



Arctic Offshore Oil and Gas Guidelines White Paper No. 1

Operating Practices in the United States and Canada

The Arctic Council¹ endorsed the latest version of the [Arctic Offshore Oil and Gas Guidelines](#) (AOOGG) in April 2009. The AOOGG were prepared by the Protection of the Marine Environment Working Group (PAME) and are “intended to define a set of recommended practices and outline strategic actions for consideration by those responsible for regulation of offshore oil and gas activities” in the Arctic.

As active participants in the Arctic Council, the United States and Canada have the potential to demonstrate model practices for offshore oil and gas development in their neighboring offshore areas of the Western Arctic Ocean, especially as each country reviews its procedures in light of the fatal April 2010 Deepwater Horizon blowout and explosion in the Gulf of Mexico. This paper outlines national laws and regulations existing at the time of the accident to suggest how both countries, as they revisit their procedures, can use the Arctic Council guidelines to more effectively regulate *Operating Practices* in offshore oil and gas development in the Western Arctic.

For a survey of the offshore permitting process in each country, a list of references, and a description of this White Paper Series please refer to the Overview accompanying this White Paper No. 1.

¹ The Arctic Council was established in 1996 as a “high level intergovernmental forum” to promote cooperation, coordination and interaction among the Arctic states with significant involvement from Arctic Indigenous communities and other Arctic inhabitants.



I. Operating Practices in the AOOG Guidelines

The Arctic Council AOOG Guidelines devote chapter 6 to Operating Practices, setting forth seven topics that responsible oil and gas development should address. The Guidelines interpret “operating” broadly, to cover every phase of oil and gas activity from prospecting and exploration to development, production, platform decommissioning and site clearance. The AOOGG do not always identify the phase of oil and gas activity to which the following seven topics apply.

1. Waste Management - AOOGG

The AOOGG Operating Practices chapter discusses waste management at greatest length. Assuming that overall initial planning can prevent pollution discharges during operations, the Guidelines recommend preventive pre-construction management techniques such as planning for zero discharge of drilling wastes. They also examine different types of waste, such as fluid waste from well testing, waste from drilling activities, production waste discharge, and hazardous waste handling and disposal.

2. Use and Discharge of Chemicals - AOOGG

The Guidelines recommend that operators should always use and discharge the lowest level of chemicals possible and assess chemical risk by examining biodegradability, bioaccumulation and acute toxicity using laboratories that follow established international testing standards.

3. Emissions to Air - AOOGG

The Guidelines identify air emissions as resulting from i) combustion of fuel for power, ii) production, treatment, storage or transportation of oil and gas, and iii) gas flaring. They advise adopting practices to improve energy efficiency, such as using more fuel efficient equipment and encouraging energy conservation behavior. The Guidelines recommend adopting policy instruments and using best available techniques to reduce emissions and discharges from petroleum activities, emissions from flaring, and VOC emissions.

4. Design and Operations - AOOGG

The Guidelines recommend that for every step of oil and gas activity, from exploration to decommissioning, operators should include and maintain safety and environmentally protective measures in the practical design of all relevant facilities. Ensuring “that wells remain under control at all times ... even while operating under extreme conditions” is of primary importance.² Effective practices include conducting periodic risk analysis

² AOOGG, 36.

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“to follow the progress of activities in planning and implementation,” updating these analyses “on a continuous basis and includ[ing them] as part of the decision making process.”³ Furthermore, “[b]lowout preventers and related equipment should be suitable for operation in subfreezing conditions. Drilling fluids, well casing programs, cements, emergency well shut-in procedures and well safety programs should also be suited to Arctic conditions including moving ice and possible subsurface permafrost.”⁴

5. *Human Health and Safety - AOOGG*

Operating practices must incorporate management systems, work procedures and control of materials to ensure employee health and safety. Management systems (covered extensively in a separate chapter 5 of the AOOGG) should cover training, testing of preparedness, establishing clear lines of communication and related matters. They should address the likely sources of hazards in arctic oil and gas operations, including “the harsh Arctic environment, the structural integrity of the installation, blowouts, fire and explosions, equipment failure, the transfer of personnel and supplies” and other causes.

