

The Legal and Regulatory Regime for Offshore Hydrocarbon Resources in the U.S. Arctic

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Abstract: This article discusses how federal laws and regulations govern offshore oil and gas activity in the U.S. Arctic. It examines three broad regulatory components: leasing (licensing), operating practices, and – more briefly – revenue collection. The background and introductory topics include the potential for and challenges to developing hydrocarbon resources in the region; and an overview of historic and current oil and gas production in the U.S. Arctic. The discussion of the legal and regulatory regime begins with identifying the jurisdictional and geographic boundaries in which it operates. The leasing (licensing) component is described through the four-step process set forth by the Outer Continental Shelf Lands Act (OCSLA). Under operating practices, five areas are covered: waste management, chemical use, and discharge; emissions to air; oil spill prevention and liability; protection of living marine resources; equipment design and performance standards; and health, safety, and environmental (HSE) concerns.

The article analyzes the laws and regulations from functional, temporal, and sectoral perspectives rather than providing detailed descriptions of each rule in this complex regulatory area. It identifies key regulatory actors and demonstrates their roles in implementing the primary statutory and regulatory provisions. Regulatory changes implemented since the 2010 Macondo/Deepwater Horizon accident in the Gulf of Mexico are analyzed for their relevance to offshore activity in the Arctic. The 2012 exploratory drilling season of Royal Dutch Shell in the Beaufort and Chukchi seas is used to provide the majority of examples of how the laws and regulations discussed apply to offshore oil and gas activities in the U.S. Arctic.

Key Words: Arctic, United States, Offshore, Beaufort Sea, Chukchi Sea, Oil and Gas, Hydrocarbons, Regulation, Shell, Drilling, Deepwater Horizon, Macondo, Leasing, Operating Practices, HSE (Health, Safety, Environment), Safety and Environmental Management Systems (SEMS), Alaska Natives, Conflict Avoidance Agreements, Outer Continental Shelf Lands Act (OCSLA).

I. Introduction.

Many people around the world first imagine the U.S. Arctic and sub-Arctic through the immortal works of the novelist Jack London. Vivid scenes from *The Call of the Wild* and *White Fang* depict the obstacles men overcame and the price they paid to get to what was then the ultimate mineral prize – gold. In the more than a hundred years since the great American writer

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left the Klondike, the technology of accessing coveted minerals has improved dramatically and the ultimate prize has shifted to “black gold.” Still, significant obstacles remain in the quest for the mineral treasures of the North today. In addition, it is essential to emphasize that the region is much more than a magnificent wilderness or source of resources to be exploited. For thousands of Arctic indigenous peoples, whose predecessors have lived in the Arctic for millennia, the Arctic is home; an area rich in subsistence resources and inseparable from their personal and collective identity.

In this article we focus on the rules that govern the process of finding and extracting hydrocarbons in the U.S. Arctic. Geographically, we go beyond London’s old haunts and extend our reach to the U.S. Arctic offshore. We provide socio-economic and political context where appropriate and, to maintain the U.S. Arctic focus, illustrate substantive points with real-life examples throughout.

We begin with a discussion of the potential for and challenges to the development of hydrocarbon resources in the U.S. Arctic offshore. We also provide an overview of the oil and gas production in the region and touch on the current trends. We continue by establishing a conceptual framework for analyzing the governing legal and regulatory regime, and drawing the jurisdictional boundaries in which the regime operates. We allocate most of the ensuing discussion to two primary components of the legal and regulatory regime – leasing and operating practices. We briefly remark on the revenue collection component and conclude by identifying the trends and gaps in, as well as opportunities for, the legal and regulatory regime governing hydrocarbon activities in the U.S. Arctic offshore.

II. Development of Hydrocarbon Resources in the U.S. Arctic offshore: Overview and Current Trends.

a. Potential for Development of Hydrocarbon Resources in the U.S. Arctic offshore.

The USGS estimates that Arctic waters off the Alaska coast contain substantial undiscovered hydrocarbons: 29.96 billion barrels (bb) of crude oil, 221.39 trillion cubic feet (tcf) of natural gas, and 5.90 bb of natural gas liquids.³ This amounts to 72.77 bb of oil equivalent (bboe) of technically recoverable resources.⁴ The modestly sized Arctic Alaska province is believed to contain 33 percent of all undiscovered Arctic oil,⁵ representing the largest share among all five Arctic littoral states (A5).⁶ The USGS estimates alone do not, however, tell the full story of the potential for hydrocarbon development in the U.S. Arctic offshore. Information about large and already discovered resources is especially important, as it provides an accurate picture of the existing infrastructure, which is vital for developing remote, hard-to-access, and thus expensive-to-develop fields.⁷

The Alaska North Slope (ANS) includes 14 of the 100 largest U.S. oil fields and 5 of the 100 largest U.S. natural gas fields.⁸ Prudhoe Bay is the largest oil field in the United States.⁹ As of 2009 it has produced 13.6 bb of oil.¹⁰ Although the field still produces on average 264,000

³ U.S. GEOLOGICAL SURVEY, CIRCUM-ARCTIC RESOURCE APPRAISAL: ESTIMATES OF UNDISCOVERED OIL AND GAS NORTH OF THE ARCTIC CIRCLE 4 (2008), available at <http://pubs.usgs.gov/fs/2008/3049/>.

⁴ *Id.* at 1, 4.

⁵ *Id.* at 3-4.

⁶ *Id.* at 4.

⁷ PHILLIP BUDZIK, U.S. ENERGY INFORMATION ADMINISTRATION, OFFICE OF INTEGRATED ANALYSIS AND FORECASTING OIL AND GAS DIVISION, ARCTIC OIL AND NATURAL GAS POTENTIAL 4 (OCT. 2009).

⁸ U.S. Energy Information Administration, Alaska, State Profile and Energy Estimates, Profile Analysis <http://www.eia.gov/state/analysis.cfm?sid=AK> (last visited July 30, 2013).

⁹ *Id.*

¹⁰ Budzik, *supra* note 7, at 4.

barrels a day, the overall field output has declined over the years.¹¹ The development of Prudhoe Bay oil was made possible because of the construction of the Trans-Alaska Pipeline System (TAPS), which runs from Prudhoe Bay to the warm water port in Valdez, Alaska.¹²

Yet TAPS does not only fill a sizeable need for U.S. Arctic offshore oil for transportation infrastructure, its owners and operators serve as powerful political allies for proponents of oil development.¹³ TAPS throughput had decreased from more than 2 million barrels a day in the late 1980s to less than 550,000 barrels a day in 2012.¹⁴ The decrease in oil flow not only impacted TAPS revenues, but it also made operating the pipeline more expensive and dangerous due to wax buildup and corrosion.¹⁵ As a result, TAPS operator Alyeska Pipeline Service Company embarked on a lobbying campaign for more oil for the pipeline.¹⁶ Alaska state government joined the campaign by declaring the decline in TAPS throughput the most urgent economic issue facing the state.¹⁷ Thus, an argument can be made that, at this point, proponents of U.S. Arctic offshore development need TAPS as much as TAPS needs them.

¹¹ Alaska Department of Natural Resources, Division of Oil and Gas, <http://dog.dnr.alaska.gov/> (last visited July 30, 2013).

¹² *Id.*

¹³ This is especially true for the Beaufort Sea due to its proximity to TAPS. ERNST & YOUNG, ARCTIC OIL AND GAS 11 (2012).

¹⁴ Alyeska Pipeline Service Company, Pipeline Operations, <http://www.alyeska-pipe.com/TAPS/PipelineOperations/LowFlowOperations> (last visited July 30, 2013).

¹⁵ *Id.*

¹⁶ CLARE RICHARDSON-BARLOW & ANDREAS OSTHAGEN, CENTER FOR STRATEGIC & INTERNATIONAL STUDIES, IMPACTS OF THE GULF OIL SPILL SERIES, ARCTIC OIL AND GAS DEVELOPMENT, EVENT SUMMARY 2 (2010), available at http://csis.org/files/attachments/110715_Energy_Summary.pdf; Matt Buxton, *Alyeska President Talks Oil Throughput at Luncheon*, NEWSMINER.COM, June 12, 2013, http://www.newsminer.com/news/local_news/alyeska-president-talks-oil-throughput-at-luncheon/article_951866c2-d335-11e2-b630-0019bb30f31a.html.

¹⁷ Dan Sullivan, Commissioner of the Alaska Department of Natural Resources, Briefing Note: One Million Barrels a Day within 10 Years 1 (Jan. 25, 2012), available at http://dnr.alaska.gov/commis/Presentations/Briefingnote_1_million_barrels_updated.pdf.

In addition, in April 2011, Alaska Governor Sean Parnell sent President Obama a letter asking to “expressly support Alaska’s goal of increasing TAPS throughput to one million barrels a day.” Letter from Sean Parnell, the Governor

In contrast, natural gas in ANS is a story of unrealized potential, as 35.4 tcf of the discovered resources remain largely undeveloped.¹⁸ Natural gas from the North Slope currently has no way of reaching the market.¹⁹ Trucking natural gas from the Slope to the interior (Fairbanks) is expected to begin in 2015 as a temporary measure until such time as a pipeline might be built.²⁰ For now, natural gas extracted during oil production is pumped back into the hydrocarbon reservoir or used as fuel for the equipment at production facilities.²¹ Given current limitations on natural gas development in Alaska, and absent discovery of a major natural gas field that would warrant construction of a liquefied natural gas (LNG) terminal, it is reasonable to conclude that the greatest potential for offshore hydrocarbon development lies in oil.²²

Overall, U.S. Arctic offshore displays moderately high potential for oil development.²³ In addition to potential for discoveries of large oil fields, access to existing infrastructure, and a friendly political climate, generally favorable fiscal terms make the U.S. Arctic an attractive place for offshore oil development.²⁴

of Alaska to Barak Obama, the President of the United States (April 11, 2011), *available at* http://dnr.alaska.gov/commis/priorities/Parnell_to_Obama.pdf.

¹⁸ Budzik, *supra* note 7, at 3.

¹⁹ U.S. EIA, *supra* note 8.

²⁰ See, e.g., Dan Bross, *Fairbanks Natural Gas Releases Trucking Project Details*, KUAC RADIO – FAIRBANKS, June 18, 2013, <http://www.alaskapublic.org/2013/06/18/fairbanks-natural-gas-releases-trucking-project-details/>.

²¹ U.S. EIA, *supra* note 8.

²² Even if such a field is discovered and if market conditions justify significant capital investment in an offshore LNG terminal, it may not enjoy sufficient political support. The Alaska government is currently trying to persuade industry actors to commit to construction of a natural gas pipeline that would take North Slope natural gas to an LNG terminal in the southern part of the state. Alex DeMarban, *Due Date Approaches for Agreement on Alaska LNG Project*, ALASKA DISPATCH, June 13, 2013, <http://www.alaskadispatch.com/article/20130613/due-date-approaches-agreement-alaska-lng-project>.

²³ E&Y, *supra* note 13, at 13.

²⁴ *Id.*

b. Challenges to Development of Hydrocarbon Resources in the U.S. Arctic offshore.

Arctic waters off the coast of Alaska present many similar challenges to oil and gas development as other Arctic offshore regions. The harsh Arctic climate takes its toll on people and the equipment that they operate.²⁵ For many purposes, equipment must be specially designed to withstand the severe Arctic conditions.²⁶ The icepack, capable of causing significant damage to offshore facilities and vessels, presents another set of challenges in terms of operational and strategic planning, safety, and search and rescue.²⁷ The remoteness of the areas to be developed also impacts the feasibility of exploration and extraction, as it takes vessels, equipment, supplies, and people longer to reach their destinations.²⁸ The virtual absence of circumpolar infrastructure for search and rescue is a very real operational problem. The Arctic Search and Rescue Agreement, which all eight Arctic states concluded under Arctic Council auspices in 2011, is designed to address the problem but is only in the initial stages of implementation.²⁹ Several reports single out an oil spill as the most serious potential risk to the

²⁵ Budzik, *supra* note 7, at 9.

