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Overview of Environmental Regulatory Regime Related to Alberta Oil Sands Activities

OVERVIEW OF ENVIRONMENTAL REGULATORY REGIME RELATED TO ALBERTA OIL SANDS ACTIVITIES

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OVERVIEW OF ENVIRONMENTAL REGULATORY REGIME RELATED TO ALBERTA OIL SANDS ACTIVITIES

Introduction

This overview contains a brief review of the environmental regulatory aspects relating to oil sands project development in Alberta. If you have any additional questions with respect to environmental issues associated with oil sands activities, please contact Dufferin Harper in our Calgary office at 403-260-9710 or at dufferin.harper@blakes.com. For permission to reprint this document, please contact Amanda Mueller in our Calgary office at 403-663-2222 or amanda.mueller@blakes.com.

Description of the Alberta Oil Sands

Oil sands are composed primarily of sand, bitumen, mineral-rich clays and water. Bitumen, in its raw state, is a heavy, viscous, crude oil. According to the Alberta government, Alberta's oil sands have 170.4 billion barrels of proven reversible reserves. These reserves are the second-highest source of proven crude oil reserves in the world, second only to Saudi Arabia.

Approximately 20% of the potentially recoverable bitumen is shallow enough to be mined, leaving approximately 80% of the resource to be exploited using in-situ techniques. The in-situ techniques currently in use employ steam to heat the bitumen, allowing it to flow into a well and transported to the surface. The two most common methods of in-situ production are cyclic steam stimulation (CSS) and steam-assisted gravity drainage (SAGD). The steam used in both processes is normally generated using natural gas, and natural gas is the primary input cost of both methods.

Bitumen is currently sold in two principal forms: either as a bitumen blend, in which the bitumen is mixed with a diluent (a very light hydrocarbon liquid, the density and viscosity of which is lower than bitumen) so that it will flow in pipelines; or, after upgrading, as a synthetic crude oil. Bitumen blend has many characteristics similar to conventional heavy oil. Synthetic crude oil, depending on the level of upgrading it has undergone, has many characteristics similar to conventional medium or light oil.

The law is stated as of January 2010.

1. Summary of Canadian Legal System

The division of powers between federal and provincial governments is set out in our *Constitution Act, 1867*.¹ Generally, the federal government has jurisdiction over matters of regional (multiple provinces), national and international scope while the provinces have jurisdiction over matters of a local or private nature.

The two levels of government exercise constitutional powers in respect of different but sometimes overlapping aspects of energy development, transportation and marketing. Balancing the federal government's authority over trade and commerce with the provinces' resource ownership (discussed below), for example, presents a challenge in determining which level of government is responsible for regulating a particular matter. Jurisdiction will typically be determined based upon the location, dominant nature and/or scope of the matter and certain other factors. In the event of a conflict or inconsistency between federal and provincial statutes, the doctrine of paramountcy applies to give effect to the federal statute.

The federal government has authority to make laws regarding the regulation of trade and commerce in interprovincial and international trade, including the import and export of natural resources. The federal government also regulates general trade and commerce, which has been narrowly interpreted and historically applied most significantly to intraprovincial aspects of business competition. In addition, the federal government regulates pipelines and other means of transportation that cross provincial and international boundaries and reserves the power to declare a local project to be for the general advantage of Canada and thereby assume regulatory authority over such local project. As well, the federal government has authority in relation to "Indians, and lands reserved for Indians",² which can lead to federal involvement in oil and gas projects that impact upon aboriginal interests. Finally, the federal government retains a general power to make laws for the "peace, order and good government"³ in relation to all matters not exclusively assigned to the provinces.

Each province has authority over property and civil rights⁴ and in respect of exploration for, and conservation and management of, non-renewable natural resources within such province.⁵ Further, certain provinces, including Alberta, guarantee Aboriginal Peoples the right to fish, hunt and trap for food in all seasons. This can lead to additional provincial involvement in oil and gas projects that impact upon such rights.

Some matters were not contemplated in 1867 when Canada was formed and therefore are not assigned to either level of government. An example is environmental concerns. In that regard, the Supreme Court of Canada has determined that both levels of government may enact laws regarding the environment in respect of and ancillary to existing listed heads of power.

Further, federal and provincial regulatory boards and bodies regulate the natural resource industry. These include the National Energy Board (NEB) and the Alberta Energy Resources and Conservation Board (ERCB), discussed later in this overview.

2. Provincial Regulation of Oil and Gas Activities

Oil sands activities in Alberta are largely regulated by the ERCB and Alberta Environment (AENV).⁶

The ERCB is an independent, quasi-judicial agency of the Government of Alberta. Its mandate is to ensure that the discovery, development, and delivery of Alberta's energy resources take place in a manner that is fair, responsible, and in the public interest. The ERCB regulates the safe, responsible and efficient development of Alberta's energy resources including: oil, natural gas, oil sands, coal and pipelines.

AENV manages the use of Alberta's landscapes to sustain a healthy environment, a prosperous economy and strong communities. AENV's central mandate is the protection of the environment and the protection and management of water resources. It also addresses climate change and waste management. AENV carries out its work under the authority of the *Environmental Protection and Enhancement Act* (EPEA)⁷, the *Water Act*⁸ and other legislation. Through stringent monitoring and enforcement procedures, the department promotes, and expects, responsible stewardship of Alberta's resources. AENV plays a key role in the regulatory approval process and the ongoing monitoring of existing oil and gas operations and works closely with project proponents and their consultants during the preparation of the Environmental Impact Assessment, discussed below.

