1206.
[65] H.R. Rep. 95-294, at 152, *reprinted in* 1978 U.S.C.C.A.N. at 1231.
[66] 42 U.S.C. § 7470(5).
[67] *Id.* § 7475(a)(1).

to determine the effect of emissions on air quality.[68] Emissions from the proposed facility also will be "subject to the best available control technology for each pollutant subject to regulation . . . emitted from, or which results from, such facility."[69] EPA has defined "best available control technology" or BACT to mean "an emissions limitation (including a visible emission standard) based on the maximum degree of reduction for each pollutant subject to regulation . . . ."[70]

Thus, the PSD program has two primary mechanisms for achieving its goals: first, it ensures that air quality standards are met, and second, it requires the application of best available control technology to the source's emissions. The application of BACT ensures that pollution levels generated by the source will not only meet air quality standards, but will remain as low as possible.

Public participation is also central to the PSD program. The statute directs EPA to "assure that any decision to permit increased air pollution . . . is made only . . . after adequate procedural opportunities for informed public participation in the decisionmaking process."[71] The remoteness of the Arctic and its communities—which are not connected to the road system and can be reached only by plane or boat and only when weather permits—presents challenges to the public process. Language barriers and the schedules of a subsistence life can present further challenges. However, public participation is particularly important in the context of Arctic offshore drilling decisions. The indigenous Alaska Native communities along the coast of Arctic Ocean will bear a vastly disproportionate burden of the harmful effects of offshore oil drilling. Not only may offshore drilling expose these communities to direct health risks from air pollution, it may indirectly affect health by putting at risk the subsistence resources that are

[68] *Id.* §§ 7475(a)(3), (a)(7).
[69] *Id.* § 7475(a)(4).
[70] 40 C.F.R. § 52.21(b)(12).
[71] 42 U.S.C. § 7470(5).

central to these communities' way of life. The Clean Air Act's PSD program mandates that these disproportionately affected Inupiat communities be provided a meaningful opportunity to participate in offshore permitting decisions. Basic requirements of environmental justice echo this obligation.[72]

An integral part of the public process accompanying the issuance of air permits to major new sources of pollution is the opportunity to request a review of the permit decision, which in the case of the Arctic Ocean issues from EPA's Region 10 offices, by the Environmental Appeals Board in Washington, D.C. The EAB is an administrative review body that serves as the final EPA decision-maker for permits its is asked to review. The Board consists of nine experienced attorneys who are experts in the Clean Air Act and other statutes the Board oversees. When a permit is appealed to the EAB, panels of three administrative judges typically adjudicate the appeal. Under the EPA's implementation of the PSD program, any person who filed comments on that draft permit or participated in the public hearing may petition the EAB to review any condition of the permit decision.[73] This is an important element of the public participation process, because it offers persons who are affected by the permitted air pollution an avenue of redress short of expensive and time-consuming litigation in Article III courts. Appeals to the EAB are adjudicated by administrative judges that are experts in the complex statutes they administer. They are typically able to adjudicate appeals in several months.

The importance of EAB review is well illustrated by a recent challenge brought by the Alaska Eskimo Whaling Commission and the Inupiat Community of the Arctic Slope against PSD permits issued by EPA to Shell Oil for drilling in the Beaufort and Chukchi seas.[74]

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[72] Executive Order No. 12,898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, 59 Fed. Reg. 7,629, 7,632-33 (Feb. 11, 1994).
[73] 40 C.F.R. § 124.19(a).
[74] *In re Shell*, OCS Appeal Nos. 10-01 through 10-04 at 69, 63-81.