²⁶ *Id.*

²⁷ *Id.*

²⁸ *Id.*

²⁹ U.S. Department of State, Secretary Clinton Signs the Arctic Search and Rescue Agreement with Other Arctic Nations, <http://www.state.gov/r/pa/prs/ps/2011/05/163285.htm> (last visited July 30, 2013).

Arctic environment arising from oil and gas development.³⁰ These challenges can result in longer-than-usual project lead times, further escalating the cost of already expensive Arctic oil.³¹

The Arctic is not homogenous, and each Arctic region possesses its own unique features. For example, weather patterns in the U.S. Arctic are intensified by the absence of the Gulf Stream effect that, in the Norwegian Arctic, can make conditions somewhat less severe. Variations exist within the U.S. Arctic as well, with the Chukchi Sea experiencing higher wave height and colder temperatures than the Beaufort Sea.³² This difference affects facility design and oil spill cleanup.³³ Iñupiat communities bordering the Chukchi and Beaufort Seas are heavily dependent on large marine animals for subsistence.³⁴ However, some experts have argued that Chukchi Sea communities are less likely to be affected by oil and gas activities because most development is projected to occur farther from the coastline, and thus beyond the coastal subsistence use areas.³⁵ Should such disruptions occur, the Chukchi Sea communities – Point Lay and Point Hope, in particular – will be less prepared to deal with the consequences as they maintain very traditional lifestyles.³⁶ The Department of Interior (DOI) acknowledges that,

³⁰ CHARLES EMERSON & GLADA LAHN, CHATHAM HOUSE, LLOYD'S, ARCTIC OPENING: OPPORTUNITY AND RISK IN THE HIGH NORTH 39 (2012); E&Y, *supra* note 13, at 5; NINA LESIKHINA, ET. AL., BELLONA, OFFSHORE OIL AND GAS DEVELOPMENT IN NORTHWEST RUSSIA: CONSEQUENCES AND IMPLICATIONS 3.2.2 (2007), *available at* http://www.bellona.org/reports/report/russian_arctic_shelf; ARCTIC MONITORING AND ASSESSMENT PROGRAMME (AMAP), AMAP ASSESSMENT 2007, OIL AND GAS ACTIVITIES IN THE ARCTIC, VOL. 1 2-212 (2010); ANDREW REES & DAVID SHARP LLOYDS, DRILLING IN EXTREME ENVIRONMENTS: CHALLENGES AND IMPLICATIONS FOR THE ENERGY INSURANCE INDUSTRY, 25 (2011); NUKA RESEARCH AND PLANNING GROUP, U.S. ARCTIC PROGRAM, PEW ENVIRONMENT GROUP, OIL SPILL PREVENTION AND RESPONSE IN THE U.S. ARCTIC OCEAN, UNEXAMINED RISKS, UNACCEPTABLE CONSEQUENCES SEC. 4.3 (Nov. 2010).

³¹ E&Y *supra* note 13, at 5; Budzik, *supra* note 7, at 9 – 10.

³² U.S. GEOLOGICAL SURVEY, AN EVALUATION OF THE SCIENCE NEEDS TO INFORM DECISIONS ON OUTER CONTINENTAL SHELF ENERGY DEVELOPMENT IN THE CHUKCHI AND BEAUFORT SEAS, ALASKA, CIRCULAR 1370 241 (2011).

³³ *Id.*

³⁴ Circular 1370, *supra* note 32, at 73-74

³⁵ *Id.* at 241.

³⁶ *Id.*

within the United States, “the Arctic OCS presents unique challenges associated with environmental and weather conditions, geographical remoteness, social and cultural considerations, and the absence of fixed infrastructure to support oil and gas activity, including resources necessary to respond in the event of an emergency.”³⁷

c. Overview of Oil and Gas Exploration and Production in the U.S. Arctic.

Native communities, government regulators, and oil companies have been dealing with operational and other challenges onshore since active oil exploration and extraction began on the North Slope in the late 1960s.³⁸ The giant Prudhoe Bay oil field and the TAPS made oil a mainstay of the Alaska economy ever since the inaugural delivery in the summer of 1977.³⁹ The state has since collected \$170 billion in petroleum revenues.⁴⁰ Hydrocarbon development altered the state’s economic trajectory in both negative and positive ways.⁴¹ It has penetrated the centuries-old socio-economic structure of native communities, bringing cash economy into the traditional subsistence-based lifestyle.⁴² Currently, Alaska is the third largest oil producing U.S. state after Texas and North Dakota.⁴³

³⁷ DOI REVIEW OF SHELL’S 2012 ALASKA OFFSHORE OIL AND GAS EXPLORATION PROGRAM 6 (MARCH 8, 2013), available at www.doi.gov/news/pressreleases/upload/Shell-report-3-8-13-Final.pdf.

³⁸ U.S. EIA, *supra* note 8.

³⁹ Betsy Baker, *Oil and Gas Regulation in the United States Arctic Offshore*, in POLAR LAW TEXTBOOK II, 175, 176 (Natalia Loukacheva ed. 2013), available at <http://www.norden.org/en/publications>; Scott Goldsmith, TAPS at 35: Accounting for the Oil Revenues, Institute of Social and Economic Research, University of Alaska Anchorage, Web Note No. 12 (July 2012), available at <http://www.iser.uaa.alaska.edu/news/?p=342>.

⁴⁰ Baker at 176. The figure is through 2012 in today’s dollars.

⁴¹ Baker at 176. Matthew Berman, Sustainability and Subsistence in Arctic Communities, Paper prepared for presentation to the Western Regional Science Association annual meeting, Monterey, California (Feb., 1998).

⁴² Baker at 176.

⁴³ U.S. Energy Information Administration, Alaska, State Profile and Energy Estimates, Rankings: Crude Oil Production, April 2013 (thousand barrels), <http://www.eia.gov/state/rankings/?sid=AK#series/46> (last visited July 30, 2013).

The history of offshore oil in Alaska is not as extensive. The six existing offshore production operations are all located in the Beaufort Sea.⁴⁴ Northstar, Oooguruk, Endicott (main and satellite), and Nikaitchuq facilities are located on artificial gravel islands in shallow water.⁴⁵ Only one reservoir, Northstar, is located in both federal and state waters.⁴⁶ Prior to the summer of 2012, the industry had drilled 30 exploratory wells in federal waters in the Beaufort Sea and five in the Chukchi Sea.⁴⁷ All the discoveries were thought to be uneconomic to develop and the leases under which the discoveries were made expired.⁴⁸

Oil development in Alaska also caused significant legislative ripples. In an attempt to resolve long-standing land claims by the native population and to encourage economic development throughout the state, the Alaska Native Claims Settlement Act (ANCSA) was negotiated and passed in 1971.⁴⁹ In part to address issues left unresolved by the ANCSA, the Alaska National Interest Lands Conservation Act was enacted in 1980, “establishing more than 100 million acres of federal land in Alaska as new or expanded conservation system units.”⁵⁰ In the aftermath of the 1989 Exxon Valdez accident, which caused 11 million gallons (2.91 million liters) of crude oil to spill into Prince William Sound,⁵¹ the Oil Pollution Act of 1990 (OPA)

⁴⁴ PEW, *supra* note 30, at 28. The Nikaitchuq field operated by Eni went into production on February 9, 2011. Eni, Eni Starts Production from the Nikaitchuq field in Alaska, http://www.eni.com/en_IT/media/press-releases/2011/02/2011-02-09-nikaitchuq.shtml (last visited July 30, 2013).

⁴⁵ PEW at 28.

⁴⁶ *Id.*

⁴⁷ DOI Review, *supra* note 37, at 9.

⁴⁸ *Id.*

⁴⁹ Baker, *supra* note 39, at 177.

⁵⁰ Alaska Department of Natural Resources, State ANILCA Coordination, What is ANILCA?, <http://dnr.alaska.gov/commis/opmp/anilca/more.htm> (last visited July 30, 2013).

⁵¹ Baker, *supra* note 39, at 177.

was enacted . OPA established rigorous requirements directed at the prevention of, as well as the ability to respond to, oil spills.⁵²

d. Current Trends.

Active exploration returned to the U.S. Arctic OCS in 2012. Shell began drilling its first pilot hole on September 9, 2012, after a lengthy permitting process with U.S. agencies and a series of setbacks involving safety and oil spill prevention vessels and equipment.⁵³ Shell halted the drilling one day later, following its established protocols, when forced to move its rig out of the way of encroaching sea ice.⁵⁴ The company resumed drilling but, less than a week later, announced that it was shutting down its operations until the next year.⁵⁵ Shell's foray into the Beaufort Sea was less adventurous but just as brief, as the company ended active drilling three weeks after starting it.⁵⁶ After spending over \$4.5 billion, Shell had drilled only two top holes at the end of the 2012 season.⁵⁷ On December 31, 2012, Kulluk, one of the two Shell drilling rigs, ran aground in the Gulf of Alaska.⁵⁸ Ten days later, the Environmental Protection Agency issued a statement saying that the company violated its permits under the Clean Air Act for both

⁵² U.S. Environmental Protection Agency, Oil Pollution Act Overview, <http://www.epa.gov/osweroe1/content/lawsregs/opaover.htm> (last visited July 30, 2013).

⁵³ John M. Broder, *GREEN; Ice Forces Shell To Halt Work On Arctic Well*, NY TIMES, Sep. 11, 2012, <http://query.nytimes.com/gst/fullpage.html?res=9E02EFDD123EF932A2575AC0A9649D8B63&ref=shellroyaldutchplc>.

⁵⁴ *Id.*

⁵⁵ <http://www.nytimes.com/2012/09/18/business/global/shell-delays-arctic-oil-drilling-until-next-year.html?ref=shellroyaldutchplc>

⁵⁶ Clifford Krauss, *Shell Delays Arctic Oil Drilling Until 2013*, NY TIMES, Sep. 17, 2012, <http://query.nytimes.com/gst/fullpage.html?res=9E02EFDD123EF932A2575AC0A9649D8B63&ref=shellroyaldutchplc>.

⁵⁷ *Id.*

⁵⁸ Henry Fountain, *Breakaway Oil Rig, Filled With Fuel, Runs Aground*, NY TIMES, Jan. 1, 2013, http://www.nytimes.com/2013/01/02/business/energy-environment/shell-oil-rig-runs-aground-in-alaska.html?_r=0&adxnml=1&ref=shellroyaldutchplc&adxnmlx=1370261036-fvLh/Mjf4rbFT0hDSbif8A

of its Arctic drill ships.⁵⁹ The Department of the Interior (DOI) launched an expedited investigation into Shell's 2012 operations in the Arctic, reporting in March 2013.⁶⁰ Under pressure from investors, government agencies, and environmental groups, Shell announced that it would "pause its exploration drilling activity for 2013 in Alaska's Beaufort and Chukchi Seas to prepare equipment and plans for a resumption of activity at a later stage."⁶¹ This announcement came before the results of the DOI investigations were announced. The DOI review found that Shell was not fully prepared to carry out drilling in the Arctic and recommended further review and overall improvement of the program.⁶²

Subsequently, ConocoPhillips put on hold its plans to start exploration in the Alaskan Arctic waters in 2014.⁶³ The company cited "uncertainties over federal regulatory and permitting standards" as the main reason for postponing exploration.⁶⁴

III. Legal and Regulatory Framework.

a. General Overview.

The pause in active drilling in the U.S. Arctic OCS in 2013 presents an opportunity to examine the pros and cons of hydrocarbon development in the U.S. Arctic offshore and assess

⁵⁹ John M. Broder, *Shell Violated Air Permits for Arctic Ships, E.P.A. Says*, NY TIMES, Jan. 11, 2013, <http://green.blogs.nytimes.com/2013/01/11/shell-violated-air-permits-for-arctic-ships-e-p-a-says/?ref=shellroyaldutchplc>.