In the event that oil sands operations include electrical energy generation or energy transmission, such operations may trigger additional regulatory requirements under the auspices of the Alberta Utilities Commission (AUC).

2.1 Operations and Facilities - ERCB

The ERCB's broad responsibility for regulating oil and gas activities within the province is set out under a number of pieces of provincial legislation including the *Oil Sands Conservation Act*⁹ and the *Oil and the Gas Conservation Act*.¹⁰

The *Oil Sands Conservation Act* specifically prohibits the construction or operation of facilities for the recovery of oil sands or crude bitumen without approval of the ERCB.

The *Oil and Gas Conservation Act* and regulations are intended to conserve resources to maximize the benefit therefrom for all Albertans, to promote the economic, orderly and efficient development of oil and gas resources, to observe safe and efficient oil and gas practices, and to control pollution.

The ERCB's responsibilities include adjudicating and regulating matters relating to the development of energy reserves, ensuring that energy reserves are developed in the public interest, and ensuring public safety and environmental protection. All proposed activities are screened by the ERCB, including the development, construction and operation of all significant facilities and pipelines.¹¹ Opposed or "non-routine" applications¹² must undergo a public hearing process before the necessary license or permit will be granted by the ERCB. As further described below, this process typically runs in conjunction with and subject to any environmental requirements.

In addition to considering the general interest of the public, the ERCB considers a wide variety of contextual factors in determining whether it will approve an oil sands project. Generally, such considerations include: the purposes and needs of, and available alternatives to the project, mine

planning and resource conservation, environmental concerns, social and economic impacts, and public consultations including aboriginal concerns.

The ERCB has issued numerous guidelines regarding oil sands projects and operations including:

- Interim Directive 91-3: Heavy Oil/Oil Sand Operations
- Directive 019: ERCB Compliance Assurance – Enforcement
- Directive 023: Guidelines Respecting an Application for a Commercial Crude Bitumen Recovery and Upgrading Project
- Directive 055: Storage Requirements for the Upstream Petroleum Industry
- Directive 073: Requirements for Inspection and Compliance of Oil Sands Mining and Processing Plant Operations in the Oil Sands Mining Area
- Directive 074: Tailings Performance Criteria and Requirements for Oil Sands Mining Schemes
- Interim Directive 2001-3: Sulphur Recovery Guidelines for the Province of Alberta
- Interim Directive 2001-7: Operating Criteria: Resource Recovery Requirements for Oil Sands Mine and Processing Plant Sites
- Draft Directive: Oil and Gas Development Within or Proximal to Water Bodies
- Draft Directive issued in concert with AENV: Requirements for Water Measurement, Reporting, and Use for Thermal In-Situ Oil Sands Schemes (Draft Water Use Directive)

Directive 023 is discussed more fully below.

(i) ERCB Directive 023: Guidelines Respecting an Application for a Commercial Crude Bitumen Recovery and Upgrading Project

Directive 023 outlines the information required in an application to the ERCB under the *Oil Sands Conservation Act* for approval of a scheme for the recovery of oil sands, crude bitumen or products derived therefrom, in order to meet the needs of both the ERCB and AENV.

Directive 023 applies to all commercial oil sands projects, though additional information may be required for large-scale projects. An application for a commercial project for the recovery and upgrading of crude bitumen must include a brief summary of all aspects of the project, a statement of the general basis and objectives of the application, the types of approvals and permits that are requested, and the relevant legislation under which application is being made. Technical and directly related economic details of the proposed development must also be included. Assessments of biophysical impact, social impact, and benefit-cost are also required. Sufficient information must be provided to permit the overall evaluation of whether the project will result in the economic and efficient use of resources and the protection of the environment.

Applicants are also encouraged to plan and carry out a suitable program to make the public aware of the proposed development, to obtain and incorporate, where feasible, the reaction of interested or affected persons, and to provide documentation to the ERCB and AENV as to the nature and extent of the communication.

Major oil sands proposals will normally require the submission of a Preliminary Disclosure to the Alberta government. The Preliminary Disclosure initiates a review of the project in principle, in terms of the form, timing, location, or any other essential feature of the proposal. If the Preliminary Disclosure is endorsed, the proponent can proceed to the more detailed review and approval process. Subsequently, an Application for Approval to the ERCB under the *Oil Sands Conservation Act* will constitute an application to construct and operate the scheme. An Environmental Impact Assessment will normally be required as part of the ERCB application (see section 2.2 below). Advertisement for objections to a proposed project and formal public hearings may or may not be required, depending upon the circumstances.

Following the issuance of ERCB approval, the proponent must obtain operating permits, licences, and approvals. The ERCB must issue mine and discard site approvals, as well as (when required) well licences, pipeline permits and licences, and sub-surface waste disposal approvals. A Development and Reclamation Approval must also be acquired from AENV, along with all other necessary permits and licences related to environmental matters.

When a scheme, or a portion of it, is to be abandoned, the operator must obtain an abandonment approval from the ERCB. When an operator has reclaimed portions of the development area in accordance with the Development and Reclamation Approval, an application can be made for a reclamation certificate, discussed below. If reclamation is completed, a certificate is issued and any security held with respect to the lands for such reclamation can be returned.