6. *Transportation of Supplies, Transportation Infrastructure and Training - AOOGG*

The Guidelines specify on page 1 that they address all stages of offshore oil and gas activity *except* transportation of oil and gas. They recommend that planning for transportation, by air or water, of people, supplies, and infrastructure should be integral to any environmental impact analysis of a project, as should careful planning of supply routes, cargo handling and safe navigation and their effects. Operating practices should consider how supplies, the supply base and installations can operate with the least environmental impact. Operating practices should also adapt and apply other sections of the Guidelines regarding management systems, monitoring programs and emergency planning to transportation activities. Relevant International Maritime Organization standards should also be followed.

7. *Training - AOOGG*

The Guidelines recommend requiring personnel to have relevant training, including installation-specific emergency training, to ensure appropriate response in difficult and emergency situations. Training also promotes leadership and command ability, communication skills, team building, and crisis management.

³ AOOGG, 36-38.

⁴ AOOGG, 37.

II. Operating Practices - United States

U.S. laws and regulations relevant to the *Operating Practices* discussed in the Guidelines speak to all seven AOOGG topics, although chemical use and discharge and transportation are treated minimally in oil and gas specific legislation. Regulations distinguish between exploration, development, and production phases. Exploration is defined as “drilling for the purpose of searching for commercial quantities of oil.” “Development” means activities after discovery of “paying quantities,” which leads to the production phase of “removal of minerals ... transfer of minerals to shore, operation monitoring, maintenance, and workover operations.”⁵

Until the Deepwater Horizon explosion, the Minerals Management Service (MMS) administered the Outer Continental Shelf Lands Act (OCSLA),⁶ which is the primary relevant act for offshore oil and gas development in the Arctic. As of July 14, 2010, DOI delegates OCSLA responsibilities to three newly established Interior agencies: the Bureau of Ocean Energy Management, Bureau of Safety and Environmental Enforcement, and Office of Natural Resources Revenue.⁷ The Alaska Region office is responsible for regulating offshore oil and gas activity in the U.S. Arctic. Unless otherwise specified, this white paper discusses the legal situation before the explosion and refers to “MMS” throughout.

1. Waste Management and Chemical Use and Discharge - United States

Waste disposal is discussed extensively in relevant U.S. laws and regulations. Federal law grants limited exemptions from the hazardous waste management requirements of the Resource Conservation Recovery Act (RCRA) to initial oil and gas downhole drilling operations wastes.⁸ Exempt exploration and production wastes can be disposed by injecting into injection wells or encapsulating into well bores of wells that are about to be abandoned. The operator must apply for underground waste disposal permits, which are evaluated on a case-by-case basis.⁹ Beyond the limited exception, RCRA handling and disposal requirements continue to apply to characteristic or listed hazardous wastes that are generated during operations.¹⁰ Discharge of waste and pollutants to surface waters, such as bays and oceans, must be authorized by an EPA or authorized state National Pollutant Discharge Elimination System (NPDES) permit, pursuant to the Clean Water Act. The EPA gives ocean discharge applications an additional level of review, requiring that discharges not cause unreasonable degradation of the marine environment.¹¹ Chemical discharge is covered indirectly by requiring that the Exploration Plan (EP) describe how the operator will

⁵ 30 CFR § 250.105.

⁶ Title 43 USC §§ 1331 et seq.; the relevant regulations are Oil and Gas and Sulphur Operations in the Outer Continental Shelf, 30 CFR Part 250.

⁷ DOI Press Release July 14, 2010, at <http://www.doi.gov/news/pressreleases/Salazar-Receives-Implementation-Plan-for-Restructuring-the-Departments-Offshore-Energy-Missions.cfm>. See also DOI Secretarial Order 3302, June 18, 2010.

⁸ RCRA §§ 3001(b)(2)(A), 8002(m).

⁹ 30 CFR § 250.300(b)(2).

¹⁰ See generally, RCRA, Subtitle C, hazardous waste regulations. 40 CFR §§ 261 et seq.

¹¹ Subpart M of 40 CFR Part 125.