⁶⁰ John M. Broder, *Interior Dept. Expedites Review of Arctic Drilling After Accidents*, NY TIMES, Jan. 8, 2013, <http://www.nytimes.com/2013/01/09/us/arctic-drilling-to-be-reviewed-in-light-of-accidents.html>

⁶¹ Shell, News and Media Releases, *Shell Announces Pause in Alaska Drilling Program* <http://www.shell.us/aboutshell/projects-locations/alaska/events-news/02272013-alaska.html> (last visited July 30, 2013).

⁶² DOI Review, *supra* note 37, at 1-2.

⁶³ Clifford Krauss, *ConocoPhillips Suspends Its Arctic Drilling Plans*, NY TIMES, Apr. 10, 2013, <http://www.nytimes.com/2013/04/11/business/energy-environment/conocophillips-suspends-arctic-drilling-plans.html>.

⁶⁴ ConocoPhillips Alaska, News Release, *Regulatory Uncertainty Leads ConocoPhillips to Put 2014 Chukchi Sea Exploration Drilling Plans on Hold* (Apr. 10, 2013), available at <http://alaska.conocophillips.com/EN/news/newsreleases/Documents/NR-AK-Chukchi%20Sea-FINAL%204-9-2013.pdf>.

the rules that govern it. Even before Shell and ConocoPhillips expressed dissatisfaction with how the government handled recent permitting in the region, a multi-agency federal task force was formed in 2011 to address the issue.⁶⁵ The U.S. Coast Guard has expressed doubts about its ability to handle an oil spill off the North Slope.⁶⁶ In 2013, the Department of Interior announced plans to develop Alaska-specific standards for oil and gas operations on the Alaskan Outer Continental Shelf.⁶⁷ Until that rulemaking concludes, Arctic offshore oil and gas development is overwhelmingly governed by the same U.S. offshore oil and gas legal and regulatory regime that applies in all other U.S. offshore areas.

This complex legal and regulatory framework involves more than forty intertwined federal statutes and numerous rules, regulations, and industry standards. The framework is arranged around the primary piece of legislation, the OCS Lands Act (OCSLA)⁶⁸ and its attendant regulations, entitled Oil and Gas and Sulphur Operations in the Outer Continental Shelf.⁶⁹ Other notable federal statutes include the aforementioned OPA, Endangered Species Act (ESA),⁷⁰ National Environmental Policy Act (NEPA),⁷¹ Coastal Zone Management Act

⁶⁵ Exec. Order No. 13580--Interagency Working Group on Coordination of Domestic Energy Development and Permitting in Alaska, *available at* <http://www.whitehouse.gov/the-press-office/2011/07/12/executive-order-interagency-working-group-coordination-domestic-energy-d>.

⁶⁶ Meghan Gordon, *U.S. Not Ready to Respond to Arctic Oil Spills: Coast Guard Chief*, PLATTS, July 27, 2011, <http://www.platts.com/RSSFeedDetailedNews/RSSFeed/Oil/6320097>.

⁶⁷ Department of Interior: Bureau of Ocean Energy Management (BOEM) & Bureau of Safety and Environment and Enforcement (BSEE) Review of Alaska Outer Continental Shelf Oil & Gas Drilling Standards, Docket ID: BOEM-2013-0035, www.regulations.gov/#!docketDetail;D=BOEM-2013-0035 (last visited July 30, 2013); *see also* DOI Review, *supra* note 37, at 5 acknowledging: “(2) the need to continue to develop and refine standards and practices that are specific to the unique and challenging conditions associated with offshore oil and gas exploration on the Alaskan OCS.”

⁶⁸ 43 U.S.C. § 1301 *et seq.* (2012).

⁶⁹ 30 C.F.R. pt. 250 (2013).

⁷⁰ 16 U.S.C. § 1531 *et seq.* (2012).

⁷¹ 42 U.S.C. § 4321 *et seq.* (2012).

(CZMA),⁷² Resource Conservation Recovery Act (RCRA),⁷³ Clean Water Act (CWA),⁷⁴ Clean Air Act (CAA),⁷⁵ Marine Mammal Protection Act (MMPA),⁷⁶ Magnuson-Stevens Fishery Conservation and Management Act (MSA),⁷⁷ and Federal Oil and Gas Royalty Management Act (FOGRMA).⁷⁸ State law may also be involved but, as we explore below, its application is determined by the geographic location of the hydrocarbon reservoir. Several federal and, potentially, state actors, including administrative agencies, ensure that the law is properly applied, observed, and enforced.

To better explain this complex legal and regulatory regime, we adopt the following conceptual framework (Fig. 1). Rather than detailing each key statute, regulation, or administrative agency, we analyze the three principal components of the regime: leasing (licensing), operating practices, and revenue collection. We briefly zero in on jurisdictional issues, touch on potentially applicable state law, and elaborate on each of these three components.

⁷² 16 U.S.C. § 1451 *et seq.* (2012).

⁷³ 42 U.S.C. § 6901 *et seq.* (2012).

⁷⁴ 33 U.S.C. § 1251 *et seq.* (2012).

⁷⁵ 42 U.S.C. § 7401 *et seq.* (2012).

⁷⁶ 16 U.S.C. § 1371 *et seq.* (2012).

⁷⁷ 16 U.S.C. § 1801 *et seq.* (2012).

⁷⁸ 30 U.S.C. § 1701 *et seq.* (2012).

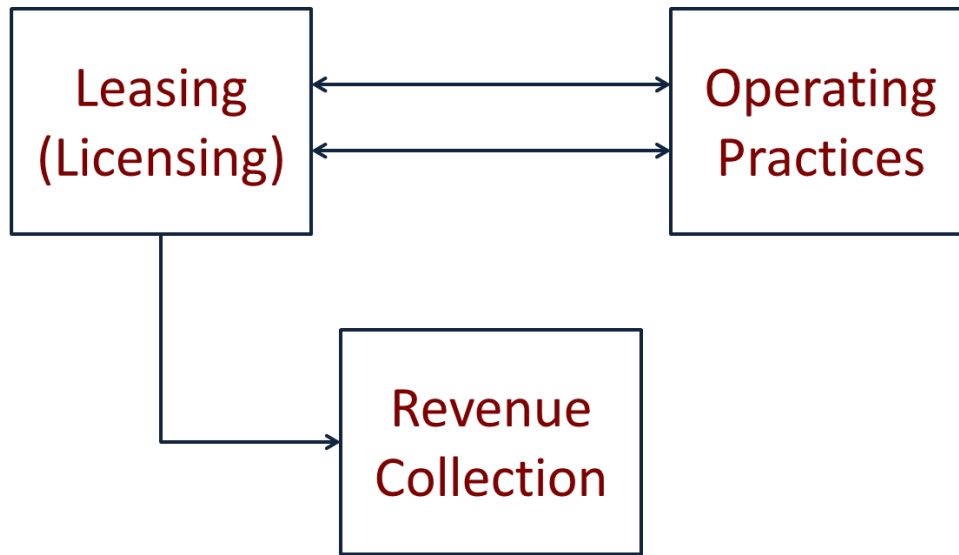


Figure 1: Main components of the U.S. offshore oil and gas legal and regulatory regime.

b. State and Federal Jurisdiction.

Jurisdiction over offshore oil and gas activity in the U.S. Arctic depends on where it occurs. The State of Alaska owns and regulates oil and gas resources within three miles (5 km) from shore.⁷⁹ The federal government exercises jurisdiction over the Territorial Sea beyond three miles, the Contiguous Zone, the Exclusive Economic Zone, and the Continental Shelf.⁸⁰ The U.S. Arctic Research and Policy Act of 1984 (ARPA) defines the U.S. Arctic not by naming Alaska but by referencing geographic features that are in or border on the state.⁸¹ Including the Bering Sea and the Aleutian Chain in the ARPA definition extends the U.S. Arctic well south of

⁷⁹ See, e.g., the federal Submerged Lands Act of 1953, 43 U.S.C. § 1311; ADAM VANN, CONGRESSIONAL RESEARCH SERVICE, OFFSHORE OIL AND GAS DEVELOPMENT: LEGAL FRAMEWORK, RL33404 2-3 (MAY 2, 2011).

⁸⁰ See, e.g., the Outer Continental Shelf (OCS) Lands Act (OCSLA), 43 USC § 1331.

⁸¹ “All United States territory north of the Arctic Circle and all United States territory north and west of the boundary of formed by the Porcupine, Yukon, and Kuskokwim Rivers; all contiguous seas, including the Arctic Ocean and the Beaufort, Bering, and Chukchi Seas; and the Aleutian chain.” United States, Arctic Research and Policy Act (ARPA) of 1984 (Title I of P.L. 98-373 of July 31, 1984, codified at 15 U.S.C. 4111) § 112.

the Arctic Circle (latitude 66° 33' 44" N); for example, the Aleutian Island of Amatignak is at 51°15'44" N.⁸²

Several state agencies and statutes are relevant to Alaska's jurisdiction over offshore activity in the three miles (5 km) seaward of its coast. Relevant state entities include the Alaska Oil and Gas Conservation Commission, and three Alaska Departments: Environmental Conservation; Fish and Game; and Natural Resources, within which two Divisions – Oil and Gas, and Mining, Land and Water – and the Office of Habitat Management and Permitting, play a role. Finally, the Alaska Coastal Management Program (ACMP), authorized by the federal Coastal Zone Management Act of 1972, was established in 1977 but terminated in 2011.⁸³ Other state laws relevant to offshore hydrocarbon activity and still in force include the Alaska Public Land Act, the Alaska Fishway Act, and the Alaska Anadromous Fish Act, which require permitting for certain activities.

c. Leasing (Licensing).

Leasing is an *ex ante* process that centers on the government's principal decision whether and where to allow exploration or extraction of offshore oil and gas. For this reason, we included exploration and development plans in this component. Leasing (known in other Arctic jurisdictions as licensing) is closely intertwined with the operating practices component. For example, obtaining an operating permit (*e.g.* an Air Quality Permit under the Clean Air Act) serves as a *condition* for *exercising* the right to explore or exploit. Similarly, compliance with such a permit serves as a *condition* for *maintaining* the right to explore or exploit.

⁸² For a map of the area defined under ARPA see Arctic.gov, http://www.arctic.gov/maps/ARPA_Alaska_only_150dpi.jpg (last visited July 30, 2013); RONALD O'ROURKE, CONGRESSIONAL RESEARCH SERVICE, CHANGES IN THE ARCTIC: BACKGROUND AND ISSUES FOR CONGRESS, R41153 (JAN. 2, 2013), at 3, Figure 1.

⁸³ See Alaska Department of Natural Resources, Alaska Coastal Management Program, <http://www.alaskacoast.state.ak.us/> (last visited July 30, 2013).

i. Moratoria.

DOI's mandate under OCSLA to direct and oversee OCS development is not absolute. Both presidential and congressional moratoria can result in withdrawing unleased lands from the statute's application.⁸⁴ Whereas OCSLA gives the president such withdrawal authority,⁸⁵ congressional moratoria are premised on Congress' ability under its appropriations power to bar DOI from expending funds for leasing and leasing-related activities of certain parts of the OCS.⁸⁶ Both the Congress and the President have invoked moratoria in the past.⁸⁷ Currently no moratoria for oil and gas activities under the OCSLA apply to any part of the U.S. Arctic.⁸⁸

DOI can impose a third type of moratorium that is more selective in time and space and does not remove the affected part of the OCS from the OCSLA purview. Pursuant to OCSLA, DOI has authority to promulgate rules and regulations suspending or temporarily prohibiting any activity in the OCS and cancelling or relinquishing leases.⁸⁹ In the aftermath of the Deepwater Horizon accident, then Secretary of the Interior Ken Salazar issued a six-month moratorium on drilling activities in deepwater (greater than 500 feet).⁹⁰ The Secretary based his decision on the determination that "under current conditions, deepwater drilling poses an unacceptable threat of

⁸⁴ Vann, *supra* note 79, at 4.