Directive 023 goes on to describe what kinds of project information should be included in commercial scheme applications and a list of such information is included in Appendix 1.

2.2 Operations and Facilities - AENV

AENV is responsible for a broad range of environmental matters. Applications to AENV are generally filed under the EPEA, the *Water Act* and/or the *Public Lands Act*.¹³

(i) Environmental Assessments

The EPEA is designed to support and promote the protection, enhancement and wise use of the environment, while recognizing other needs and interests in the province, including business development. Environmental assessments are required under the EPEA for activities such as oil sands projects¹⁴ and, as noted, are also necessary for project approval by the ERCB.

Provincial environmental assessments are undertaken pursuant to terms of reference from AENV for the project. The purpose of such terms of reference is to identify for the public and for the developer of the project the information that is required by AENV and other provincial and federal agencies for an Environmental Impact Assessment Report (EIA).

The EIA must explain the environmental effects of the project and other existing and planned activities in the area related to the project. The EIA report must be prepared in accordance with the requirements

prescribed under the EPEA. Some general categories of information commonly required in an EIA are listed in Appendix 2.

(ii) Regulation, Approvals and Monitoring

AENV plays a key role in the regulation and approval process and the ongoing monitoring of existing operations. AENV will generally issue its own Approval for an oil sands project separate and apart from any ERCB Approval.

The EPEA regulates the release of substances that adversely impact the environment and imposes a reporting obligation on any person who "releases or causes or permits the release of [one of these substances] into the environment." AENV may issue an Environment Protection Order (EPO) requiring whatever measures it deems necessary where a release of a substance may occur or has occurred, and may cause or has caused an adverse effect. The EPEA also regulates the use and storage of hazardous substances and regulates waste management. Under the EPEA, oil sands operators are also required to manage both operational and reclamation waste water.

(iii) Conservation and Reclamation

The EPEA requires operators to plan for and employ effective conservation and reclamation measures. Conservation refers to the planning, management and implementation of the oil sands activity with the objective of protecting the essential physical, chemical and biological characteristics of the environment against degradation. Reclamation refers to the removal of equipment or buildings or other structures or appurtenances; the decontamination of buildings or other structures or other appurtenances, or land or water; the stabilization, contouring, maintenance, conditioning or reconstruction, and revegetation of the surface of land; and any other procedure, operation or requirement that may be specified by regulation or by AENV. Essentially, land reclamation is the reconditioning of the land to a state fit for some future use.

These measures ensure that the disturbed land is reclaimed to meet the goal of equivalent land capacity, which means that the ability of the land to support various land uses after conservation and reclamation is similar to the ability that existed prior to an activity being conducted on the land, but that the individual land uses will not necessarily be identical.

Conservation and reclamation measures are accomplished by issuing approvals for complex industrial activities, collecting security for activities with approvals, conducting inspections of conservation and reclamation activities, issuing reclamation certificates, developing information documents for industry and the public, and undertaking compliance and enforcement actions when necessary.

Further, the EPEA requires operators to obtain a reclamation certificate. When the oil or gas activity on the site concludes, the operator must apply to AENV for a reclamation certificate. Each applicant must include an analysis of contamination and a report detailing how contaminants were cleaned and surface issues addressed. Reclamation certificates are issued to operators when their site has successfully been reclaimed by meeting all applicable standards. However, a reclamation certificate does not operate as a final release of environmentally-related liabilities, as operators remain responsible under the EPEA for certain environmental damage for varying periods of time.

(iv) Greenhouse Gas (GHG) Emissions

The Alberta government has developed its own GHG emissions reduction program as set out in *The Climate Change and Emissions Management Act*¹⁵, the *Specified Gas Reporting Regulation*¹⁶ and the *Specified Gas Emitters Regulation* (SGER). Alberta's GHG emissions reduction regime has been in force since July 2007 and applies to any facility that has emitted more than 100,000 tonnes of CO₂ in any year since 2003 and requires reductions in emissions intensity (i.e., the quantity of GHG emissions per unit of production) from emissions intensity baselines. The SGER distinguishes between "established" facilities that completed their first year of operation prior to January 1, 2000 or have been in commercial operation for more than eight years and "new" facilities that completed their first year of commercial operation on or after December 31, 2000. Generally, the baseline for an established facility reflects the average emissions over the 2003-2005 timeframe. Conversely, the baseline for new facility emissions intensity is generally the third year of operation. For established facilities, the required reduction in GHG emissions is 12% from baseline which reduction is required to be maintained over time. New facilities require an annual reduction of 2% per year from their baseline up to the maximum of 12%. Pursuant to the SGER, there are three ways to meet reduction requirements as follows: (i) actual reduction in GHG emissions intensity; (ii) purchase of Alberta-based emissions offset credits; or (iii) purchase of Climate Change and Emissions Management Fund credits which are presently valued at C\$15 per tonne.

The oil sands industry is actively involved in reducing emissions in several ways, such as the use of low nitrogen oxide burners, sour water treaters, flue gas desulphurization and consideration of alternative fuels.

(v) Water

Oil sands operations use large volumes of water. Generally, any activity that can possibly disturb either ground or surface water may require an approval under the *Water Act*, along with the impoundment, storage, consumption, taking or removal of water for any purpose. Applicants for water licenses need to provide a hydrogeological assessment to estimate the impact that a planned drawdown will have on aquifers and on other users.