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comply with NPDES requirements, and that the Development and Production Plan (DPP) describe how all wastes, including chemical wastes, will be discharged.¹²

2. Emissions to Air - United States

The Clean Air Act (CAA) regulations specifically address air emissions in the OCS.¹³ EPA's jurisdiction extends to all OCS areas except certain parts of the Gulf of Mexico, which is within the jurisdiction of MMS successor agencies.¹⁴ Before any activity, operators must both submit a notice of intent to emit and acquire a permit.¹⁵ The EPA administrator may require monitoring, reporting and inspection as set forth in approved state implementation programs or the federal program.¹⁶ Although air emissions regulations mandated by the OCSLA do not apply where the EPA has jurisdiction, both CAA regulations and OCSLA regulations discuss air emissions in relation to their effects on onshore areas.¹⁷ 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.¹⁸ Representatives from the affected onshore state may participate in the planning and development process and in gathering emissions information. Depending on the data, the regional supervisor may require control measures. Flaring or venting of oil well gas cannot occur for more than 48 continuous hours or 144 cumulative hours per month without regulatory approval.¹⁹

3. Practical Design & Operation of the Facility, Human Health & Safety, and Training - United States

The OCSLA regulations for EPs and DPPs discuss three AOOGG topics in concert: practical design/operation of the facility, human health and safety, and training (this paper does not address legislative and regulatory changes proposed since the Deepwater Horizon explosion).²⁰ Provisions relating to facility design and operation are scattered throughout the OCSLA regulations, e.g. in Subpart B on Plans and Information, Subpart C on pollution prevention and Subpart H on Oil and Gas Production Safety Systems. Subpart I on Platform and Structures contains facility design and fabrication specifications based on Coast Guard regulations and industry standards, and requires equipment testing, maintenance and safety measures.²¹

Before the Deepwater Horizon explosion, any Exploration Plan (EP) had to include a blowout scenario that described the potential blowout and subsequent control measures.²² Furthermore, before receiving a permit to drill any well, the operator had to show that drilling plans included a Blowout Preventer System with

¹² Although DPPs are submitted in Alaska, DPPs are not required for leases in the Central Planning Area and Western Planning Area of the Gulf of Mexico. Instead, Development Operations Coordination Documents (DOCD) are required. 30 CFR § 250.2, Gulf of Mexico Region Offshore Information, U.S. Department of the Interior, available at <http://www.gomr.mms.gov/homepg/regulate/regs/laws/postsale.html>.

¹³ 40 CFR § 55.

¹⁴ Notice to Lessees and Operators of Federal Oil, Gas, and Sulphur Leases in the Outer Continental Shelf, Air Quality Jurisdiction on the OCS, U.S. Department of the Interior, Minerals Management Service, NTL No. 2009-N11 (effective December 4, 2009) available at <http://www.mms.gov/ntls/PDFs/09-N11.pdf>.

¹⁵ 40 CFR § 55.4, § 55.6.

¹⁶ 40 CFR § 55.8.

¹⁷ 40 CFR § 55.5; 30 CFR §§ 250.303 to 250.304.

¹⁸ 30 CFR §§ 250.300 to 250.304.

¹⁹ 30 CFR § 250.1100.

²⁰ 30 CFR §§ 250.200 to 250.204.

²¹ 30 CFR §§ 250.900 to 250.914; 30 CFR §§ 250.1000 to 250.1014.

²² 30 CFR §§ 250.213.

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testing, inspection and maintenance measures and were designed to have adequate supervision, surveillance and training of personnel.²³ During production, management practices were to incorporate specific safety requirements for equipment movement and address emergency shutdown, safety devices, a BPS, inspections and maintenance.²⁴ A separate set of regulations is devoted to well control and production safety training programs for employees.²⁵

In June 2010, MMS issued two Notices to Lessees and Operators (NTL) detailing increased safety measures for the OCS. One NTL dictates new operator and third party certification requirements for blowout preventers,²⁶ and the other sets forth new Environmental Plan information requirements such as detailed descriptions of response plans for a worst case discharge scenario.²⁷