⁸⁵ 43 U.S.C. § 1341(a) (2012).

⁸⁶ Vann, *supra* note 79, at 4.

⁸⁷ *Id.*

⁸⁸ Bureau of Ocean Energy Management, Outer Continental Shelf Oil and Gas Leasing Program 2012-2017 Alaska Planning Areas, http://www.boem.gov/uploadedFiles/BOEM/Oil_and_Gas_Energy_Program/Leasing/Map_Alaska.pdf (last visited July 30, 2013). Bristol Bay in the North Aleutian Basin, which is not included in the ARPA definition is under presidential moratorium through June 30, 2017. BOEM, Areas Under Moratoria, <http://www.boem.gov/Oil-and-Gas-Energy-Program/Leasing/Areas-Under-Moratoria.aspx> (last visited July 30, 2013).

⁸⁹ 43 U.S.C. § 1334 (2012).

⁹⁰ U.S. Department of the Interior, Minerals Management Service, Notice to Lessees and Operators of Federal Oil and Gas Leases in the Outer Continental Shelf Regions of the Gulf of Mexico and the Pacific to Implement the Directive to Impose a Moratorium on All Drilling of Deepwater Wells, NTL No. 2010-N04, May 30, 2010, available at <http://www.doi.gov/news/pressreleases/loader.cfm?csModule=security/getfile&PageID=33716>.

serious and irreparable harm or damage to wildlife and the marine, coastal and human environment , as set forth in 30 C.F.R. 250.172(b).”⁹¹ After a federal district court enjoined DOI from implementing the moratorium,⁹² the Secretary issued another moratorium on July 12, 2010, narrowing the scope of banned activities and using new evidence to support his decision.⁹³

ii. OCSLA Process.

Areas of OCS that are not under moratoria may be subject to a four-stage leasing process under OCSLA. The *Deepwater Horizon* accident shaped the current makeup of principal administrative agencies involved in implementing and enforcing OCSLA and its regulations.⁹⁴ On May 19, 2010, the sub-department of DOI, Mineral Management Service (MMS), was renamed Bureau of Ocean Energy Management, Regulation, and Enforcement (BOEMRE).⁹⁵ On October 1, 2010, BOEMRE was broken into three separate administrative agencies: Bureau of Ocean Energy Management (BOEM), Bureau of Safety and Environmental Enforcement (BSEE), and Office of Natural Resources Revenue (ONRR).⁹⁶ The main rationale behind the split was to separate conflicting regulatory functions: resource management, environmental and safety oversight, and revenue collection.⁹⁷

⁹¹ *Id.* at 2. The Secretary recommended that the President impose a moratorium “on all oil and gas drilling activity from floating rigs for 6 months.” Letter from Ken Salazar, the Secretary of Interior to the President of the United States, May 27, 2010, available at

<http://www.doi.gov/deepwaterhorizon/loader.cfm?csModule=security/getfile&PageID=33580>

⁹² Andrew Hartzig, *Shortcomings and Solutions: Reforming the Outer Continental Shelf Oil and Gas Framework in the Wake of the Deepwater Horizon Disaster*, 16 OCEAN & COASTAL L.J. 269 at 293-94 (2011).

⁹³ U.S. Department of Interior, Q’s and A’s New Deepwater Drilling Suspensions July 12, 2010, available at <http://www.doi.gov/deepwaterhorizon/loader.cfm?csModule=security/getfile&PageID=38349>.

⁹⁴ Bureau of Ocean Energy Management, Regulatory Reform, <http://www.boem.gov/About-BOEM/Reforms/Reforms.aspx> (last visited July 30, 2013).

⁹⁵ Bureau of Ocean Energy Management, The Reorganization of the Former MMS, <http://www.boem.gov/About-BOEM/Reorganization/Reorganization.aspx> (last visited July 30, 2013).

⁹⁶ *Id.*

⁹⁷ *Id.* The structural deficiencies of the MMS as a “cross-purposes regulator” and its ensuing misadventures culminating in the Macondo blowout were well-documented by the National Commission on the BP Deepwater

BOEM plays a central role throughout the entire leasing process, including exploration and development plans. BOEM's Alaska OCS Region Office handles leasing activities in the U.S. Arctic⁹⁸ in a four-step process: 1) the Five-Year Program,⁹⁹ 2) preleasing and individual lease sales,¹⁰⁰ 3) exploration,¹⁰¹ and 4) development and production.¹⁰²

iii. The Five-Year Program.

Compiling the Five-Year Program is a detailed process requiring interdepartmental (DOI) coordination, interagency collaboration, and input from the states and local communities, as well as coordination with the U.S. Congress and President.¹⁰³ This initial step toward the DOI eventually offering lease block sales includes two draft proposals, one final draft proposal, three comment periods, development of an environmental impact statement (EIS), and final approval by the Secretary of the Interior.¹⁰⁴ The process generally takes two and a half years.¹⁰⁵

The process starts with *developing* a five-year planning program, which sets forth areas to be leased and the schedule of individual sales.¹⁰⁶ The responsibility for drafting the program lies with the Secretary of Interior who is to consider national energy needs, as well as potential social, economic, and environmental impacts of the prospective oil and gas development.¹⁰⁷ For

Horizon Oil Spill. 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 55-57 (2011).

⁹⁸ Bureau of Ocean Energy Management, Alaska OCS Region, <http://www.boem.gov/About-BOEM/BOEM-Regions/Alaska-Region/Index.aspx> (last visited July 30, 2013).

⁹⁹ 43 U.S.C. § 1344 (2012).

¹⁰⁰ 43 U.S.C. §§ 1337, 1345.

¹⁰¹ 43 U.S.C. § 1340.

¹⁰² 43 U.S.C. § 1351.

¹⁰³ BUREAU OF OCEAN ENERGY MANAGEMENT, OIL AND GAS LEASING ON THE OUTER CONTINENTAL SHELF 3.

¹⁰⁴ *Id.*

¹⁰⁵ *Id.*

¹⁰⁶ 43 U.S.C. § 1344 (2012).

¹⁰⁷ *Id.*

example, lease sale 242 for Beaufort Sea was rescheduled from 2015 to 2017 due to “significant overlapping of subsistence use, resource distribution, species habitat, and to allow more time to analyze and implement our focused leasing strategy in this area.”¹⁰⁸ While developing the program, the Secretary is required to solicit comment from any interested federal agency and from the governors of the affected states prior to its publication in the Federal Register.¹⁰⁹ The requirement to solicit comments from the governor of each affected state triggers the consistency review requirement under the CZMA (which is currently absent in Alaska, as explained below).¹¹⁰ In those states that do have a plan requiring CZMA consistency, however, the input from the state government – while required – does not have any binding effect. The Secretary may also consider “any suggestions from the executive of any affected local government” of any affected state.¹¹¹ Prior to approving the program, the Secretary submits it, with all comments and an explanation for every rejected comment, to the President and Congress for a 60-day review period.¹¹²

Once the Secretary approves the program, the program becomes subject to annual revisions. For example, in 2010, Secretary Salazar significantly amended the 2007-2012 OCS Oil and Gas Leasing Program in relation to the Arctic areas.¹¹³ He effectively eliminated all but

¹⁰⁸ Bureau of Ocean Energy Management, 2012 - 2017 Lease Sale Schedule, <http://www.boem.gov/Oil-and-Gas-Energy-Program/Leasing/Five-Year-Program/Lease-Sale-Schedule/2012---2017-Lease-Sale-Schedule.aspx> (last visited July 30, 2013).

¹⁰⁹ 43 U.S.C. § 1344.

¹¹⁰ *Sec’y of Interior v. Cal.* 464 U.S. 312, 338 (1984).

¹¹¹ *Id.*

¹¹² *Id.*

¹¹³ U.S. DEPARTMENT OF THE INTERIOR, MINERALS MANAGEMENT SERVICE, PRELIMINARY REVISED PROGRAM OUTER CONTINENTAL SHELF OIL AND GAS LEASING PROGRAM 2007-2012 7 (2010), *available at* <http://www.doi.gov/whatwedo/energy/ocs/upload/PRP2007-2012.pdf>

one lease sale in the Chukchi and Beaufort Seas.¹¹⁴ The Secretary cited “the difficulty of removing oil spilled in icy waters and our current limited ability to predict the effects of climate change” as primary reasons for the sale cancellations.¹¹⁵ However, the Secretary did not reject the idea of oil and gas development in the offshore Arctic entirely.¹¹⁶ Instead, he offered the following explanation for his cautious approach:

My decision to remove from the 2007-2012 program further leasing in these areas (other than Chukchi Sea Lease Sale 193) should not be construed to suggest that the exploration of existing leases cannot be safely conducted. Rather, I intend to proceed deliberately to analyze the results of exploration and monitoring activities, and consider other relevant data, which will provide me with the opportunity to make more informed decisions regarding Arctic sales in the 2012-2017 program. The factors outlined above call for a well-informed approach to Arctic leasing, so that I can fulfill my statutory mandate to properly balance the potential for environmental damage and the potential adverse impact on the coastal zone against the potential for oil and gas discoveries. Striking this balance is based on a consideration of the principles and factors enumerated in OCSLA section 18(a) and on my independent judgment, giving due consideration to the cost-benefit analysis, the equitable sharing analysis, the environmental sensitivity analysis, and other statutory considerations that are not readily quantifiable and for which no ready formula exists.¹¹⁷

By virtue of being a “major federal action significantly affecting the quality of the human environment,” the Five-Year Program is subject to the National Environmental Policy Act (NEPA), which requires preparation of an environmental impact statement (EIS).¹¹⁸ This significant sub-step of developing the Five-Year Program requires publication of a draft and final EIS.¹¹⁹ The EIS for the current program extensively covers the U.S. Arctic OCS.¹²⁰ The Five-

¹¹⁴ Chukchi Lease Sale 193 was a carryover from the previous (2002-2007) program. *Id.* at 5.

¹¹⁵ *Id.* at 6-7.

¹¹⁶ *Id.*

¹¹⁷ *Id.*

¹¹⁸ 42 U.S.C. § 4332(C) (2012).

¹¹⁹ Bureau of Ocean Energy Management, The OCS Leasing, Exploration, and Development Process, http://www.boem.gov/uploadedFiles/BOEM/Oil_and_Gas_Energy_Program/Leasing/Regional_Leasing/Alaska_Region/allsteps092005.pdf (last visited July 30, 2013).

Year Program may also trigger application of Section 7 of the ESA if it is “likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species.”¹²¹ Even though possible impacts of the Five-Year Program on endangered and threatened species and their habitat are not imminent, the court in *Village of False Pass v. Clark* clarified that: “ESA appears to apply equally to each stage of its own force and effect”¹²²

iv. Preleasing and Individual Lease Sales.

Preleasing and individual lease sales are combined in a single step that begins with the BOEM Director publishing a call for information and nominations regarding the areas of OCS to be leased.¹²³ Under the OCSLA regulations, the BOEM Director gathers all the necessary information and creates a list of areas recommended for leasing and conducting environmental analysis.¹²⁴ The Director consults with appropriate federal agencies and develops measures for mitigating adverse impacts on the environment.¹²⁵ The Director synthesizes this information in a

¹²⁰ E.g., U.S. DEPARTMENT OF THE INTERIOR, BUREAU OF OCEAN ENERGY MANAGEMENT, OUTER CONTINENTAL SHELF OIL AND GAS LEASING PROGRAM: FINAL PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT 2012-2017 4-946-4-952 (JULY 2012), available at http://www.boem.gov/uploadedFiles/BOEM/Oil_and_Gas_Energy_Program/Leasing/Five_Year_Program/2012-2017_Five_Year_Program/2012-2017_Final_PEIS.pdf.

¹²¹ 16 U.S.C. § 1536 (a)(2).