AENV allocates water licences under the *Water Act*. Water licenses generally remain with a project.¹⁷ Further, Alberta's "first-in-time, first-in-right" principle allows for older licenses to have access before newer licenses regardless of amount of water requested and its use. During times of water shortages, this provides some certainty regarding an older license holder's access to water but increases the uncertainty surrounding newer licence holder's access.

Regulatory and policy initiatives are being implemented to improve the efficient industrial use of water in oil sands operations, the most recent of which is the Draft Water Use Directive. In addition, the Alberta government is currently undergoing a review of its *Water Act* and the allocation of water pursuant to Water Licences. The results of that review are expected to be made public later in 2010.

Other concerns regarding water in oil sands operations are muskeg drainage, and overburden and formation dewatering. Prevention of seepage from ponds, pits and landfills is another ongoing concern. Again, the oil sands industry is engaged in several initiatives to address these concerns.

(vi) Wildlife

Oil and gas projects may also impact upon wildlife in the area.

Woodland Caribou are listed as a threatened species in Alberta and are monitored and protected by the government pursuant to the *Wildlife Act*.¹⁸ Key caribou protection areas are located in the Fort McMurray region.

The Boreal Caribou Committee (now the Alberta Caribou Committee) has created a document known as the *Strategic Plan and Industrial Guidelines for Boreal Caribou Ranges in Northern Alberta* (the Guidelines). The Guidelines contain instructions and procedures designed to protect and maintain caribou populations in Alberta.

Under the Guidelines, operators are required to submit Caribou Protection Plans (CPPs) for any projects in caribou ranges. CPPs describe the industrial activities that companies are proposing within caribou ranges in the coming year and become an integral part of any authority via an administrative condition placed on that authority.

(vii) Cumulative Impacts

The Alberta *Land Stewardship Act* came into force on October 1, 2009 (LSA). Pursuant to the LSA, the Province will be broken up into seven regions, including the Lower Athabasca Region, which encompasses the majority of Alberta's oil sands. Each region is expected to have a regional plan implemented that will guide future development. The terms of reference for the Lower Athabasca Regional Plan have been released and indicate that the final plan (expected to be released later in 2010) will take into account cumulative impacts associated with nitrous oxide emissions, sulphur dioxide emissions and water withdrawals. Once implemented, all oil sands developments in the region will be required to comply with both their individual approval requirements and the cumulative regional threshold requirements.

3. Federal Regulation of Oil and Gas Activities

The federal government has jurisdiction over some aspects of Alberta located projects and transactions that are interprovincial or international in scope, or that involve federal triggers under the *Canadian Environmental Assessment Act* (CEAA).

3.1 National Energy Board

The NEB is a federal agency that handles the majority of the responsibilities regarding interprovincial and international energy projects.

The NEB is established under federal legislation¹⁹ and has jurisdiction over the interprovincial and international import and export of oil, gas, and electric power. It also regulates the construction of interprovincial and international pipelines and powerlines. NEB jurisdiction over energy facilities in Alberta is, practically speaking, limited to international and interprovincial pipelines and connection facilities joining intraprovincial energy transportation systems with extraprovincial systems.

3.2 Federal Environmental Regulation

(i) *Canadian Environmental Protection Act, 1999*

The *Canadian Environmental Protection Act, 1999*²⁰ is the primary element of the federal legislative framework for protecting the Canadian environment and human health. The key aspects of this Act are the prevention and management of risks posed by toxic and harmful substances, managing environmental and human health impacts of products of biotechnology, marine pollution, disposal at sea, vehicle, engine and equipment emissions, fuels, hazardous wastes, environmental emergencies, and other sources of pollution.

(ii) *Canadian Environmental Assessment Act*

The *Canadian Environmental Assessment Act* (CEAA)²¹ is intended to ensure that projects where the federal government is the proponent, or projects requiring federal funds, lands or involving certain federal approvals or authorizations, are not approved until the environmental effects are considered.²²

Notwithstanding that an oil sands project may be wholly within a province's borders, the CEAA may have application. The most common trigger to the CEAA's application arises out of the federal government's constitutional jurisdiction over certain inland waterways and fisheries. Thus, any project, although wholly situate within a province, may require a federal environmental assessment.

The CEAA involves screenings, comprehensive studies and review panels of projects. If an initial assessment determines that a project is likely to cause significant adverse environmental effects, approval of the project may be delayed and a public hearing may be required.

One project may trigger both a provincial environmental assessment and a federal environmental assessment. If that occurs, as a means of reducing overlap, it is possible to have a project undergo a joint provincial/federal environmental assessment.

(iii) *Fisheries Act*

Under the *Fisheries Act*,²³ it is an offence for anyone to carry on any work or undertaking that results in the harmful alteration, disruption or destruction of fish habitat. Furthermore, it is an offence to deposit or permit the deposit of any type and any amount of a deleterious substance in water frequented by fish.

Anyone who wishes to engage in any work which may result in the disruption or destruction of a fish habitat, or who desires to deposit a deleterious substance in water frequented by fish, must provide the Minister of Fisheries and Oceans with plans, specifications, studies and details of the proposed procedures. Upon reviewing these, the Minister can order changes to the plans.

3.3 GHG Emissions

Canada has not yet implemented a federal GHG emissions scheme. Currently, the federal government is engaged in discussions with provincial governments, which it hopes will arrive at a national program that aims to reduce emissions. Canada has also stated that it hopes to align its federal GHG emissions regime with whatever regime is implemented in the U.S.

