Paper #2-5

CANADIAN AND PROVINCIAL PERMITTING AND ENVIRONMENTAL PROCESSES

Prepared by the Environmental & Regulatory Subgroup
of the
Operations & Environment Task Group

On September 15, 2011, The National Petroleum Council (NPC) in approving its report, *Prudent Development: Realizing the Potential of North America's Abundant Natural Gas and Oil Resources*, also approved the making available of certain materials used in the study process, including detailed, specific subject matter papers prepared or used by the study's Task Groups and/or Subgroups. These Topic and White Papers were working documents that were part of the analyses that led to development of the summary results presented in the report's Executive Summary and Chapters.

These Topic and White Papers represent the views and conclusions of the authors. The National Petroleum Council has not endorsed or approved the statements and conclusions contained in these documents, but approved the publication of these materials as part of the study process.

The NPC believes that these papers will be of interest to the readers of the report and will help them better understand the results. These materials are being made available in the interest of transparency.

The attached paper is one of 57 such working documents used in the study analyses. Also included is a roster of the Subgroup that developed or submitted this paper. Appendix C of the final NPC report provides a complete list of the 57 Topic and White Papers and an abstract for each. The full papers can be viewed and downloaded from the report section of the NPC website (www.npc.org).

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V. CANADIAN AND PROVINCIAL PERMITTING AND ENVIRONMENTAL PROCESSES

A. Introduction

The Canadian regulatory schema is similar to the Unites States Federal regulatory scheme. Natural gas development authorizations are mainly held and administered at a provincial level versus a Federal level for land based development. The Government of Canada holdings include that land located in national parks, Indian reserves, and military bases.

B. Federal Statutes and Agencies

The National Energy Board (NEB or Board) is an independent federal agency established in 1959 by the Parliament of Canada to regulate international and interprovincial aspects of the oil, gas and electric utility industries.[1] The Board regulates oil and gas in Frontier lands and offshore areas not covered by provincial/federal management agreements. For gas exploration, this includes the northern frontier areas of Canada (Northwest Territories) not under joint federal/provincial agreements, and West Coast offshore, Nunavut, Eastern Arctic offshore, Hudson Bay, Gulf of St. Lawrence, Bay of Fundy and Sable Island.

In addition, there are other organizations responsible for offshore exploration and production, with which the NEB has memoranda of understanding and/or technical exchange agreements.[2] The Canada-Nova Scotia Offshore Petroleum Board (CNSOPB) is the independent joint agency of the Governments of Canada and Nova Scotia responsible for the regulation of petroleum activities in the Nova Scotia Offshore Area.[3] The CNSOPB regulates the exploration and drilling for, and the production, conservation, processing and transportation of petroleum in the Nova Scotia offshore area. The Canada - Newfoundland and Labrador Offshore Petroleum Board (C-NLOPB), as the regulatory agency for the Newfoundland and Labrador Offshore Area, oversees Operator activity for legislative and regulatory compliance in areas of safety, environmental protection, resource management and industrial benefits.[4]

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[1] National Energy Board website, accessed April 2011 at http://www.neb-one.gc.ca/clf-nsi/rcmmn/hm-eng.html

[2] National Energy Board website, "Memoranda of Understanding (MOU) between National Energy Board (NEB) and other Government Agencies and Related Organizations," accessed April 2011 at http://www.neb-one.gc.ca/clf-nsi/rpblctn/ctsndrgltn/mmrndmndrstndng/mmrndmndrstndng-eng.html

[3] Canada-Nova Scotia Offshore Petroleum Board website at http://www.cnsopb.ns.ca/

[4] Canada - Newfoundland and Labrador Offshore Petroleum Board website, "About C-NLOPB, Mandate and Objectives," accessed April 2011 at http://www.cnlopb.nl.ca/abt_mandate.shtml

Regulations are based on the life cycle of the facility and address the environmental, socio-economic, and land issues under the Canadian Environmental Protection Act, 1999 (CEPA 1999), similar to the National Environmental Policy Act (NEPA) requirements in the United States. The CEPA Environmental Registry is the comprehensive source of information for a variety of CEPA 1999 issues.[5] Environment Canada is the agency responsible for development of industry specific minimum requirements for air emissions, water, nature - including wildlife and plant species, biodiversity and ecosystems, pollution and waste, and emergency response.