¹²² *Village of False Pass v. Clark* 733 F.2d 605, 609 (9th Cir. 1984). Notwithstanding the ESA provisions and the court’s decision, the so-called “Section 7 consultations” are not usually conducted at this stage because the provisions of 50 C.F.R. 402.14 (k) allow incremental consultation as long as the “there is a reasonable likelihood that the entire action will not violate Section 7(a)(2), and that the agency continues consultation with respect to the entire action.” OFFICE OF THE ENVIRONMENT ALASKA OCS REGION BUREAU OF OCEAN ENERGY MANAGEMENT U.S. DEPARTMENT OF THE INTERIOR, BIOLOGICAL EVALUATION OIL AND GAS LEASING AND EXPLORATION ACTIVITIES IN THE BEAUFORT SEA AND CHUKCHI SEA PLANNING AREAS 2 (Oct. 7, 2011), available at [http://www.boem.gov/uploadedFiles/BOEM/About_BOEM/BOEM_Regions/Alaska_Region/Environment/Environmental_Analysis/NMFS%20-%202011_1007_2011%20Consolidated%20Final%20ARBE%20\(4\).pdf](http://www.boem.gov/uploadedFiles/BOEM/About_BOEM/BOEM_Regions/Alaska_Region/Environment/Environmental_Analysis/NMFS%20-%202011_1007_2011%20Consolidated%20Final%20ARBE%20(4).pdf).

¹²³ 30 C.F.R. § 256.23 (2013).

¹²⁴ 30 C.F.R. § 256.26.

¹²⁵ 30 C.F.R. § 256.29

proposed notice of lease sale and sends it to the Secretary for approval.¹²⁶ Upon approval, the proposed notice is sent to the governor of the affected state and a notice of its availability is published in the Federal Register. It is important to note that the Secretary will only accept that governor's recommendations if he determines that "they provide for a reasonable balance between the national interest and the well-being of the citizens of the affected State."¹²⁷ Pursuant to the Supreme Court's decision in *Secretary of Interior v. California*, the comments do not constitute a binding consistency review under the CZMA as "the purchase of a lease entitles the purchaser only to priority over other interested parties in submitting for federal approval a plan for exploration, production, or development."¹²⁸

In contrast, during preparation for an individual sale, BOEM is required to conduct a sale-specific NEPA review. As the action agency, BOEM prepares a draft EIS, consulting with other agencies as appropriate, and publishes it in the Federal Register.¹²⁹ After a comment period, BOEM finalizes and publishes the EIS with the proposed notice of a lease sale.¹³⁰ The results of a lease sale can be remanded to satisfy the corresponding NEPA obligations.¹³¹ For example, the final EIS for Chukchi Sea Lease Sale 193 was challenged in the U.S. District Court for the District of Alaska.¹³² The court ordered BOEMRE to supplement the final EIS.¹³³ The

¹²⁶ *Id.*

¹²⁷ 43 U.S.C. § 1345(c) (2012).

¹²⁸ Sec'y of Interior 464 U.S. at 337.

¹²⁹ The OCS Leasing, *supra* note 119.

¹³⁰ *Id.*

¹³¹ U.S. DEPARTMENT OF THE INTERIOR BUREAU OF OCEAN ENERGY MANAGEMENT, REGULATION AND ENFORCEMENT ALASKA OCS REGION, CHUKCHI SEA PLANNING AREA OIL AND GAS LEASE SALE 193 IN THE CHUKCHI SEA, ALASKA FINAL SUPPLEMENTAL ENVIRONMENTAL IMPACT STATEMENT VOL. I. CH. I – VI AND APP. A, B, C, D COVER SHEET (Aug. 2011), *available at* http://www.boem.gov/uploadedFiles/BOEM/About_BOEM/BOEM_Regions/Alaska_Region/Environment/Environmental_Analysis/2011-041v1.pdf.

¹³² *Id.*

agency addressed the court's concerns and incorporated additional public comment and conducted a new analysis of the consequences of a hypothetical "very large oil spill" in a Final Supplemental Environmental Impact Statement (FSEIS) for the Chukchi Sea Oil and Gas Lease Sale 193.¹³⁴ To satisfy ESA Section 7 requirements regarding habitat, BOEM consults with the National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (USFWS).¹³⁵ These consultations come in the form of biological opinions and biological evaluations.¹³⁶

Subsequently, the Director of BOEM publishes the list of lease sale offerings specifying the areas and any terms and conditions pertinent to the sale in the Federal Register at least 30 days prior to the sale.¹³⁷ The sale is conducted pursuant to the set bidding process.¹³⁸ Generally, the highest bidder wins, although exceptions to this rule are possible.¹³⁹ The MMS and its successor, BOEM, have held several lease sales in the U.S. Arctic OCS in the last ten years.¹⁴⁰ The next lease sale in the Arctic OCS, Sale 237, is scheduled for the Chukchi Sea in 2016.¹⁴¹

¹³³ *Id.*

¹³⁴ Bureau of Ocean Energy Management, Chukchi Sea Planning Area Oil and Gas Lease Sale 193, <http://www.boem.gov/About-BOEM/BOEM-Regions/Alaska-Region/Environment/Environmental-Analysis/OCS-EIS/EA-BOEMRE-2011-041.aspx> (last visited July 30, 2013).

¹³⁵ 16 U.S.C.A. § 1536 (a)(2) (2012); Bureau of Ocean Energy Management, Biological Opinions & Evaluations Endangered Species Act Section 7 Consultations, <http://www.boem.gov/About-BOEM/BOEM-Regions/Alaska-Region/Environment/Environmental-Analysis/Biological-Opinions-EPA.aspx> (last visited July 30, 2013).

¹³⁶ *Id.*

¹³⁷ 43 U.S.C. § 1337(l).

¹³⁸ 43 U.S.C. § 1337(a).

¹³⁹ Vann, *supra* note 79, at 11.

¹⁴⁰ Bureau of Ocean Energy Management, Alaska Leasing Office, <http://www.boem.gov/About-BOEM/BOEM-Regions/Alaska-Region/Leasing-and-Plans/Leasing/Index.aspx> (last visited July 30, 2013).

¹⁴¹ 2012 - 2017 Lease Sale Schedule, *supra* note 108.

v. Exploration.

An operator cannot commence exploratory drilling without an approved exploration plan (EP) and necessary permits and authorizations.¹⁴² An EP must include: “(A) a schedule of anticipated exploration activities to be undertaken; (B) a description of equipment to be used for such activities; (C) the general location of each well to be drilled; and (D) such other information deemed pertinent by the Secretary.”¹⁴³ BOEM regulations promulgated under OCSLA further specify the contents of an EP.¹⁴⁴ An EP may apply to multiple leases. For example, Shell’s 2011 Revised EP for the Chukchi Sea covered Posey Area blocks 6714, 6762, 6764, 6812, 6912, and 6915 (all from the Chukchi Sea Lease Sale 193).¹⁴⁵

BOEM must notify an operator if the EP is “deemed submitted” within 15 days of submission to BOEM.¹⁴⁶ If the agency concludes that the submitted EP and accompanying information are sufficient, accurate, and complete, it forwards the EP and the information to the governor of each affected state for a consistency review with the state(s)’ coastal zone management plan.¹⁴⁷ Unlike in the previous two steps, the process cannot proceed without the state(s) certifying that the EP complies with such a plan (or plans).¹⁴⁸ The only circumstance

¹⁴² 43 U.S.C. § 1340 (2012).

¹⁴³ *Id.*

¹⁴⁴ Hartsig, *supra* note 92, at 276.

¹⁴⁵ SHELL GULF OF MEXICO INC., REVISED OUTER CONTINENTAL SHELF LEASE EXPLORATION PLAN CHUKCHI SEA, ALASKA, BURGER PROSPECT: POSEY AREA BLOCKS 6714, 6762, 6764, 6812, 6915, CHUKCHI SEA LEASE SALE 193 1-2 (May 2011), *available at* http://www.boem.gov/uploadedFiles/BOEM/Oil_and_Gas_Energy_Program/Plans/Regional_Plans/Alaska_Exploration_Plans/2012_Shell_Chukchi_EP/CS-EP-Public.pdf.

¹⁴⁶ 30 C.F.R. § 250.231(a) (2013).

¹⁴⁷ 30 C.F.R. § 250.232.

¹⁴⁸ 43 U.S.C. § 1340(c) (2012).

under which a state's veto can be overridden is if the Secretary of Commerce determines that the EP is consistent with the CZMA or "otherwise necessary in the interest of national security."¹⁴⁹

At the time of this article's writing, an operator seeking approval of an EP or a Development and Production Plan (DPP) in the U.S. Arctic offshore would have bypassed the CZMA state consistency review. In 2011, the Alaska State Legislature failed to extend the Alaska Coastal Management Program (ACMP).¹⁵⁰ Established in 1977 under the CZMA, the ACMP was generally regarded a success.¹⁵¹ It gave municipalities, including indigenous communities, a powerful tool to form enforceable coastal management policies premised on the balance of economic development and conservation.¹⁵² "We lost our voice," said a prominent Iñupiat leader in response to a question by one of the authors regarding the effect of the non-renewal of ACMP.¹⁵³

Where applicable, if the results of the state consistency review are successful, BOEM may render one of three possible decisions regarding the EP. First, it may approve the EP if the EP complies with all applicable requirements.¹⁵⁴ Alternatively, it may require the applicant to modify the EP if the EP is inconsistent with the lease or applicable laws and regulations.¹⁵⁵ Or, it may disapprove the EP if "the proposed activities would probably cause serious harm or damage to life (including fish or other aquatic life); property; any mineral (in areas leased or not leased); the national security or defense; or the marine, coastal, or human environment; and [the

¹⁴⁹ *Id.*; 16 U.S.C. § 1456(c).

¹⁵⁰ Baker, *supra* note 39, at 178.

¹⁵¹ *Id.*

¹⁵² *Id.*

¹⁵³ Interview with Charlotte Brower, Mayor of the North Slope Borough, in Bodoe, Nor. (Mar. 21, 2013), notes on file with Roman Sidortsov.

¹⁵⁴ 30 C.F.R. § 250.233 (2013).

¹⁵⁵ *Id.*

proponent] cannot modify [its] proposed activities to avoid such condition(s).”¹⁵⁶ Once an EP is submitted, BOEM must render a decision within 30 days.¹⁵⁷

The EP process is also subject to NEPA and ESA. For example, BOEM conducted an environmental assessment of the revised Shell’s Chukchi Sea EP,¹⁵⁸ issuing a finding of no significant impact under NEPA.¹⁵⁹ BOEM also conducted ESA Section 7 consultations with NMFS and FWS in relation to the same proposed exploration activities.¹⁶⁰ However, even if BOEM approves an EP, thereby granting the right of an operator to explore a lease block, an operator cannot proceed with exploration until all the necessary permits are obtained. A list of all necessary permits is included in an approved EP and the actual permits,¹⁶¹ once received, become appendices thereto.¹⁶² Because these permits relate to the “operational” side, we review them in the section on operating practices. Arguably, conditioning final exploration rights on post-EP-approval of the operational permits introduces uncertainty and greater costs into the entire process, slowing rather than streamlining the path from lease sale to exploration and eventual exploitation.¹⁶³

¹⁵⁶ *Id.*

¹⁵⁷ 43 U.S.C. § 1340 (c) (2012).

¹⁵⁸ Bureau of Ocean Energy Management, Shell - Chukchi Sea, <http://www.boem.gov/About-BOEM/BOEM-Regions/Alaska-Region/Leasing-and-Plans/Plans/Shell-Chukchi-Sea.aspx> (last visited July 30, 2013).

¹⁵⁹ *Id.*

¹⁶⁰ U.S. DEPARTMENT OF THE INTERIOR BUREAU OF OCEAN ENERGY MANAGEMENT ALASKA OCS REGION, CHUKCHI SEA PLANNING AREA SHELL GULF OF MEXICO, INC., SHELL REVISED CHUKCHI SEA EXPLORATION PLAN BURGER PROSPECT: POSEY AREA BLOCKS 6714, 6762, 6764, 6812, 6912, 6915 CHUKCHI LEASE SALE 193 ENVIRONMENTAL ASSESSMENT 127 (Dec. 2011), *available at* http://www.boem.gov/uploadedFiles/2011_1214_FINAL_2012ChukchiSeaEA.PDF.