4. Potential Permits and Approvals, Necessary for an Oil Sands Project to Proceed

A non-exhaustive list of many of the potential permits, approvals, licences, etc., necessary for an oil sands project to proceed is attached as Appendix 3.

APPENDIX 1

Information as Required in ERCB Directive 023: Guidelines Respecting an Application for a Commercial Crude Bitumen Recovery and Upgrading Project

1. **Project Description**
2. **Technical Information**
 - (a) Surface Mining Operations
 - (b) Underground Access and Development
 - (c) In-Situ Operations
 - (d) Processing Plant
 - (e) Electrical Utilities and External Energy Sources
 - (f) Environmental Control
3. **Economic Information**
 - (a) Commercial Viability
 - (b) Benefit-Cost Analysis
 - (c) Economic Impact
4. **Environmental Impact Assessment**
 - (a) Project Description
 - (b) Environmental Alternatives
5. **Biophysical Impact Assessment**
 - (a) Air Resources
 - (b) Water Resources
 - (c) Topography, Surficial Geology, and Bedrock Geology
 - (d) Soils and Overburden
 - (e) Vegetation
 - (f) Aquatic Resources
 - (g) Wildlife Resources
 - (h) Land Capability

6. Social Impact Assessment

- (a) Population
- (b) Services and Infrastructure
- (c) Land Use
- (d) Housing
- (e) Quality of Life
- (f) Special Groups
- (g) Historical Resources

7. Environmental Protection Plan

- (a) Mitigation Measures
- (b) Environmental Monitoring
- (c) Environmental Research

8. Conceptual Development and Reclamation Plan

- (a) Overview of the Development
- (b) Life-of-Scheme Development Plan
 - (i) Resource Recovery
 - (ii) Infrastructure
 - (iii) Waste Management
 - (iv) Plant Site and Associated Facilities
- (c) Life-of-Scheme Reclamation Plan
 - (i) Conceptual Plan
 - (ii) Restoration of Capability
 - (iii) Development and Reclamation Issues

9. Solid Waste Management Plan

- (a) Description
- (b) Disposal Methods
- (c) Location

APPENDIX 2

Typical Information Required for Environmental Impact Assessment Report

1. **Public Consultation**
2. **Proponent's Submission**
3. **Project Overview**
4. **Regulatory and Planning Framework**
 - (a) EIA Summary
5. **Project Description and Management Plans**
 - (a) Project Need and Alternatives Considered
 - (b) Project Components and Site Selection
 - (c) Process Selection and Description
 - (d) Product Handling
 - (e) Utilities and Transportation
 - (f) Water Supply, Water Management and Wastewater Management
 - (g) Air Emissions Management
 - (h) Hydrocarbon, Chemical and Waste Management
 - (i) Environmental Management System and Contingency Plans
 - (j) Reclamation and Closure
 - (k) Participation in Regional Co-operative Efforts
6. **Environmental Assessment**
 - (a) Basic Information Requirements for the Environmental Assessment
 - (b) Study Area(s)
 - (c) Cumulative Environmental Effects Assessment
 - (d) Climate, Air Quality and Noise
 - (e) Land Use, Access to Public Lands and Aggregate Resource Conservation
 - (f) Terrestrial and Aquatic Ecosystems
 - (i) Biodiversity
 - (ii) Geology, Soils, Terrain
 - (iii) Vegetation
 - (iv) Wildlife
 - (v) Groundwater
 - (vi) Surface Water
 - (vii) Aquatic Resources

- 7. Environmental Monitoring**
- 8. Public Health and Safety**
- 9. Historical Resources and Traditional Land Use**
- 10. Socio-Economic Factors**
- 11. Public Consultation Requirements**

APPENDIX 3

Non-Exhaustive List of Potential Permits, Licenses, Approvals and Consents Necessary for an Oil Sands Project to Proceed, Including: Oil and Gas Requirements, Coal Requirements, Pipeline Requirements, Export Requirements, Environmental Requirements and Utility Requirements

1. Oil and Gas Requirements

(a) *Mines and Minerals Act*

- An exploration approval from the Alberta Minister of Energy is required with respect to a preliminary plan for a program of exploration.
- An exploration licence from the Alberta Minister of Energy is required to conduct exploration.
- An exploration permit from the Alberta Minister of Energy is required to operate exploration equipment.

(b) *Exploration Regulation*²⁴

- For land owned by the Crown, the consent of appropriate Minister or Agency of the Government of Canada is needed to conduct exploration.
- Consent of person in lawful possession of private land needed for exploration.

(c) *Oil Sands Royalty Regulation, 1997*

- May apply to the Alberta Minister of Energy for an approval of the proposed project for the purposes of this regulation and s. 90 of the *Mines and Minerals Act*.
- May apply to the Alberta Minister of Energy for an approval of an amendment to a project.

(d) *Oil Sands Tenure Regulation*

- May apply to the Alberta Minister of Energy during the term of the permit for a lease of oil sands rights.
- May apply to the Alberta Minister of Energy for a primary lease out of a first term oil sands lease.
- May apply to the Alberta Minister of Energy for the continuation of an oil sands lease.