Jointly administered by Environment Canada and Health Canada, the Chemicals Management Plan[6] involves assessing and managing chemical substances in the environment, similar to the Toxic Substances Control Act in the United States. Canada has been actively designating lists of substances by industry for review and assessment, including high priority petroleum substances.

C. Provincial Regulation

Alberta contains the majority of the current oil and gas development on land in Canada. The regulatory regimen in Alberta is used as an example of the types of regulations at the provincial level. Saskatchewan and British Columbia have similar regulations at the provincial level.

1. Land use and Licensing

The Government of Alberta has adopted land use planning as the tool to manage certain activities located on public lands. The Integrated Land Management (ILM) program[7] includes Integrated Resource Plans to provide guidelines and resource strategies and objectives for development. These plans address compatibility of uses and mitigation options for development. Public participation and comment is provided during the review process of the plan approvals.

Private land activities are regulated through the permitting /authorization process. The first requirement for any activity associated with natural gas activity in Alberta is the need to obtain a Business Associate Identification (i.e. a code) via the Petroleum Registry maintained by the Energy Resource Conservation Board (ERCB).[8] A license can not be obtained until an identification code is issued.

2. Exploration

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5 Environment Canada website, "CEPA Environmental Registry," accessed April 2011 at http://www.ec.gc.ca/lcpe-cepa/default.asp?lang=En&n=D44ED61E-1

6 Government of Canada, Chemical Substances website, "Chemicals Management Plan," accessed April 2011 at http://www.chemicalsubstanceschimiques.gc.ca/plan/index-eng.php

7 Government of Alberta website, "Integrated Land Management," last modified Nov. 2010, accessed April 2011 at http://www.srd.alberta.ca/ManagingPrograms/IntegratedLandManagement/default.aspx

8 The Energy Resources Conservation Board (ERCB), accessed April 2011 at http://www.ercb.ca

Most of the mineral rights for natural gas are held by the provincial government (~ 80 percent in Alberta), and the remaining are held by the individual and /or the Government of Canada (includes that land located in national parks, Indian reserves, and military bases). For mineral rights held by the province of Alberta, a competitive bidding process is held by Alberta Energy (regulatory agency)[9] to allow rights to be acquired by companies for exploration and development purposes. Alberta Energy has the primary responsibility for Alberta's energy and mineral development. This is also the regulatory body that has responsibility for royalties and mineral tax payments.

In addition to the Petroleum Registry mentioned above, Alberta's Energy Resource Conservation Board (ERBC) is a quasi-judicial agency that regulates the development of natural gas reserves through the life cycle planning and permitting of a well, including the pooling, spacing, commingling, enhanced recovery, and injection/disposal. The ERBC duties also include information collection and reporting, compliance assurance activities, and abandonment requirements.

Under the Mines and Minerals Act (Part 8),[10] approval under the Exploration Regulation (284/2006) is required for geophysical exploration on any surface of land or water.[11] If the land is public or private, authorization for exploration is issued by Alberta Sustainable Resource Development (SRD), which has management responsibility for Alberta's public lands, forests, and fish and wildlife. If deposits are found during exploration, further development authorizations must then be obtained.

If the exploration activities include seismic holes in water bodies and/or floodplains, certain watercourse crossings, and/or water diversions for dust control, then regulations under Alberta's Water Act would require public notice, approval and /or license by Alberta Environment (AEVN). Alberta Environment is tasked with protection of the environment and management of water resources for the province of Alberta.

3. Development

a. Alberta Energy Resource Conservation Board (ERBC)

As part of its regulatory activity, Alberta Energy Resource Conservation Board (ERBC), issues Directives that set out new or amended ERCB requirements or processes to be implemented and followed by licensees, permittees, and other approval holders under the jurisdiction of the ERCB.[12] Under the ERCB Directive 056: Energy Development Applications and Schedules (June, 2008), a permit to construct and operate is required to be obtained, with requirements detailed under Directive 065: Resources Applications for Conventional Oil and Gas Reservoirs (Aug., 2010).

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[9] Government of Alberta Energy website accessed April 2011 at http://www.energy.alberta.ca/

[10] Government of Alberta Energy website " Minerals Acts & Regulations" accessed April 2011 at http://www.energy.alberta.ca/minerals/714.asp

[11] See ERCB and Government of Alberta website, "Upstream Oil and Gas Authorizations and Consultation Guide," 2010, accessed April 2011 at http://authorizationsguide.ercb.ca/

[12] See ERCB website, "Information Letters, Interim Directives" accessed April 2011 at http://www.ercb.ca/portal/server.pt/gateway/PTARGS_0_240_2601802_0_0_18/

Additionally, if the well contains sour gas, Directive 071: Emergency Preparedness and Response Requirements for the Upstream Petroleum Industry (Nov., 2008), delineates requirements that must be followed, and may require review of an activity specific emergency response plan.