4. Transportation - United States

OCSLA regulations require that plans for transporting supplies (drilling fluids, chemical products and waste) and infrastructure be described briefly as part of the EP and DPP.²⁸ They contain almost no discussion of transport of people or infrastructure, which matters typically fall under the jurisdiction of the U.S. Coast Guard or the federal Maritime Administration in the U.S. Department of Transportation, both of which interact with the International Maritime Organization on Arctic related matters. The U.S. Arctic Region Policy²⁹ identifies U.S. priorities for maritime transportation in the Arctic region as facilitating safe, secure, and reliable navigation, and protecting maritime commerce and the environment, but does not tie these priorities directly to offshore oil and gas development. The Arctic Council Guidelines expressly exclude transport of oil and gas, but it should be noted that the OCSLA regulations cover pipeline requirements in some detail.

III. Operating Practices - Canada

Canadian laws and regulations relevant to the *Operating Practices* discussed in the Guidelines address all seven AOOOGG topics. The Canada Oil and Gas Operations Act (COGOA)³⁰ is the primary act relevant to operating practices. COGOA is the implementing legislation for Canada Oil and Gas Drilling and Production (COGDP), Canada Oil and Gas Installations (COGI) regulations,³¹ and other regulations. Additional acts and their regulations are also discussed below. The Department of Indian Affairs and Northern Development

²³ 30 CFR §§ 250.400 to 250.409, 250.416, 250.440 to 250.451.

²⁴ 30 CFR §§ 250.500 to 250.517; specifically §§ 250.600 to 250.618.

²⁵ 30 CFR §§ 250.1500 to 250.1510.

²⁶ National Notice to Lessees and Operators of Federal Oil and Gas Leases, Outer Continental Shelf, Increased Safety Measures for Energy Development on the OCS, U.S. Department of the Interior Minerals Management Service, NTL No. 2010-N05 (Effective Date June 8, 2010), available at http://www.mms.gov/ntls/PDFs/2010-N05_IncreasedSafetyMeasures.pdf

²⁷ National Notice to Lessees and Operators of Federal Oil and Gas Leases, Outer Continental Shelf, Information Requirements for Exploration Plans, Development and Production Plans and Development Operations Coordination Documents on the OCS, U.S. Department of the Interior Minerals Management Service, NTL No. 2010-N06 (Effective Date June 18, 2010), available at http://www.mms.gov/ntls/PDFs/NTL_OMB_control.pdf.

²⁸ 30 CFR §§ 250.224 and 250.257.

²⁹ National Security Presidential Directive/NSPD – 66 and Homeland Security Presidential Directive/HSPD – 25, as approved January 9, 2009. See Section III “Policy”, Part F, “Maritime Transportation in the Arctic Region.”

³⁰ Canada Oil and Gas Operations Act (R.S., 1985, c. O-7).

³¹ Canada Oil and Gas Drilling and Production Regulations (SOR/2009-315); Regulations Respecting Oil and Gas Installations Used in Areas of Canada Under the Canada Oil and Gas Operations Act (SOR/96-118).

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(DIAND) and the National Energy Board (NEB) have independent but complementary roles. The DIAND administers the rights to oil exploration while the NEB authorizes drilling on the OCS. Canadian regulations distinguish between the development (exploratory) drilling phase and the production phase.³²

1. Waste Management, Use and Discharge of Chemicals, Emissions to Air - Canada

The COGDP Regulations cover three of the AOOGG topics together: waste management, use and discharge of chemicals, and emissions to air. Well drilling activities should be conducted with no waste or pollution, and “waste material” is defined broadly as garbage or refuse or other useless materials, including drilling fluid and drill cuttings from wells.³³ Waste materials such as chemical substances should be handled to prevent “hazard to safety or the environment.”³⁴ The operator must file annual environmental reports summarizing incidents with environmental impacts, waste material production, efforts to reduce pollution and a description of environmental contingency plan exercises.³⁵ The COGOA also deems wasteful “the escape or flaring of gas that could be economically recovered and processed or economically injected into an underground reservoir.”³⁶ The regulations address emissions to air only in the context of flaring: gas flaring and venting is allowed only in emergency situations, not requiring advance approval.³⁷