Oil Sands Conservation Act

- Need approval from the ERCB to construct facilities, commence or continue an operation with respect to oil sands.
- Need approval of the ERCB to construct and operate a processing plant.
- Need an industrial development permit from the ERCB to use oil sands products as a raw material or fuel in an industrial or manufacturing operation.
- Must register an address for service and an Agent to carry out duties under the *Oil Sands Conservation Act* and accompanying regulations.

(e) *Oil Sands Conservation Regulations*²⁵

- No operator may commence, suspend or abandon an oil sands site, an experimental scheme, an in-situ operation, a mining operation or a processing plant without approval of the ERCB.
- No operator shall commence any substantial modification to an oil sands site, an experimental scheme, an in-situ operation, a mining operation or a processing plant without approval of the ERCB.
- No person shall produce gas from a well completed in the oil sands strata prior to obtaining approval of the ERCB.
- Prior to drilling a well or undertaking any operations preparatory or incidental to the drilling of a well except for the surveying of the proposed well site or continuing any drilling operations, an operator of an oil sands site shall apply for a licence from the ERCB for evaluation wells, experimental wells, wells associated with an in-situ operation, any water supply well of a depth of more than 150 metres, and primary production wells.
- The licensee of a well shall apply for and obtain approval from the ERCB before suspending normal drilling operations, abandoning the well, plugging back or abandoning a formation in the well, removing casing from the well or resuming drilling operations after a previous suspension or abandonment of the well.
- Unless otherwise approved by the ERCB, the operator of an oil sands site producing gas with a hydrogen sulphide content of greater than 10 moles per kilomole, or any lower hydrogen sulphide content that the board may order, shall burn the gas using an incinerator approved by the board.
- An operator of an oil sands site shall keep any other records and file with the ERCB any other reports that the board may require.

- An operator shall apply for and obtain approval of the ERCB for the storage or disposal of oil sands or discoid accumulated during mining or overburden removal.

(f) *Surface Rights Act*²⁶

- No operator has a right of entry in respect of the surface of any land until the operator obtains the consent of the owner and the occupant of the surface of the land or has become entitled to right of entry by reason of an order of the Surface Rights Board pursuant to the *Surface Rights Act*.

(g) *Indian Oil and Gas Regulations*

- Every person who proposes to conduct exploratory work on Indian lands, including land in a permit or lease area, shall first obtain an exploratory licence from the Department of Indian Affairs and Northern Development.
- Before commencing any drilling operations under a permit or lease, an operator shall submit to the band council and to the Department of Indian Affairs and Northern Development a copy of a well licence or other equivalent document issued by the provincial authority responsible for issuing well licences.
- Every person who proposes to drill for and produce oil and gas on Indian lands shall, before beginning any drilling or production activities, obtain a well licence, a lease and a surface rights contract.
- Every person who proposes to engage in any surface operations that are related to the exploitation of oil or gas on Indian lands, including an operator who operates under a permit or a lease, shall, before commencing those operations, on application to the Department of Indian Affairs and Northern Development, if the operations require an exclusive right to use or occupy the surface of those lands, obtain a surface lease in respect of those lands; or if the operations require an easement in, or a right to cross over, those lands, obtain a right of way in respect of those lands.
- A permittee or lessee shall not commence production of crude bitumen, other than the extraction of substances under a pilot testing operation, unless specifically authorized to do so under a lease.
- A permittee or lessee may, with the approval in writing of the Department of Indian Affairs and Northern Development, pool a permit or lease area, a portion of a permit or lease area or one or more geological zones that underlie a permit or lease area with any other oil or gas rights, including oil or gas rights that are not governed by these regulations.

(h) *Canada Oil and Gas Operations Act*²⁷

- On application, the NEB may issue an operating licence, or renew annually, each work or activity proposed to be carried on, subject to such approvals requirements, and deposits as they determine or as may be described by the regulations.
- The NEB requires the submission of a plan satisfactory to the NEB for the employment of Canadians and for providing Canadian manufacturers, consultants, contractors and Canadian companies with a full and fair opportunity to participate on a competitive basis in the supply of goods and service to be used in the work or activity.

2. Coal Requirements

(a) *Mines and Minerals Act*

- No person shall win, work or recover a mineral that is the property of the Crown in right of Alberta unless the person is authorized to do so under the *Mines and Minerals Act* or by an agreement.

(b) *Coal Conservation Act*

- No person shall in connection with an exploratory or experimental program for coal, drill holes to a depth in excess of 150 metres or develop an adit, tunnel, shaft or other excavation, or develop a mine site or mine, without a permit from the ERCB.
- No person shall begin mining operations at a site at which mining operations have not been previously undertaken, begin mining operations at an abandoned mine, or resume mining operations at a mine at which normal working has been suspended for a period of more than 12 months, without obtaining a licence from the ERCB.
- ERCB approval is required to alter or extend a permit or licence.
- No coal produced in Alberta, or any product derived from it, shall be used in Alberta as a raw material, reductant or fuel in any industrial or manufacturing operation unless the ERCB has granted a permit authorizing that use.

(c) *Oil Sands Conservation Act*

- The ERCB must refer a scheme prepared regarding an operator maximizing the recovery of oil sands or crude bitumen to the Minister of Resource Development for the Minister's approval insofar as the scheme affects mines and minerals that are the property of the Crown in right of Alberta.

(d) *Oil Sands Conservation Regulation*

- An operator requires approval of the ERCB for the storage or disposal of any oil sands or discard accumulated during mining or overburden removal.