Directive 050: Drilling Waste Management (Latest release: Oct. 1996, Draft Directive released Sept., 2007) details requirements for land disposal of drilling wastes and may require upfront approval by the ERBC. If the drilling waste is not being managed by land disposal methods, then Directive 058: Oilfield Waste Management Requirements for the Upstream Petroleum Industry (Nov., 1996, addendum added Dec., 2008) must be followed. This requires characterization, classification, tracking and management (treatment/processing, storage and disposal) of oilfield wastes.

If injection and disposal wells are to be utilized, then separate application is required under Directive 065: Resources Applications for Conventional Oil and Gas Reservoirs (Aug., 2010). Specific injection and disposal well requirements are in Directive 051: Injection and Disposal Wells – Well Classifications, Completions, Logging, and Testing Requirements (March, 1994).

If flaring is required, Directive 060: Upstream Petroleum Industry Flaring, Incinerating and Venting (Nov., 2006) must be followed. Permits/authorizations are required in some cases such as well clean-up and testing, but not all cases.

b. Alberta Environment (AENV)

Under the Alberta Environmental Protection and Enhancement Act, the Environmental Impact Assessment (Mandatory and Exempted Activities) Regulation[13] identifies activities requiring environmental impact assessments and approval of plans. The process is very similar to the Canadian Federal process and the Federal process in the Unites States; however, registrations and/or notifications of certain activities may be required.

Alberta's Water Act[14] confirms that all water (including surface and groundwater) is owned by the Federal Canadian government, and responsibility for management of those resources falls to the province through the Water Act. Licenses are required for diversion or use of surface or groundwater unless the groundwater is saline. Saline groundwater is defined as having Total Dissolved Solids (TDS) content greater than 4000 milligrams per liter (mg/l). Uses may include hydrostatic testing, fracture stimulation, mixing of drilling fluids, and dust control. Approvals are required for activities that impact the water resources of the province such as construction near, on, over, in or under a surface water body or groundwater. Notices are required for activities that can be conducted under a

[13] Government of Alberta Environment website "Environmental Assessment/Evaluation" accessed April 2011 at http://www.environment.alberta.ca/01495.html

[14] Government of Alberta Environment website "Water Act" accessed April 2011 at http://environment.alberta.ca/02206.html

code of practice which identified the specifics that must be met or the notice will be voided.

Alberta has established under its Climate Change and Emissions Management Act, Specified Gas Emitters Regulation and Specified Gas Reporting Regulation.[15] Facilities which emit greater than 100,000 metric tons of greenhouse gas emissions must establish a baseline for the facility and reduce emissions intensity. Once a baseline has been established, the facility must report on compliance with the baseline and seek approval of plans for future reductions.

4. Closure Activities

Well abandonment requirements under Alberta Energy Resource Conservation Board (ERBC) Directive 020: Well Abandonment (Dec., 2007, Revised: July, 2010) and Instructional Letter IL98-02: Suspension, Abandonment, Decontamination, and Surface Land Reclamation of Upstream Oil and Gas Facilities, set the standards for the surface and reclamation.[16] Well integrity aspects with respect to abandonment can be found in ERCB Directives as well, including 008, 009, 010, 027, 043 and 051. If non-routine abandonment is requested, an explanation and approval must be obtained.

A Reclamation Certification may need to be obtained from Alberta Environment (AENV) if the gas activity is on certain specified lands (private) as identified in the Conservation and Reclamation Regulation. The Sustainable Resources Development Board issues the Reclamation Certification for public lands.[17]

Remediation Certification can be obtained certifying that contamination has been addressed to indentified levels consistent with identified land use designations.

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[15] Government of Alberta Environment website, "Regulating Greenhouse Gas Emissions" accessed April 2011 at http://environment.alberta.ca/0915.html

[16] See ERCB website, "Information Letters, Interim Directives" accessed April 2011 at http://www.ercb.ca/portal/server.pt/gateway/PTARGS_0_240_2601802_0_0_18/

[17] Government of Alberta Environment website, "Upstream oil and gas reclamation and remediation program" accessed April 2011 at http://environment.alberta.ca/01108.html