¹⁶¹ Shell, *supra* note 145, at 2-1.

¹⁶² Bureau of Ocean Energy Management, Shell - Chukchi Sea Exploration Plan and Supporting Documents, <http://www.boem.gov/About-BOEM/BOEM-Regions/Alaska-Region/Leasing-and-Plans/Plans/Shell---Chukchi-Sea-Exploration-Plan-and-Supporting-Documents.aspx> (last visited July 30, 2013).

¹⁶³ *See, e.g.*, DOI Review, *supra* note 37, at 12. On December 16, 2011, BOEM approved Shell’s revised Chukchi Sea exploration plan subject to fifteen conditions. *Id.*, at Tab B.

vi. Development and Production.

No oil and gas development and production can occur in the Arctic OCS without an operator having an approved development and production plan (DPP).¹⁶⁴ The DPP process is conceptually similar to that of an EP, but requires a more extensive review and, therefore, a more extensive plan, because the activities being proposed are more invasive, extensive, and longer lasting than exploration. The list of accompanying information required from the operator is also much longer than for an EP,¹⁶⁵ including, for example, information regarding emergency plans and critical operations and curtailment procedures.¹⁶⁶

The DPP review process is similar to that of an EP. However, BOEM has more time to deem a DPP submitted¹⁶⁷ and to make a decision upon completion of the consistency review, where applicable.¹⁶⁸ The CZMA consistency review is also given more time, but, as we discuss above, this sub-step is a moot point for the U.S. Arctic OCS because of the non-renewal of ACMP.¹⁶⁹ Similarly to an EP, BOEM may approve, require modification of, or disapprove a DPP.¹⁷⁰ The grounds for approval and request for modification mirror the provisions applied to an EP.¹⁷¹ However, the list of reasons for disapproving is more elaborate and includes a

¹⁶⁴ For areas that have undergone significant development, operators can submit a Development Operations Coordination Document, which is a less extensive document than a DPP. Vann, *supra* note 79, at 12.

¹⁶⁵ 30 C.F.R. § 250.242 (2013).

¹⁶⁶ 30 C.F.R. § 250.251.

¹⁶⁷ 30 C.F.R. § 250.266.

¹⁶⁸ 30 C.F.R. § 250.270.

¹⁶⁹ 30 C.F.R. § 250.267.

¹⁷⁰ 30 C.F.R. § 250.270.

¹⁷¹ *Id.*

category of “exceptional circumstances,” such as geological conditions and resource values in the marine or coastal environment.¹⁷²

For the reasons noted above, environmental analysis and Section 7 consultation provisions under ESA are also present at the development and production stage. Pursuant to OCSLA regulations, an approval of a proposed DPP constitutes a major federal action, thus requiring BOEM to prepare at least one EIS for each OCS planning area.¹⁷³ Because it appears that no EIS was prepared for either the Liberty (Endicott field) or Northstar projects, BOEM will have to prepare an EIS for Chukchi and Beaufort Seas if activities in these areas reach the development and production stage.¹⁷⁴

d. Operating Practices.

The operating practices component of the U.S. offshore legal and regulatory regime governs every-day activities necessary to conduct oil and gas exploration and extraction. This paper presents three aspects of operating practices: functional, temporal and substantive.

- The functional aspect covers the specific role that operating practices play in the legal and regulatory process, including permitting, compliance (by the regulated entity), and enforcement (by the regulator).
- The temporal aspect refers to those steps in the exploration or extraction process that operating practices govern, from exploration to decommissioning and site clearance.
- Finally, the substantive or sectoral aspect relates to the nature of the regulated activity (e.g. waste management, emissions to air, oil spill prevention).

We organize our analysis using the substantive aspect, in which we discuss six sectors of regulated activity, comprising an incomplete but representative selection:

- Waste management, chemical use, and discharge;

¹⁷² 30 C.F.R. § 250.271 (2013).

¹⁷³ 30 C.F.R. § 250.269.

¹⁷⁴ <http://www.boem.gov/About-BOEM/BOEM-Regions/Alaska-Region/Leasing-and-Plans/Plans/BP-Liberty.aspx>;
<http://www.boem.gov/About-BOEM/BOEM-Regions/Alaska-Region/Leasing-and-Plans/Plans/BP-North-Star.aspx>

- Emissions to air;
- Oil spill prevention and liability;
- Protection of living marine resources;
- Equipment design and performance standards;
- Health, safety, and environmental (HSE) concerns.¹⁷⁵

In discussing each of the six areas, we also refer to certain functional and temporal aspects of operating practices: the function of individual regulations and administrative agencies; and the chronological step(s) in the life of a hydrocarbon project potentially affected by regulatory action. Because each of the six substantive categories can involve multiple laws, regulations and regulators, they are presented here in only the briefest form. We provide occasional examples from the only recent exploration operations in the U.S. Arctic: Shell's 2012 Arctic drilling season, drawing on the DOI Report on its expedited review of the season.¹⁷⁶

Because exploration and development plans may be approved conditionally, not all issues in a sector are resolved through a concrete provision of OCSLA or its regulations. Individual matters may be resolved conditionally by the terms of the letter granting permission for the exploration or development plans rather than implementing regulations. For example, the August 4, 2011 letter by which BOEM conditionally approved Shell's revised Camden Bay

¹⁷⁵ The Arctic Council *PAME Arctic Offshore Oil and Gas Guidelines*, 2009, Protection of the Arctic Marine Environment Working Group, available at <http://www.pame.is/oilandgasreports2/14-offshore-oil-and-gas> (last visited August 9, 2013) identify similar categories: Waste Management; Use & Discharge of Chemicals; Emissions to Air; Design & Operations; Human Health and Safety; Transportation of Supplies & Transportation Infrastructure; and Training. See, e.g., LISA CAMPION, KEISHA SEDLACEK, JAVIER GARCIA LOMAS-GAGO, ANNA SKUBIKOWSKI & ZHEN ZHANG, IMPLEMENTING THE ARCTIC OFFSHORE OIL AND GAS GUIDELINES IN THE UNITED STATES AND CANADA, VERMONT LAW SCHOOL, INSTITUTE FOR ENERGY AND THE ENVIRONMENT, WHITE PAPERS NOS. 1-4 (Betsy Baker ed., 2010), available at http://vermontlaw.edu/Academics/Environmental_Law_Center/Institutes_and_Initiatives/Publications.htm

¹⁷⁶ DOI Review, *supra* note 37, includes the following categories in its "Overview of Federal Regulatory Approvals for the 2012 Season": 1. The Exploration Plans, 2. Air Permits, 3. Clean Water Permits, 4. Marine Mammal Authorizations, 5. Oil Spill Response, 6. Maritime Vessel Requirements, 7. State and Federal Consultations, 8. Drilling Permits.

exploration plan for the Beaufort Sea contained eleven conditions.¹⁷⁷ As the DOI report states, among the conditions were requirements that Shell:

[O]btain specific permits and authorizations from BSEE, EPA, NMFS and USFWS; (2) confirm the staging and location of a relief well rig; (3) conduct a field exercise demonstrating the company's ability to deploy its capping and containment system; and (4) suspend any exploratory drilling operations in the Beaufort Sea by August 25 and not resume activity until after subsistence whalers from the Alaska Native villages of Nuiqsut and Kaktovik completed their subsistence hunts and Shell received BOEM's approval to resume."¹⁷⁸

The use of conditions allows flexibility on the one hand but potentially increases uncertainty and delay on the other. Similarly, the leases that preceded the permits themselves may also contain Arctic-specific standards.¹⁷⁹ Until the rulemaking for Arctic-specific measures announced in 2013 is completed, such requirements are not yet uniformly applicable but required on a case-by-case basis.¹⁸⁰ Whether some of these requirements will find their way into the proposed Alaska-specific Arctic standards remains to be seen, but some have been suggested in the comments submitted preliminary to the rulemaking process.¹⁸¹

i. Waste Management, Chemical Use, and Discharge.

Waste management related to offshore operations involves a number of U.S. laws and regulations, including OCSLA, the Resource Conservation Recovery Act (RCRA), and the Clean Water Act (CWA). These cover disposal more extensively than the types of chemical discharge involved in offshore operations. Wastes from offshore and onshore oil and gas exploration and production are exempt from the hazardous waste management requirements of RCRA, falling

¹⁷⁷ The Approval letter from BOEMRE to Shell, dated Aug. 4, 2011, is attached to the DOI Review, *supra* note 37, at Tab B.

¹⁷⁸ *Id.*

¹⁷⁹ "Shell pre-laid boom during all fuel transfers, *as required by the terms of its leases*, an Arctic-specific standard that is not required elsewhere on the U.S. OCS." Emphasis added. Notably, Shell "transferred 3.25 million gallons of fuel in 23 operations with no reported pollution." DOI Review, *supra* note 37, at 21.

¹⁸⁰ Docket ID: BOEM-2013-0035, *supra* note 67.

¹⁸¹ *Id.*

instead under the act's solid waste requirements.¹⁸² Under the OCSLA implementing regulations, exempt exploration and production wastes can be disposed into injection wells or encapsulated into wellbores of wells that are about to be abandoned. The operator must apply for underground waste disposal permits, which BOEM evaluates on a case-by-case basis.

Discharge of waste and pollutants to marine surface waters, such as bays and oceans, must be authorized by an EPA or state National Pollutant Discharge Elimination System ("NPDES") permit, pursuant to the federal CWA. EPA reviews ocean discharge applications under an additional level of scrutiny so that they do not cause unreasonable degradation of the marine environment.¹⁸³ The NPDES permit that applied to the entire U.S. Arctic region expired June 26, 2011. As allowed by EPA regulations, however, Shell submitted a Notice of Intent to continue to operate under a prior but expired permit. In granting the request, the EPA specified the number of waste streams allowed for Shell's Chukchi and Beaufort drill sites.¹⁸⁴

Chemical discharge is covered indirectly by requiring that the Exploration Plan (EP) describe how the operator will comply with NPDES requirements, and that the Development and Production Plan (DPP) or Development Operations Coordination Document (DOCD) describe how all wastes, including chemical wastes, will be discharged.¹⁸⁵ For its 2012 season, Shell went beyond some permitting requirements and, under its Conflict Avoidance Agreement (CAA) with the Alaska Eskimo Whaling Commission, "undertook additional measures, such as agreeing

¹⁸² 40 C.F.R. § 261.4 (b)(5) (2013) codifies the exemption. *See, e.g.* JEFF FORT, MANAGEMENT OF OIL FIELD WASTES, IN OIL AND GAS LAW REPORT (MAR. 29, 2013), *available at* <http://www.oilandgaslawreport.com/2013/03/29/management-of-oil-field-wastes/> (last visited August 9, 2013) stating that: "most oil and gas E&P-related waste is regulated as a solid waste under Subtitle D, not hazardous waste under Subtitle C."

¹⁸³ 40 CFR pt. 125.122.

¹⁸⁴ DOI Review, *supra* note 37, at 13.

¹⁸⁵ *See, e.g.*, subpart M of 40 C.F.R. pt. 125, Ocean Discharge Criteria. 40 C.F.R. pt. 125 (2013).

to transport out drilling muds and cuttings from its Beaufort Sea operation instead of discharging them into the ocean.”¹⁸⁶

ii. Emissions to Air.