(e) *Oil Sands Tenure Regulation*

- The Minister of Energy may direct a lessee to test for, evaluate and extract from oil sands any mineral substance in the association with the oil sands within and under the location of the lessee's lease and the lessee must comply with that direction.

3. Pipeline Requirements

(a) *Pipeline Act*²⁸

- No person shall construct a pipeline or any part of a pipeline or undertake any operations preparatory or incidental to the construction of a pipeline unless the person is the holder of a licence or unless the person is acting pursuant to a direction of the ERCB authorizing them to do so.
- No pipeline may be constructed on, across, over or under a highway without the approval of the Minister of Infrastructure.
- No pipeline shall be constructed on, across, over or under a road without the approval of the local authority concerned.
- No pipeline may be constructed on, across, over or under an irrigation canal or ditch under the *Irrigation Districts Act*²⁹ or a drainage ditch under the *Drainage Districts Act*³⁰ without the approval of the owner, or, if approval cannot be reasonably be obtained from the owner without the approval of the ERCB.
- No ground disturbance may be undertaken in the right of way for a pipeline without the approval of the licensee of the pipeline in accordance with the regulations, or, if approval cannot reasonably be obtained from the licensee, without the approval of the ERCB.
- No person without the authority of the ERCB, shall construct a pipeline or part of a pipeline so as to interfere with the present workings of a mine or quarry or obstruct any opening to a mine or quarry.
- No pipeline shall be constructed under a building used or capable of being used as a public building, residence, office, warehouse or factory without the approval of the ERCB.

(b) *National Energy Board Act*

- No company shall operate a pipeline unless there is a certificate in force with respect to that pipeline and leave has been given under the *National Energy Board Act* to the company to open the pipeline by the NEB.
- Except as otherwise provided, a company shall not begin the construction of section or part of a pipeline unless the NEB has: by the issue of a certificate granted the company leave to construct the line; the company has complied with all applicable terms and conditions to which the certificate is subject; the plan, profile and book of reference of the section or part of the proposed line have been approved by the NEB; and copies of the plan, profile and book of reference so approved, duly certified as such by the secretary, have been deposited by the offices of the registrars of deeds for the districts or counties through which such section or part of the pipeline is to pass.
- No pipeline and no section of a pipeline shall be opened for the transmission of hydrocarbons or any other commodity by a company until leave to do so has been obtained from the NEB.
- A company shall not, without the leave of the NEB, sell, convey or lease to any person its pipeline, in whole or in part; purchase or lease any pipeline from any person; enter into an agreement for amalgamation with any other company; or abandon the operation of a pipeline.
- No company shall take possession of, use or occupy lands vested in Her Majesty without the consent of the Governor in Council.
- No company shall take possession of or occupy lands in an Indian reserve without approval of the Governor in Council.
- No company shall, without the authority of the NEB, locate the line of its proposed pipeline, or construct the pipeline or portion thereof, so as to obstruct or interfere with or injuriously affect the working of or the access of the adit to a mine then open, or for the opening for which preparations are, at the time of such location, being lawfully or openly made.
- No person shall work or prospect for mines or minerals lying under a pipeline or any of the works connected therewith, or within 40 metres therefrom, until leave therefore has been obtained from the NEB.
- When a company has determined the lands that may be required for the purposes of a section or part of a pipeline, the company shall serve a notice on all owners of the lands, so far as they can be ascertained.
- No person shall, unless leave is first obtained from the NEB, construct a facility across, on, along or under a pipeline or excavate using power operated equipment or explosives within 30 metres of a pipeline.

- No person shall operate a vehicle or mobile equipment across a pipeline unless leave is first obtained from the company or the vehicle or mobile equipment is operated within the travel portion of a highway or public road.

4. Export Requirements

(a) *National Energy Board Act*

- Except as otherwise authorized by or under the regulations, no person shall export or import any oil or gas except under an accordance with a licence issued by the NEB.
- As the Governor in Council may by order direct that the Board assume supervision and control of the movement of designated oil and gas, out of a designated province or area, wherein such an order has been made and while it remains in force, no person shall, except as otherwise authorized by the regulations, move designated oil or gas out of the designated province or area except under the authority of and in accordance with the licence granted by the NEB.

(b) *National Energy Board Act Part VI (Oil and Gas) Regulations*³¹

- The approval of the Governor in Council is required prior to the issuance of a licence for the exportation of gas, the importation of gas, the exportation of gas, the exportation of heavy crude oil, or the exportation of oil other than heavy crude oil.

5. Environmental Requirements

(a) *Environmental Protection and Enhancement Act*

- Pursuant to Schedule 1(I) of *Environmental Assessment (Mandatory and Exempted Activities) Regulation*³², an Oilsands Mine is a mandatory activity that requires an assessment report under the *Environmental Protection and Enhancement Act*. Following that an approval must be granted by the Alberta Minister of the Environment to proceed with the project.
- Cannot release a substance into the environment in an amount, concentration or level or at a rate of release that is in excess of that expressly prescribed by an approval from the Minister of the Environment, a code of practice or the regulations.
- Unless exempted by the regulations, must obtain a reclamation certificate from the Alberta Minister of the Environment in respect of the conservation and reclamation of land.
- Under the *Activities Designation Regulation*,³³ may require an approval from the Alberta Minister of the Environment with respect to waste management.