Concurrent with EPA Region 10's consideration of Shell's PSD permit applications, EPA decided to implement new health-based ambient air quality standards for nitrogen oxides ($NO_2$). In July, 2009, the agency proposed these new standards based on a review of the "substantial amount of new research . . . conducted since the last review of the $NO_2$ NAAQS," including new information from epidemiologic studies regarding the health effects of exposure to $NO_2$, that showed that the current annual $NO_2$ NAAQS was no longer sufficient by itself to protect the public health within an adequate margin of safety.[75] EPA finalized the new short-term standard in February, 2010, to take effect April 12, 2010.[76] EPA Region 10 issued the Shell PSD permits just days before new health standards for short-term exposure to nitrogen oxides took effect, on March 31 and April 9, 2010.[77] In addition to not requiring Shell to comply with these new health standards, EPA Region 10 also failed to consider the standards, and the new studies underlying them, in analyzing the disproportionate effects of Shell's pollution on the Arctic's Inupiat communities. Rather, it concluded that, because Shell's drilling would comply with the annual $NO_2$ NAAQS—the standard EPA specifically determined did *not* adequately protect human health—the drilling would not disproportionately affect coastal Alaska Native communities. It took an appeal to the EAB to rectify Region 10's violation of its basic duty to conduct a rational analysis of the potentially disparate health impacts to Inupiat communities of the Shell drilling it

[75] Proposed Rule, Primary National Ambient Air Quality Standards for Nitrogen Dioxide, 74 Fed. Reg. 34,4404, 34,407 (July 15, 2009); *see also id.* at 34,427 ("[T]he Administrator concludes that the current $NO_2$ standard does not provide the requisite degree of protection for public health against adverse effects associated with short-term exposures."), 34,439 ("[T]he Administrator proposes that the current annual standard is not requisite to protect public health with an adequate margin of safety.").
[76] Final Rule, Primary National Ambient Air Quality Standards for Nitrogen Dioxide, 75 Fed. Reg. 6,474, 6,474 (Feb. 9, 2010).
[77] *In re Shell*, OCS Appeal Nos. 10-01 through 10-04 at 69, 63-81.

proposed to permit.[78] Similarly, under pressure from Shell during the permitting process, EPA's Region 10 completely shifted course on its definition of when Shell's drill ship becomes a stationary source for purposes of regulation. As the EAB described in reviewing and remanding the permit, the Region "abdicate[d] to Shell" the agency's regulatory responsibility.[79]

## IV. THE COMMITTEE SHOULD REJECT THE BILL UNDER CONSIDERATION TODAY

The bill under consideration today attempts to curtail the EPA's authority under the Clean Air Act to regulate air pollution from offshore oil drilling and to limit the public's participation in decisions that directly affect its health. This bill specifically targets offshore drilling in the Arctic Ocean, [80] and it weakens the Clean Air Act in ways Shell Oil Company has specifically requested. It is a transparent giveaway to Shell with potentially wide-ranging consequences for the health of coastal communities, our oceans, and our climate. The bill should be rejected.

First, the bill attempts to exempt offshore oil companies from complying with a central tenet of the Clean Air Act—ensuring that pollution does not compromise health-based national ambient air quality standards. Currently, compliance with the NAAQS requirement is measured at the source for offshore drill ships, just as it is for all other polluters. Section 2 of the bill seeks to amend Section 328 of the Clean Air Act to relax the requirement so that the air quality impact of pollution from offshore sources is measured not at its source but only at the shore, which can be many miles from the source. It would thus treat offshore sources differently than onshore

[78] *Id.*; *see also* Exec. Order 12,898, 59 Fed. Reg. 7629, 7629 (Feb. 11, 1994) ("Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations" requiring that "each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations").
[79] *In re Shell*, OCS Appeal Nos. 10-01 through 10-04 at 59.
[80] It amends subsection a of Section 328 that applies to the Arctic, Atlantic, Pacific, and eastern Gulf of Mexico off the Florida Coast. A different provision of Section 328—subsection (b)— that is not amended by this bill applies to the western Gulf.

sources by potentially allowing them to emit pollution at levels that compromise health-based air quality requirements at the drill site. Offshore oil companies would be allowed to emit larger amounts of pollution, causing a greater threat to the air quality of coastal communities. Requiring a shoreline-only look at pollution is also particularly ill-suited for the Arctic Ocean. As described above, subsistence hunting and fishing is centrally important to the Inupiat people, and residents of Arctic Ocean coastal communities spend significant amounts of time on the ocean engaging in whaling and hunting. The Committee should not allow these residents to be exposed to harmful pollution while engaging in these activities.