Regulations under the federal Clean Air Act (CAA) specifically address air emissions in the OCS.¹⁸⁷ Until recently, EPA’s CAA jurisdiction extended to all OCS areas except certain parts of the Gulf of Mexico, which are under BOEM and BSEE jurisdiction.¹⁸⁸ Pursuant to an appropriations rider, in December 2011 Congress transferred OCS CAA permitting for the Alaskan Arctic to BOEM for *future* leases; however, the “EPA retains permitting and enforcement authority for Shell’s existing operations.”¹⁸⁹

Regulations under both the CAA and OCSLA discuss air emissions in relation to their effects on onshore areas.¹⁹⁰ CAA regulations specify that flaring or venting of oil well gas cannot occur for more than 48 continuous hours or 144 cumulative hours per month without regulatory approval; as of yet, no Arctic-specific flaring requirements exist.¹⁹¹

Under EPA’s jurisdiction, operators must submit a notice of intent to emit and acquire a permit before engaging in any activity.¹⁹² The EPA administrator may require monitoring, reporting, and inspection as set forth in approved state implementation programs or the federal

¹⁸⁶ “Under this agreement, Shell was required to store and transport away from the *Kulluk* drilling fluids and cuttings, rather than discharge those materials into the ocean as is the common practice in other regions.” DOI Review, *supra* note 37, at 6 & 13.

¹⁸⁷ 40 C.F.R. § 55 (2013).

¹⁸⁸ U.S. Department of the Interior, Minerals Management Service, Notice to Lessees and Operators of Federal Oil, Gas, and Sulphur Leases in the Outer Continental Shelf, Air Quality Jurisdiction on the OCS, NTL No. 2009-N11 Dec. 4, 2009, available at <http://www.boem.gov/Regulations/Notices-To-Lessees/2009/09-N11.aspx>.

¹⁸⁹ DOI Review, *supra* note 37, at 12 & fn.14.

¹⁹⁰ 40 C.F.R. § 55.5; 30 C.F.R. §§ 250.303-250.304.^[LSEP]

¹⁹¹ 30 C.F.R. § 250.1100 (2013).

¹⁹² 40 C.F.R. § 55.4 & § 55.6; 30 C.F.R. §§ 250.300-250.304; 30 C.F.R. § 250.1100; 30 C.F.R. §§ 250.200-250.204.

program.¹⁹³ Regional supervisors must review the EP or DPP to determine if the operation has the potential to significantly affect onshore air quality and the operator must obtain appropriate permits.¹⁹⁴ By contrast, BOEM does not issue a separate air emissions permit but evaluates information that the operator provides as part of the approval process for the overall EP or DPP.¹⁹⁵

The EPA oversees the permits required for Shell's current Alaska drilling program, a process that began in 2007. EPA approved CAA permits for both drilling rigs that Shell planned to use in its 2012 drilling season, the *Noble Discoverer* (Chukchi) and the *Kulluk* (Beaufort). Upon challenge by outside parties, each permit was appealed separately to the EPA's internal Environmental Appeals Board (EAB) in processes that eventually resulted in Shell obtaining final permits either shortly before the season began (for the *Kulluk* on April 12, 2012) or well into the Arctic open water season (for the *Noble Discoverer* on September 19, 2012).¹⁹⁶

iii. Oil Spill Prevention and Liability.

Under the Oil Pollution Act of 1990, offshore operators must submit Oil Spill Response Plans (OSRPs) to the regulatory authority, now BSEE. Following the Deepwater Horizon accident, BSEE issued a Notice to Lessees (NTL) Guidance to Owners and Operators of Offshore Facilities Seaward of the Coast Line Concerning Regional Oil Spill Response Plans, NTL No. 2012-N06 (2012), applicable to all regions of the U.S. offshore.¹⁹⁷ The NTL was designed to clarify, among other things, that in reviewing whether the operator can respond

¹⁹³ 40 C.F.R. § 55.8.

¹⁹⁴ 30 C.F.R. §§ 250.300-250.304.

¹⁹⁵ See, generally 30 C.F.R. §§ 550.218; 550.302-304.

¹⁹⁶ DOI Review, *supra* note 37, at 13.

¹⁹⁷ BSEE issues NTLs as guidance documents to interpret and clarify regulations BSEE administers. The Administrative Procedure Act, 5 U.S.C. 553, on interpretive rules, provides the legal authority for NTLs.

effectively and quickly, BSEE's review of Effective Daily Recovery Rate alternatives will be based on the complete response strategy. Such a strategy includes, but is not limited to, descriptions of response equipment, personnel, materials, support vessels, transit times, and staging locations, as well as the methods and procedures described to contain and recover the discharged oil to the maximum extent practicable. These items take on added significance in the U.S. Arctic where shore-based resources are effectively non-existent, transit times are great, and staging locations must be carefully chosen.

BSEE approved Shell's OSRP for the Chukchi Sea in February 2012, just months before the summer 2012 drilling season began, and for the Beaufort Sea in March, after receiving input from other agencies serving on the Interagency Working Group on permitting in Alaska.¹⁹⁸ As the DOI report indicates:

The approved OSRPs were changed considerably from previous versions of Shell's plans. Specifically, Shell was required to reformat its plans and to demonstrate compliance with specific Federal regulations, include much higher estimates for worst case discharges, develop longer-run trajectories for spills, and provide additional details on the logistics of bringing equipment in from outside the region if necessary. Shell also committed in its OSRPs to deploying the ACS containment system to address the contingency of a well blowout. Shell's adherence with the terms of the OSRPs was verified by a series of tabletop exercises, drills, and equipment inspections.¹⁹⁹

iv. Protection of Living Marine Resources.

As the action agency under OCSLA, BOEM requires an operator to be in possession of all necessary permits issued by other agencies before exploration may begin. In addition to permits indirectly affecting the protection of the marine environment (as discussed in the three preceding sections), permits specifically addressing living marine resources are also required.

¹⁹⁸ Exec. Order No. 13580, *supra* note 65.

¹⁹⁹ DOI Review, *supra* note 37, at 14.

Two primary pieces of legislation are relevant to direct protection of living marine resources in the Arctic: the Marine Mammal Protection Act (MMPA) and the Endangered Species Act (ESA). Two agencies administer these acts nationally, including the Arctic: NOAA's National Marine Fisheries Service-Alaska Region and the Fish and Wildlife Service. The former covers permitting under both acts for whales and seals, and the latter administers such permitting for polar bear and walrus. "Incidental take" is authorized under the MMPA in two instances: 1) if it will have a negligible impact on the species not listed as "depleted" under the MMPA (a marine mammal listed under the ESA is considered "depleted" under the MMPA), or 2) if it will not have an "unmitigable adverse impact" on subsistence use.²⁰⁰

Similarly, the Endangered Species Act (ESA) prohibits the taking of listed species within the United States or its territorial sea, but the relevant agency can issue an "incidental take permit." The centrality of subsistence hunting to much of the Alaska Native population in the U.S. Arctic renders the MMPA and ESA provisions of special importance. Under Section 7 of the ESA, as the federal authorizing agency for OCSLA permitting, BOEM must consult with NMFS and FWS on any actions that might affect listed species including their habitats. This process can involve the relevant agency (NMFS or FWS) preparing a "Biological Opinion" to assess whether the action – e.g. an exploration permit under OCSLA – is likely to jeopardize the existence of the species.²⁰¹

Separate from the regulatory process, the Alaska Eskimo Whaling Commission (AEWC) and industry representatives have developed a process and practice of negotiating annual Conflict Avoidance Agreements (CAA). Not all companies agree to join the annual CAA, but

²⁰⁰ 50 C.F.R. § 216.104 (2013).

²⁰¹ 50 C.F.R. §402.02. "USFWS issued its Revised Biological Opinion and Conference Opinion for Oil and Gas Activities in the Beaufort and Chukchi Sea Planning Areas on May 8, 2012. NMFS issued ESA Incidental Take Statements to Shell on June 4, 2012 and to BOEM on June 11, 2012." DOI Review, *supra* note 37, at fn. 20.

they have become a critical means of placing conditions “temporal, spatial, and other limits on oil and gas activities in Arctic waters in order to protect ... subsistence harvest of the bowhead whale.”²⁰²

As the DOI Review of Shell’s 2012 drilling season notes:

Shell received incidental take authorization for its 2012 Beaufort and Chukchi Sea exploration drilling operations from both NMFS and USFWS. Shell’s CAA with the AEWC helped the company address the MMPA requirement that applications for incidental take authorizations include either a plan of cooperation or information that identifies what measures will be taken to minimize any adverse effects on the availability of marine mammals for subsistence uses.²⁰³

It is important to emphasize that the CAA is not a statutory requirement. However, having a CAA in place was a condition in BOEM’s approval of the Camden Bay Exploration Plan for 2012: “The CAA also included a range of other terms – some of which demonstrate best practices for operating in the Arctic. For example, Shell agreed to ‘zero discharge’ into the water of drilling muds and cuttings.”²⁰⁴

v. Equipment Design and Performance Standards.

The substantive areas discussed in the preceding four sub-sections i) to iv) have dealt largely with regulatory requirements for an operator’s overall Exploration Plan (EP). After

²⁰² Some years, individual companies have declined to participate in the CAA process. *See, e.g.*, Federal Register, Aug. 13, 2010, 49760, Notice, Docket No. 2010-19962, DEPARTMENT OF COMMERCE National Oceanic and Atmospheric Administration RIN 0648-XW13 Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to Open Water Marine Seismic Survey in the Chukchi Sea, Alaska, at 49761. On CAAs, *see generally* JORDAN DIAMOND, GRETA SWANSON & KATHRYN MENDERINK, RIGHTS AND ROLES: ALASKA NATIVES AND MARINE SUBSISTENCE RESOURCES, ENVIRONMENTAL LAW REPORTER (forthcoming 2013) (manuscript on file with authors). *Also see, e.g.*, Alaska Eskimo Whaling Commission, Open Water Season, http://aewc-alaska.com/Open_Water_Season.html (last visited July 10, 2013).

²⁰³ “BOEM’s lease stipulations governing activities at Shell’s Beaufort Sea and Chukchi Sea drill sites contain similar requirements.” DOI Review, *supra* note 37, at 14.

²⁰⁴ DOI Review, *supra* note 37, at 24.

BOEM approves an EP,²⁰⁵ the operator must submit an Application for Permit to Drill (APD) for each individual drill site. For the 2012 drilling season, Shell submitted ten APDs between January and April 2012. All ten APDs were incomplete, which led to an iterative “call and response” process. As part of the call and response, BSEE would require additional steps on equipment such as the Arctic Containment System, which DOI required to be on site in case of loss of well control, and Shell would respond.²⁰⁶ For example:

As discussed above, Shell was required, as conditions of the approvals of its exploration plans and OSRPs, to have the ACS containment system fully tested by BSEE and deployed in the Arctic before any drilling into hydrocarbon-bearing zones could occur. Because the deployment test of Shell’s ACS system failed, BSEE limited its approval of Shell’s APDs to top hole sections.²⁰⁷

Closely related to the APDs are the OCSLA regulatory requirements for the equipment to be used in the drilling, including well design and blowout preventers.²⁰⁸ Given the uniquely harsh, dark, cold, and ice-infested conditions in the Arctic, equipment design will be an important part of the Arctic-specific rulemaking announced in 2013.²⁰⁹ Indeed, the current DOI regulations at 30 CFR § 250 and 30 CFR § 550 “have very few Arctic-specific design and operating standards.”²¹⁰ Several of the comments submitted at the start of that process provide

²⁰⁵ Space limitations preclude discussing other such approvals related directly or indirectly to the EP, which may include an Oil Spill Financial Responsibility (OSFR) document and geological and geophysical (G&G) analyses of relevant hydrocarbon bearing zones.

²⁰⁶ DOI Review, *supra* note 37, at 16.

²⁰⁷ *Id.*

²⁰⁸ *See, e.g.*, 30 C.F.R. 250.411-250.418 (2013).

²⁰⁹ *See* Docket ID: BOEM-2013-0035, *supra* note 67.