Disposal of waste offshore is also covered by the Canadian Environmental Protection Act (CEPA) and the associated Disposal at Sea Regulations.³⁸ CEPA includes schedules of toxic substances, wastes, and details of disposal assessment factors for wastes and other matter.³⁹ The regulations establish a detailed system for permitting disposal of wastes and reporting of discharges in the Arctic.⁴⁰ The waste disposal permit must be published at least 30 days before the first day of disposal and a person may object to the permit.⁴¹ Furthermore, any disposal or discharge without a permit would violate the Fisheries Act, which prohibits any “deleterious substances” being deposited into “any water where fishing is carried on....” or “in water frequented by fish....”⁴² Under the Arctic Waters Pollution Prevention Act, any unpermitted disposal of waste in arctic waters must be reported immediately and the actors are subject to strict civil liability for resulting costs, expenses, loss or damage and for repair, remedy, reduction and mitigation measures.⁴³

2. Design and Operations - Canada

The NEB Chief Safety Officer (CSO) must issue a Certificate of Fitness to the operator before drilling, installation or production can begin. Issuance depends on whether the operator will “operate safely without

³² E.g. the COGI Regulations define “development plan,” “Drilling Program Authorization,” and “Production Operations Authorization,” s. 2(1).

³³ COGDP Regulations, ss. 1, 13, 28, 30.

³⁴ Id. s. 23.

³⁵ Id. s. 87, and see s. 86(b).

³⁶ COGOA, s. 18(f).

³⁷ COGDP Regulations, s. 67.

³⁸ Canadian Environmental Protection Act, 1999, S.C. 1999, c. 33 (CEPA). Regulations Respecting Applications for Permits for Disposal at Sea, SOR/2001-276 (“Disposal at Sea Regulations”).

³⁹ CEPA, Schedule 1: Toxic Substances, Schedule 5: Waste or Other Matter, Schedule 6: Assessment of Waste or Other Matter.

⁴⁰ Disposal at Sea Regulations, s. 2.

⁴¹ CEPA, s. 133, 134.

⁴² Fisheries Act, (R.S., 1985, c. F-14) s. 36.

⁴³ Arctic Waters Pollution Prevention Act (R.S., 1985, c. A-12) (AWPPA), s. 5, 6.

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polluting the environment” and whether the inspection and monitoring program and maintenance program are “adequate to ensure and maintain the integrity of the installation.”⁴⁴ Before issuing a Certificate, the CSO must approve the “scope of work,” which requires construction and installation to be carried out in accordance with design specifications.⁴⁵ The operator must design the facility in accordance with good engineering practices and achieve the following three goals: “(a) provide for the safety of personnel; (b) minimize damage to the environment; and (c) enable easy access to the equipment.”⁴⁶

Under the COGI Regulations the operator must obtain well approval before drilling any wells and must ensure that all wells have adequate procedures, materials and equipment to “prevent blowouts and safely carry out all well activities and operations, including drilling, completion and workover operations.”⁴⁷ The facility structures, components, and systems must satisfy design standards by the Canadian Standards Association, the American Petroleum Institute, and other associations.⁴⁸ The regulations frequently require certain components to be protected from arctic conditions such as permafrost, sea ice and icebergs.⁴⁹ Under the COGOA Regulations the operator has a duty to report an oil spill and must “take all reasonable measures” to protect the environment and “repair or remedy” the negative effects of the spill.⁵⁰

3. Human Health and Safety - Canada

One of the primary purposes of COGOA is to promote “safety, particularly by encouraging persons exploring for and exploitation of oil and gas to maintain a prudent regime for achieving safety.”⁵¹ Before any approval for oil and gas activities is granted, the NEB must consider safety of the proposed work or activity and “the system as a whole and its components, including its installations equipment, operating procedures and personnel.”⁵² In addition, the numerous sets of Canadian regulations regarding human health and safety in oil and gas activities include the COGOA Certificate of Fitness Regulations, which incorporate by reference the Canada Labour Code’s Oil and Gas Occupational Safety and Health (OGOSH) Regulations.⁵³ The OGOSH Regulations address in detail such topics as building safety, temporary structures, vessels, electrical safety, sanitation and hazardous substances.