Second, the bill seeks to amend Section 328 of the Clean Air Act to weaken air emissions controls for offshore drilling. Section 3 of the bill seeks to exempt associated vessels, such as ice-breakers that accompany Arctic Ocean offshore drilling, from the PSD program's protection of air quality and imposition of control technology requirements. One of the central protections of the PSD program is the application of best available control technology. As described above, ice-breakers can account for much of the pollution from Arctic Ocean offshore drilling operations. They can emit large amounts of nitrogen oxide ($NO_2$) and fine particulate matter ($PM_{2.5}$). In Shell's proposed 2010 operations, for example, ice-breakers accounted for between 75 and 96 percent of the pollutants emitted by Shell's operations.[81] Indeed, for its proposed 2010 drilling operations, it was emissions from Shell's ice-breakers, not emissions from the drill ship itself, that triggered the application of the PSD program to Shell's drilling operations.[82] The bill under consideration would exempt those associated-vessel emissions—the lions share of emissions from offshore drilling in the Arctic Ocean—from technology control requirements. Thus, the largest sources of pollution from offshore drilling would be exempted from applying a

[81] Chukchi Statement of Basis, App. A at A-1.
[82] *Id.*

central requirement of the PSD program, the application of the best available control technology to reduce pollution.[83]

Section 3 of the bill would also amend the Clean Air Act to postpone regulation of offshore drilling operations until the last possible moment. It would do so by defining the time at which a drill ship or platform becomes a stationary source, and thus is subject to regulation, as when drilling commences. This would exempt from regulation under the PSD program all pollution generated from the time the drill ship reaches the drill site until the time it commences drilling. It would also cede to the regulated entity, the oil company, the decision about when its operations must start to comply with the Clean Air Act.

Both of the changes in Section 3 changes are specifically designed to address issue that concern Shell. Shell raised these issues during the review of permits for its planned 2010 Arctic Ocean drilling.[84] During that process, Shell argued, successfully, that it should not have to apply best available control technology to its ice-breakers and associated vessels. This bill would enshrine Shell's position in the statute. Shell also argued, unsuccessfully, that the Clean Air Act's PSD requirements should not apply to its operations until it determined that its drill ship was ready to drill. This bill would enshrine that position in statute.

Section 4 of the bill seeks to limit public participation in decisions about pollution from offshore drilling. Subsection (1) attempts to require an air permit application for offshore drilling to be granted or denied within six months of EPA's receipt of a completed application. Subsection (2) seeks to limit judicial review of permit decisions to the District of Columbia

[83] The bill would not alter the requirement that emissions from the associated vessels when they are within 25 miles of the drill ship be counted (i) for purposes of determining whether the source is subject to the PSD program and (ii) to ensure that the drilling operations meet air quality standards.

[84] The Board upheld EPA's current interpretation of Section 328 to exempt associated vessels from the BACT requirements of the PSD program. It remanded to EPA its determination of when Shell's drill ship becomes a stationary source for purposes of regulation.

Circuit Court of Appeals. Subsection (3) seeks to preclude administrative review of permitting decisions for all but permit applicants (oil companies), which could file petitions for administrative reconsideration. The curtailment of public participation is particularly troubling in the context of the Arctic Ocean. As described above, many of the communities most directly affected by Arctic Ocean offshore drilling decisions are remote, unconnected to the road system, and contain members for whom English is a secondary language. Many of the communities are predominantly Inupiat, and they engage in a subsistence lifestyle that depends on a clean environment. These communities, moreover, will bear a vastly disproportionate burden of pollution from offshore drilling. If anything, these communities should be given more time and more opportunities to engage in meaningful participation with EPA about decisions that directly and disproportionately affect them. Instead, this bill strips them of those rights.