- Under the *Activities Designation Regulation*, may require approval from the Alberta Minister of the Environment for substance release and for the construction, operation or reclamation of an oil sands processing plant.

(b) *Water Act*

- A person may require approval from the Alberta Minister of the Environment to divert water.
- No person may commence or continue an activity except pursuant to an approval from the Alberta Minister of the Environment unless it is otherwise authorized by the Act. An "activity" means placing, constructing, operating, maintaining, removing or disturbing works, maintaining, removing or disturbing ground, vegetation or other material, or carrying out any undertaking, including but not limited to groundwater, exploration, in or on any land, water or water body, that alters the flow or level of water, whether temporarily or permanently changes, the location of the water or the direction of flow of water, causes the siltation of water or the erosion of any bed or shore of a water body, or causes may cause or may become capable of causing an effect on the aquatic environment; altering the flow, direction of flow or level of water or changing the location of water for the purposes of removing an ice jam, drainage, flood control, erosion control or channel realignment or for a similar purpose, drilling or reclaiming a water well or borehole, or anything defined as an activity in the regulations for the purposes of the *Water Act*.
- No person shall commence or continue a diversion of water for any purpose works except pursuant to a license from the Minister of the Environment.
- Approvals from the Alberta Minister of the Environment are required for drilling of water wells for the diversion and use of ground water.

(c) *Navigable Waters Protection Act*³⁴

- No work shall be built or placed in, on, over, under, through or across any navigable water unless the work and site and plans thereof have been approved by the federal Minister of Transport.

(d) *Transportation of Dangerous Goods Act, 1992*

- No person shall handle, offer for transport, transport or import any dangerous goods unless that person complies with all the applicable safety requirements, the goods are accompanied by all applicable prescribed documents, and means of containment and transport comply with all applicable prescribed safety standards and display all applicable prescribed safety marks as required by the federal Minister of Transport. Additionally, an emergency response assistance plan that is approved and outlines what is to be done if there is an accident transporting the goods must be completed in advance.

(e) *Canadian Environmental Assessment Act*

- Where the federal government is a project proponent, an environmental assessment is required.
- Where the federal government makes or authorizes payments or provides a guarantee for a loan or any other form of financial assistance for a project, an environmental assessment is required.
- Where the federal government sells, leases or otherwise disposes of federal lands for use by the project, an environmental assessment is required.
- Where the federal government issues certain permits, licences, approvals or takes certain acts that enable a project to be carried out, an environmental assessment is required.

6. Utility Requirements

(a) *The Hydro and Electric Energy Act*³⁵

- Approval of the AUC is required to construct or operate a power plant.
- A permit/license is required from the AUC to construct or operate transmission lines.
- AUC approval is required for discontinuing or removing any works or installations forming part of a power plant or transmission lines.

Endnotes

¹ *Constitution Act, 1867, U.K., 30 & 31 Victoria, c. 3.*

² *Constitution Act, 1867, s. 91(24).*

³ *Constitution Act, 1867, s. 91.*

⁴ *Constitution Act, 1867, s. 92(13).*

⁵ *Constitution Act, 1867, s. 92A(1).*

⁶ In 1996 a Memorandum of Understanding on the Regulation of Oil Sand Developments was executed between the Alberta Energy and Utilities Board (whose mandate in this area has now been assumed by the ERCB) and AENV, which Memorandum outlines the regulatory authority of each entity.

⁷ R.S.A. 2000, c. E-12.

⁸ R.S.A. 2000, c. W-3.

⁹ R.S.A. 2000, c. O-7.

¹⁰ R.S.A. 2000 c. O-6.

¹¹ *Pipeline Act, R.S.A. 2000, c. P-15.*

¹² See ERCB Guide 56.

¹³ R.S.A. 2000, c. P-40.

¹⁴ See the *Environmental Assessment (Mandatory and Exempted Activities) Regulation* A.R. 111/1993.

¹⁵ R.S.A. 2000 c. C-16.7.

¹⁶ A.R. 251/2004, passed under the *Climate Change and Emissions Management Act*.

¹⁷ *Water Act, s. 58.*

¹⁸ R.S.A. 2000, c. W-10. Woodland caribou are also designated as a threatened species under federal legislation: see the *Species at Risk Act, S.C. 2002, c. 29; ST/2004-48.*

¹⁹ *National Energy Board Act, R.S.C. 1985, c. N-7.*

²⁰ 1999, c. 33.

²¹ S.C. 1992, c. 37.

²² S.C. 1992 c. 37, s. 5.

²³ R.S.C. c. F-14.

²⁴ A.R. 214/98, passed under the *Mines and Minerals Act*.

²⁵ A.R. 76/88, passed under the *Oil Sands Conservation Act*.

²⁶ R.S.A. 2000, c. S-24.

²⁷ R.S.C. 1985, c. O-7.

²⁸ R.S.A. 2000, c. P-15.

²⁹ R.S.A. 2000, c. I-11.

³⁰ R.S.A. 2000, c. D-16.

³¹ S.O.R. 96-244, passed under the *National Energy Board Act*.

³² A.R. 111/1993.

³³ A.R. 276/2003.

³⁴ R.S.C. 1985, c. N-22.

³⁵ R.S.A. 2000, c. H-16. The *Electric Utilities Act* R.S.A. 2003, c. E-5.1 and Alberta Energy's Transmission Development Policy (December 2003) must also be consulted.

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