Under COGOA, the COGI Regulations address safety in general by requiring the facility structures, components, and systems to satisfy design standards set by industry associations such as the American Petroleum Institute.⁵⁴ By contrast, the COGDP Regulations no longer incorporate industry standards by reference; nonetheless the operator must ensure that any offshore installation, whether for exploration or

⁴⁴ Certificate of Fitness Regulations, s. 4.

⁴⁵ Certificate of Fitness Regulations, s. 6.

⁴⁶ COGI Regulations, ss. 3, 37.

⁴⁷ COGDP Regulations, ss. 11, 35, 36.

⁴⁸ COGI Regulations, ss. 30, 31, 32.

⁴⁹ COGDP Regulations, ss. 8(g), 39(c), 86; see also COGI Regulations s. 14 on winterization.

⁵⁰ COGOA, ss. 24, 25. See also COGDP Regulations, s. 6(j), requiring contingency plans to address oil spills.

⁵¹ COGOA, s. 2.1.

⁵² COGOA, s. 5.02.

⁵³ Canada Oil and Gas Certificate of Fitness Regulations (SOR/96-114), s. 4. Oil and Gas Occupational Safety and Health Regulations (SOR/87-612).

⁵⁴ COGI Regulations, ss. 30, 31, 32.

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production, is constructed in a safe manner.⁵⁵ Safety zones must be established and annual safety reports are required.⁵⁶ COGOA's Geophysical Operations Regulations govern safe working practices for activities investigating or measuring the earth's subsurface to locate oil and gas.⁵⁷

The COGDP Regulations establish an integral connection between human safety and environmental protection. Under Part Two all applicants for project authorization must have a comprehensive management system in place that integrates operational, safety, environmental, and other considerations, and the authorization application itself must include a safety plan and an environmental protection plan. Requirements for the two plans are extensive and virtually identical, with minor variations such as the safety plan needing to include measures to protect the installations from pack sea ice, drifting icebergs or land-fast sea ice.⁵⁸ Both the safety and environmental plans must describe studies undertaken to identify and evaluate potential safety/environmental problems and a summary of the measures to manage related risks. Furthermore, each plan must list the structures critical to safety/environmental protection and identify the person accountable for the respective plan and its implementation. The operator's duties under Part Three include compliance with the management system, and taking "all reasonable precautions to ensure safety and environmental protection;" human safety takes priority.

4. Transportation - Canada

From the Arctic Waters Pollution Prevention Act of 1970 to the Northern Canada Vessel Traffic Services (VTS) Zone Regulations⁵⁹ that entered into force on July 1, 2010, Canada has developed Arctic-specific laws and regulations dealing with transportation by sea generally. These instruments are not specific to the offshore oil and gas industry but they often refer to the exploitation of natural resources in the Arctic as a reason for promulgation.⁶⁰ Transport Canada, the federal department responsible for Canada's transport policies and programs, has an Arctic Shipping division that develops and maintains regulations, standards, and guidelines for Canadian Arctic ice-covered waters. This work includes interacting with the International Maritime Organization (IMO) and the International Association of Classification Societies (IACS) in developing guidelines and unified requirements for Polar Class ships.

5. Training - Canada

Under the COGDP Regulations, before personnel can begin employment, the operator must ensure that they are qualified for their positions by reviewing their past experiences.⁶¹ The Geophysical Operations

⁵⁵ COGDP Regulations, ss. 1, 19.

⁵⁶ COGDP Regulations, ss. 71, 87.

⁵⁷ Canada Oil and Gas Geophysical Operations Regulations (SOR/96-117), ss. 28 to 34.

⁵⁸ COGDP Regulations, Part 2, s. 8(g).

⁵⁹ Northern Canada Vessel Traffic Services Zone Regulations P.C. 2010-732 June 10, 2010, implementing the Canada Shipping Act of 2001, available at <http://www.gazette.gc.ca/rp-pr/p2/2010/2010-06-23/html/sor-dors127-eng.html>.

⁶⁰ See, e.g., Preamble, AWPPA, note 43, above, and the Regulatory Impact Analysis Statement for the VTS regulations at the URL in note 59.