Again, this section of the bill is designed with Shell in mind. Shell has often repeated the refrain that regulatory delays in the permitting process, particularly at EPA, have prevented it from drilling in the Arctic Ocean. However, Shell itself is to blame for the delays about which it complains. Shell had every opportunity to go about obtaining its permits in the right way. Instead, it continually tried to take shortcuts that avoided, and overstepped, the bounds of the Clean Air Act. As described above, Shell initially attempted to obtain only minor source air pollution permits for its drilling in 2007, arguing that EPA should treat Shell's drill-ships' operations as separate stationary sources, rather than a single source, and thereby exempt the operations from the PSD requirements. In 2008, Shell again tried to obtain a minor source permit for its operations. In 2009, when Shell finally decided to apply for major source permits, Shell again tried to take shortcuts. As described above, Shell insisted on a permit definition of when its drillship becomes a stationary source that essentially allowed Shell itself to determine

the time at which its ship's emissions commenced to be regulated under the Clean Air Act. It limited the vessels to which emissions control technology applies. It limited its compliance with emerging new health standards. It provided less air quality monitoring data than is usually required. Inupiat communities and conservation groups have repeatedly been forced to request EAB review of these permits because of Shell's shortcuts, and the EAB has repeatedly found those shortcuts to be unlawful.

Nor, contrary to Shell's public statement, were delays in obtaining an air permit to blame for Shell's decision in February of this year to voluntarily withdraw its plans to drill in the Beaufort Sea in 2011. At the time, Shell was still relying on a pre-*Deepwater Horizon* oil spill response plan. It also still required a host of permits and authorizations in addition to EPA air permits before it could drill in 2011, including a revised exploration plan under the Outer Continental Shelf Lands Act from BOEMRE, permits from the National Marine Fisheries Service and the U.S. Fish and Wildlife Service under the Marine Mammal Protection Act to incidentally harass marine mammals, and ocean discharge permits under the National Pollution Discharge Elimination System from EPA. At the time it cancelled its drilling plans, Shell had not even submitted applications for some of these permits.

## V. CONGRESS SHOULD FOCUS ON FACILITATING AN ALTERNATIVE ENERGY FUTURE NOT ON CREATING LOOPHOLES FOR OFFSHORE OIL DRILLING

Rather than considering legislation that exempts offshore oil drilling from the health and environmental protections of the Clean Air Act, Congress should focus its attention on facilitating an alternative energy future. Continued reliance on fossil fuels means higher and higher energy costs for consumers. To ensure reliable and affordable energy for the United States, we should diversify our sources of energy. While any oil discovered in the Arctic Ocean

would take years, perhaps decades, to develop and bring to market, committing to alternative energy now can yield significant energy dividends in a relatively short time.

Alaska itself provides an excellent an example of the possibilities afforded by investing in renewable energy. Residents of Alaska's villages, many of which are not connected to the road system, already pay on average four to five times more than what urban Alaskans pay for power. However, there are many villages that could utilize small wind turbines and implement efficiency measures, such as better insulating houses, to reduce their diesel consumption. On a larger scale, modest reductions can have dramatic effects. Just a 10 percent reduction of petroleum consumption, for example, could remove the demand for nearly 2 million barrels of oil per day from the oil market, which could lower the price of gas much more quickly than the decades required for new oil reserves in the Arctic Ocean to come on-line. Besides lowering the price of gas, conservation efforts would improve our balance of payments, reduce our reliance on foreign sources of oil, and lower our emissions of carbon dioxide to the atmosphere. They would slow both global warming and ocean acidification, set a compelling example to the rest of the world, and preclude placing the last great biological strongholds in jeopardy from oil pollution. These renewable and efficiency initiatives can provide jobs and money to the State of Alaska. Congress has a critical role to play in this transition, and it must demonstrate the will and leadership to accomplish these goals.