²¹⁰ *Id.*; Comment from the Pew Charitable Trust, Proposed Arctic Regulation Improvements for the Outer Continental Shelf, Recommended Improvements to the Department of Interior’s ^{SEP}Title 30, Mineral Resources^{SEP} Chapter II, Bureau of Safety and Environmental Enforcement Department of the Interior, Subchapter B, Offshore^{SEP} pt. 250, Oil and Gas and Sulphur Operations in the Outer Continental Shelf pt. 550, Oil and Gas and Sulphur Operations in the Outer Continental Shelf, at 2, June 21, 2013. *See* Docket ID: BOEM-2013-0035, *supra* note 67.

detailed suggestions on matters such design and performance standards for exploratory drilling rigs, blow-out preventers, and support vessels, to name but a few categories.²¹¹

vi. Health, Safety, and Environmental (HSE) Concerns.

Rules, regulations, and industry standards that comprise the Health, Safety, and Environmental (HSE) category of operating practices are vast and complex. Instead of trying to capture all of them, we focus on perhaps the most innovative for the U.S. legal and regulatory regime, the Safety and Environmental Management Systems (SEMS) rule. The DOI has effected two changes to the OCSLA implementing regulations since the Deepwater Horizon accident: SEMS and the rule entitled “Increased Safety Measures for Energy Development on the Outer Continental Shelf” (the “Drill Safety Rule”).²¹² Both SEMS and the Drill Safety Rule significantly impact the U.S. offshore HSE regulations, but SEMS does it in a methodologically distinct way.

The first SEMS regulations, SEMS-I, had been under preparation well before the April 2010 Deepwater Horizon disaster, and were promulgated October 15, 2010. They *require* operators to implement SEMS, rather than doing so on a voluntary basis as had previously been allowed.²¹³ The SEMS-I regulations incorporate by reference American Petroleum Institute Recommended Practice 75 (API RP 75) and require risk analysis at the operational and job level, and stricter record-keeping requirements.²¹⁴ The SEMS-II rule, proposed in September 2011 and

²¹¹ *Id.*

²¹² Bureau of Safety and Environmental Enforcement, Newsroom, BSEE Releases Offshore Drilling Safety Rule <http://www.bsee.gov/BSEE-Newsroom/Press-Releases/2012/press081512.aspx> (last visited July 30, 2013).

²¹³ 30 C.F.R. § 250.1900 (2013).

²¹⁴ Bureau of Safety and Environmental Enforcement (BSEE), Oil and Gas and Sulphur Operations in the Outer Continental Shelf: Safety and Environmental Management Systems Revisions, Docket ID: BSEE–2012–0011, RIN 1014–AA04, <http://www.regulations.gov/#!documentDetail;D=BSEE-2012-0011-0001> (last visited July 30, 2013). On industry standards, see DOUG HASTINGS, ET AL., HARVARD LAW SCHOOL, EMMETT ENVIRONMENTAL LAW & POLICY CLINIC, RECOMMENDATIONS FOR IMPROVED OVERSIGHT OF OFFSHORE DRILLING BASED ON A REVIEW OF 40

effective in June 2013, strengthens SEMS by addressing stop-work provisions, reporting of unsafe conditions, and defining the authority and use of independent third-party auditors.²¹⁵

Adoption of the SEMS regulations in the United States marks a move from traditional prescriptive regulation to systems management, performance-based, and goal-oriented regulation. Canada and the United States made similar moves toward a hybrid of the two regulatory approaches at roughly the same time, between 2009 and 2010.²¹⁶

e. Revenue Collection.

In the context of this chapter, revenue collection is the most straightforward part of the legal and regulatory regime governing oil and gas activities in the U.S. Arctic OCS. Our cursory review should not serve as an indicator of the importance of this component. According to the National Commission on the BP Deepwater Horizon Oil Spill, combining three distinct and often-conflicting functions – environmental protection, energy security, and revenue generation – under the single MMS roof served as the main reason for neglect of safety and environmental regulation.²¹⁷ Such a “cross-purpose” model of regulation lead to the dominance of the pecuniary function:

Revenue generation—enjoyed both by industry and government—became the dominant objective. But there was a hidden price to be paid for those increased revenues. Any revenue increases dependent on moving drilling further offshore and into much deeper waters came with a corresponding increase in the safety and

REGULATORY REGIMES (June 2011), *available at* http://blogs.law.harvard.edu/environmentallawprogram/files/2013/01/offshore-drilling-white-paper_final1.pdf.

²¹⁵ Oil and Gas and Sulphur Operations in the Outer Continental Shelf–Revisions to Safety and Environmental Management Systems, 76 Fed. Reg. 56,683 (June, 4 2013) (to be codified as 30 C.F.R. pt. 250).

²¹⁶ Canada describes the hybrid approach as follows: “Goal-oriented regulation is a hybrid approach that includes prescriptive and goal- or performance-based elements. Prescriptive regulation dictates the means by which compliance is achieved, including what is to be done, by whom and how it is to be accomplished. Goal- or performance-based regulation sets regulatory goals or performance objectives to be achieved and allows companies to identify the means to meet them.” Regulatory Impact Statement, Canada Oil and Gas Production and Development Regulations, Canada Gazette pt. II, Vol. 143, No. 25, p. 2339.

²¹⁷ National Commission, *supra* note 97, at 56.

environmental risks of such drilling. Those increased risks, however, were not matched by greater, more sophisticated regulatory oversight.²¹⁸

This regulatory model failed dramatically on April 20, 2010, with the loss of 11 lives and the worst oil spill in U.S. history.²¹⁹ Fortunately for the U.S. Arctic OCS, the experiment ended with dismantling of the MMS and creating three regulatory entities with three separate missions, including revenue collection.

The ONRR defines its mission as “to collect, disburse, and verify Federal and Indian energy and other natural resource revenues on behalf of all Americans.”²²⁰ Correspondingly, ONRR manages the revenues associated with federal offshore mineral leases.²²¹ ONRR encompasses three program areas: Asset Management, Audit and Compliance Management, and Financial and Program Management.²²² The agency collects the revenue and disburses it.²²³ In contrast to the revenues associated with onshore lands, all funds collected from offshore leases are distributed to U.S. Treasury accounts.²²⁴ This makes a significant difference to the State of Alaska, which pursuant to the Alaskan Statehood Act receives 90 percent of revenue from federal onshore leases.²²⁵ The revenues from Arctic OCS leasing have not been negligible – Chukchi Sea Oil and Gas Lease Sale 193 alone netted \$2.7 billion.²²⁶ To ensure that the federal government gets a fair market value for the leased parts of the Arctic OCS, BOEM’s Alaska

²¹⁸ *Id.*

²¹⁹ *Id.* at 56-57.

²²⁰ Office of Natural Resource Revenue, Who We Are, Mission Statement, <http://www.onrr.gov/About/default.htm> (last visited July 30, 2013);

²²¹ *Id.*

²²² *Id.*

²²³ *Id.*

²²⁴ *Id.*

²²⁵ *Id.*

²²⁶ Shell accounted for the bulk of the lease sales having spent \$2.1 billion on 275 leases. DOI Review, *supra* note 37, at 9.

Resource Evaluation Program Office (“REPO-AK”) conducts studies of the mineral potential of the OCS.²²⁷ Such studies usually involve collection (*e.g.* 2D and 3D seismic surveys) and analysis of geological and geophysical (G&G) data.²²⁸ REPO also regulates G&G activities conducted by private parties via issuance of G&G permits.²²⁹ Because G&G exploration activities involve a major federal action significantly impacting the quality of human environment, they are subject to the EIS process under NEPA. In March 2013, BOEM and NOAA (the agency in charge of issuing incidental take permits in connection with G&G permits) announced the release of the Supplemental Draft Environmental Impact Statement “Effects of Oil and Gas Activities in the Arctic Ocean.”²³⁰

IV. Concluding Remarks: Gaps and Opportunities

As it currently stands, the legal and regulatory system for offshore oil and gas activity in the U.S. Arctic Ocean is largely the same one that applies to mid-latitude temperate areas of the U.S. offshore. Arctic-specific conditions and procedures have been introduced into the regulatory system largely on a case-by-case basis, whether by government agencies when they grant approvals of applications, or by the Conflict Avoidance Agreements entered into most seasons between the Alaska Eskimo Whaling Commission and companies planning to operate in Beaufort or Chukchi seas. Most of the conditions introduced in this way implicitly recognize the need to proceed with caution in an area where drilling has been relatively sparse. However, none of the conditions expressly embraces the precautionary approach that is recommended by the

²²⁷ Bureau of Ocean Energy Management, Resource Evaluation Program Office - Alaska Region <http://www.boem.gov/About-BOEM/BOEM-Regions/Alaska-Region/Resource-Evaluation/Index.aspx> (last visited July 30, 2013).

²²⁸ *Id.*

²²⁹ *Id.*

²³⁰ National Oceanic and Atmospheric Administration, Environmental Impact Statement (EIS) on the Effects of Oil and Gas Activities in the Arctic Ocean, Supplemental Draft EIS, <http://www.nmfs.noaa.gov/pr/permits/eis/arctic.htm> (last visited July 30, 2013).

Arctic Council Arctic Offshore Oil and Gas Guidelines.²³¹ Removing as much conditionality as possible from the permitting process would be in keeping with the mandate of the Interagency Working Group on permitting in Alaska to make it more streamlined, reliable, and certain.²³²

The rulemaking that will promulgate Alaska-specific rules under the Outer Continental Shelf Lands Act (OCSLA) is anticipated by the end of 2013.²³³ It will serve as an important step toward putting requirements in place that are more appropriate to the harsh, unpredictable, and dangerous Arctic conditions facing companies operating in the U.S. Arctic offshore. More effective engagement of Alaska native communities has the potential to tap into important local and traditional knowledge relevant to operating in the Arctic.²³⁴ Serious consideration of how best to incorporate the Arctic- and frontier-specific recommendations of the Deepwater Commission²³⁵ will also strengthen the current regulatory system, as will expanding even further the circumpolar cooperation between regulators through such forums as the bilateral BOEM-BSEE-National Energy Board of Canada sponsored Northern Oil and Gas Research Forum, and in international forums such as the Arctic Council. Similarly, studying how other regions of the Arctic have approached regional cooperation, such as the Barents 2020 project between Russia

²³¹ PAME Guidelines, *supra* note 175, at 6.

²³² Exec. Order No. 13580, *supra* note 65. The working group issued its first report in April 2013, in which it identifies six principles that stakeholders urged be used in any approach to managing activities across the U.S. Arctic: “whole-of-government coordination to improve efficiency and operational certainty; direct and meaningful partnership with stakeholders; science-based decision-making focused on ensuring sustainable ecosystems; adaptive approaches guided by ongoing research and monitoring; a region-wide planning approach that looks across jurisdictional boundaries; and improved understanding and consideration of the cumulative impacts of human activities in the region.” CLEMENT, J. P., J. L. BENGTON, & B. P. KELLY, INTERAGENCY WORKING GROUP ON COORDINATION OF DOMESTIC ENERGY DEVELOPMENT AND PERMITTING IN ALASKA (D. J. HAYES, CHAIR,) MANAGING FOR THE FUTURE IN A RAPIDLY CHANGING ARCTIC, A REPORT TO THE PRESIDENT 2 (2013).

²³³ DOI Docket ID: BOEM-2013-0035, *supra* note 67.

²³⁴ Diamond et al., *supra* note 202.

²³⁵ National Commission, *supra* note 97, 55-57.

and Norway, can also help improve domestic review of U.S. rules.²³⁶ Taking a critical and open look at how other Arctic countries address similar issues can help the United States improve its own laws and regulations and to take a leadership role in setting region-appropriate standards for operations in the Arctic offshore.

²³⁶ BARENTS 2020 – ASSESSMENT OF INTERNATIONAL STANDARDS FOR SAFE EXPLORATION, PRODUCTION AND TRANSPORTATION OF OIL AND GAS IN THE BARENTS SEA, REF./2/ (Mar. 2010), *available at* <http://www.dnvusa.com/resources/reports/barents2020.asp>.