⁶¹ COGDP Regulations, s. 72.

Regulations are more detailed and require such training measures as drills and survival and emergency courses.⁶²

IV. Observations and Conclusions - Operating Practices

In measuring the Canadian and U.S. regulatory systems against the Arctic Council AOOG Guidelines for Operating Practices, three points deserve emphasis. First, Canadian regulations relating to operating practices appear to address environmental considerations more systematically, but not necessarily more thoroughly, than do U.S. regulations. Second, regulators in both countries have discretion, within limits, to replace regulatory requirements with comparable practices. Third, both countries regulate the transportation by sea of people and supplies and transportation infrastructure for offshore oil and gas activity through legislation not specifically related to oil and gas development. However, Canada has Arctic-specific acts and regulations for the use of northern waters and the United States does not.

Laws and regulations in Canada relevant to operating practices give priority to environmental protection over continued operation of a project⁶³ and appear to address environmental issues more systematically than laws and regulations in the United States. Under the COGI Regulations one of the three goals of facility design is to “minimize damage to the environment.”⁶⁴ With its 2009 revisions to the COGDP Regulations, Canada implemented a systems management approach that requires safety and environmental plans as part of the initial application for project authorization and no longer incorporates industry standards by reference. Moving the standards out of the Regulations “allows for innovation, project/regional specificity and timely use of new standards. Operators become responsible for identifying appropriate standards, codes and practices ... for specific projects and for their use in achieving compliance. Moving the standards out of the regulations also reduces the numbers of requests for exemption or equivalency.”⁶⁵ While these recently revised COGDP Regulations adopt a modern goal-oriented and management systems regulatory approach, it is important to recall that the large number of other relevant Canadian laws and regulations still apply a combination of prescription and reference to industry standards.

For their part, U.S. regulations require that operators should not “cause undue or serious harm or damage to the human, marine, or coastal environment.”⁶⁶ Although U.S. laws and regulations may be less systematic in addressing environmental protection in oil and gas operations at least when compared to the 2009 COGDP regulations in Canada, they are not necessarily less thorough. U.S. regulations tend still to regulate by phase of development, rather than by functional theme as the COGDP Regulations attempt to do. As in Canada, the U.S. rules for OCS development also apply a combination of prescription, goal-oriented regulation, and industry standards. Unlike Canada’s COGDP Regulations, but similar to other of Canada’s

⁶² Canada Oil and Gas Geophysical Operations Regulations, ss. 35 - 36.

⁶³ See, e.g. COGDP Regulations, s. 9, s. 24; Certificate of Fitness Regulations, s. 4.

⁶⁴ COGI Regulations, s. 3.

⁶⁵ COGDP Regulations Regulatory Impact Analysis Statement, Canada Gazette, Vol. 143, No. 25 -- December 12, 2009 SOR/2009-314.

⁶⁶ 30 CFR § 250.202. See also 30 CFR §§ 250.106 (c), 250.300(a)(1), 250.401(d), 250.417(c)(2), 250.800(a).

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regulations, U.S. rules still incorporate industry standards by reference.⁶⁷ Proponents believe this allows industry and regulators to handle new challenges without time consuming modification of the regulations themselves, while still addressing environmental and safety concerns. Curiously, this is similar to the reasoning in Canada quoted above for moving industry standards out of the 2009 COGDP regulations. It also begs the question of how differently, if at all, each legal system interprets the systems management and goal-based approaches to regulation. Also in contrast to Canada, the United States has proposed, but not yet adopted, a management systems approach for OCS development. In 2009 MMS proposed requiring operators to develop and implement a four-part Safety and Environmental Management Systems (SEMS), to address Hazards Analysis, Management of Change, Operating Procedures, and Mechanical Integrity. While this SEMS proposed rule is under serious evaluation,⁶⁸ the use of SEMS for OCS operations remains voluntary, although in practice mandatory safety and environmental regulations cover similar matters.⁶⁹

Both countries allow for regulatory exemptions and leave some discretion to federal regulators. Understanding how that discretion is exercised in practice, which is beyond the scope of this study, is critical to any comparison or proposed reform in either system. A Canadian federal “Chief Safety Officer and Chief Conservation Officer may authorize the use of equipment, methods, measures or standards in lieu of any required by regulation” where the officer is satisfied that the “other equipment, methods, measures or standards would provide a level of safety, protection of the environment and conservation equivalent to that provided by compliance with the regulations.”⁷⁰ In the United States “[a]ny alternate procedures or equipment ... must provide a level of safety and environmental protection that equals or surpasses current MMS requirements.”⁷¹

Both countries address the safe transportation by sea of persons, supplies and infrastructure, primarily through shipping acts that are not specific to oil and gas development. In Canada, however, some oil and gas related regulations make tangential reference to planning supply routes, the mode of transportation, and the handling of cargo and safe navigation with the least environmental impact in the context of dealing with arctic conditions.⁷² Canada’s Arctic-specific acts and regulations that are relevant to the AOOGG suggestions for transportation of people, supplies and infrastructure include the Arctic Waters Pollution Prevention Act (and regulations), and the Northern Canada Vessel Traffic Services Zone Regulations, which entered into force on July 1, 2010. No Arctic- or offshore-specific requirements were identified in either country for transport by air of persons, supplies and infrastructure involved in oil and gas development.

The April 2010 Deepwater Horizon blowout and explosion in the Gulf of Mexico provides a stark reminder that regulation of offshore oil and gas activity has the dual role of ensuring safe operations and protecting the environment. The Arctic Council AOOG Guidelines exhibit a keen awareness of the safety-environment

⁶⁷ 30 CFR §§ 250.108 (API standards for offshore cranes); 250.198 (ACI, API, ANSI, and ASTM standards incorporated by reference); 250.801 (API standards for subsurface safety devices) and 250.901 (API and ACI for platforms).

⁶⁸ Increased Safety Measures for Energy Development on the Outer Continental Shelf p. 28, Department of the Interior (May 27, 2010) available at <http://www.doi.gov/deepwaterhorizon/loader.cfm?csModule=security/getfile&PageID=33598>

⁶⁹ See in general 30 CFR Part 250.

⁷⁰ COGOA s. 16(a).

⁷¹ 30 CFR § 250.141.

⁷² AOOGG, 39-40. COGD Regulations, ss. 8(g), 39(c), 86; see also COGI Regulations s. 14 on winterization.

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connection and contain, in addition to the Chapter 6 *Operating Practices* discussed here, a separate Chapter 5 entitled Safety and Environmental Management. That chapter discusses *Compliance Monitoring, Auditing and Verification* at length. The 2009 revisions to Canada's OGDG Regulations contain virtually identical requirements for the Safety Plan and the Environmental Protection Plan that operators must submit when applying for initial project authorization.⁷³ It is important to remember that these 2009 goal- and systems-oriented regulations are not the only legislation governing oil and gas activities in Canada, the bulk of which retain a combination of prescription, goals, and reliance on industry standards. Current U.S. laws and regulations also address operating issues of safety and environment through a mix of regulatory approaches, but do so in a less integrated, though not necessarily less complete, manner. Eventual adoption of the proposed SEMS Rules for the U.S. OCS might change this.

On paper, Canadian and U.S. regulation of offshore oil and gas development already reflects many Operating Practices recommendations in the AOOGG. This White Paper has not addressed how this fact translates into practice. Instead, it provides a basis for persons revisiting the arctic offshore regulatory regime in either country to consider the other's approach to protecting both human safety and the environment, and to bind the two goals even more closely together.

For a survey of the offshore permitting process in each country, a list of references, and a description of this White Paper Series please refer to the letter and Overview accompanying this White Paper No. 1. Three additional White Papers will be published over the next month, one per week:

*Environmental Monitoring
Northern Communities - Participation in Decision Making
Decommissioning*

The Overview and all four white papers will be posted at <http://www.vermontlaw.edu/energy/news> as each is distributed.

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Institute for Energy and the Environment, Vermont Law School

Chelsea Street, Box 96 South Royalton, VT 05068-0906 T +1-802-831-1270 BBAKER@vermontlaw.edu

⁷³ COGDP Regulations, Part 2, s. 8 and s. 9.

