OIL SPILLS AND RESPONSIBLE CANADIAN AGENCIES

J.K.E. Tunaley[1]

Various Canadian federal and provincial bodies are involved in drilling for oil and the response to oil spills. Their roles are summarized below.

National Energy Board [2]

This federal agency is accountable to the Minister of Natural Resources. It is the regulatory agency for development and trade in the oil, gas and energy industries. In particular it regulates frontier activities, such as offshore arctic exploration and drilling. The head office is located in Calgary, Alberta.

The board, represented by a panel of three members, operates as a quasi-judicial court and hears applications from developers. Other interested parties, such as individuals, groups and companies, can register as interveners and participate in the hearings.

The NEB cooperates with other federal and provincial agencies to reduce duplication. Often an application involves a geographical area that is under provincial jurisdiction and then the appropriate provincial authority takes the lead (see Fig. 1). Offshore activities fall under NEB jurisdiction. At a hearing, an applicant is expected to provide impact statements including environmental assessments for all relevant contingencies including worker safety. The board is responsible over the entire lifecycle of a project through to its abandonment.

NEB is responsible for West Coast offshore, Northwest Territories, Nunavut, Eastern Arctic offshore, Hudson Bay, Gulf of St. Lawrence, Bay of Fundy and Sable Island.

According to the Canada Oil and Gas Drilling and Production Regulations, an operator must take all steps necessary to anticipate and prevent accidents and spills. If there is a spill, it is the operator's responsibility to report the incident, (whether the operator caused the spill or not), manage the emergency response and clean up the spill. To make sure that there are funds available if things go wrong, operators are required to provide what is called "proof of financial responsibility". This is usually a form of security such as a letter of credit or indemnity bond as required by the NEB. It is the operator's responsibility to compensate those who are responding to the spill up to a limit of $40M or more if negligence is proved.

The drilling of offshore relief wells is a problem in the arctic because the drilling season is short. Because relief wells are important if a blow-out occurs, the NEB is considering a requirement for same-season drilling[3].

If there is a spill in the NEB jurisdiction, the lead agency for the clean-up is usually the Canadian Coastguard. However, the Department of Indian Affairs and Northern Development (DIAND licences some facilities and operations and is the lead agency for these. Some details are provided in http://www.ainc-inac.gc.ca/nth/og/pubs/wkto/wkto-eng.pdf. The NEB and

---

[1] Published December 21st, 2010.

J.K.E. Tunaley is with London Research and Development Corporation.
Web: http://www.london-research-and-development.com; http://www.maritime-domain-awareness.com.

[2] http://www.neb-one.gc.ca/clf-nsi/rcmmn/hm-eng.html
[3] http://www.theglobeandmail.com/report-on-business/industry-news/energy-and-resources/relief-well-rules-under-review-at-neb/article1628064/

coastguard will probably be the principal agencies involved in offshore spills but this depends on the precise form of the boundaries of the Areas Of Responsibility (AORs).

There are three response levels and these are activated according to whether the polluter is successfully cleaning up, needs some help or cannot do it. The last case includes spills of unknown origin.

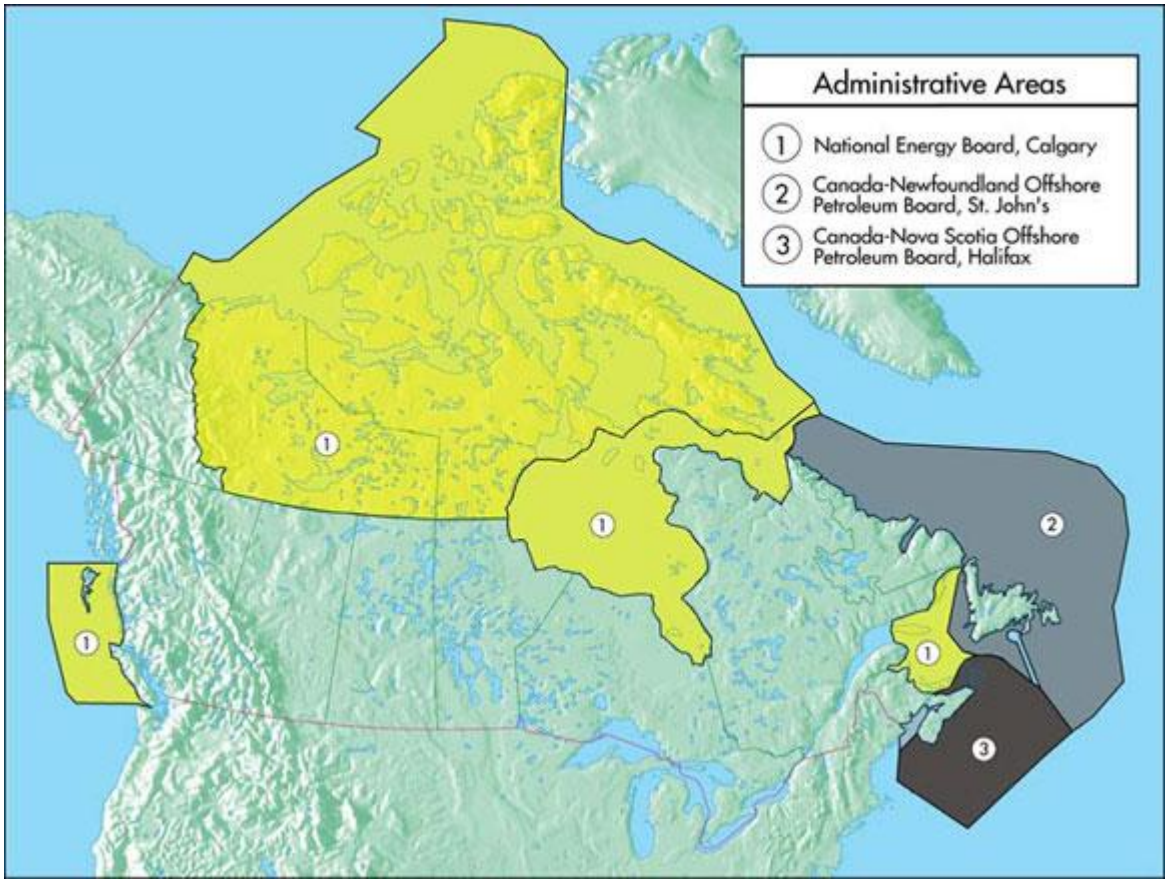

Fig. 1. NEB Jurisdiction (in yellow; from NEB website).

Canada Newfoundland and Labrador Offshore Petroleum Board [4]

The board determines legislative and regulatory compliance in the areas of safety, environmental protection, resource management and industrial benefits. Several oil fields fall under the C-NLOPB jurisdiction: the Hibernia, Terra Nova, White Rose and North Amethyst fields.

The C-NLOPB operates much as the NEB. However, it is a joint board of the federal and provincial Ministers of Natural Resources.

[4] http://www.cnlopb.nl.ca

Canada Nova Scotia Offshore Petroleum Board [5]

This agency is the counterpart to the C-NLOPB for Nova Scotia. It includes the Sable Offshore Energy Project (Exxon Mobil and partners) and the Deep Panuke Offshore Gas Development Project (EnCana); see Fig. 2.

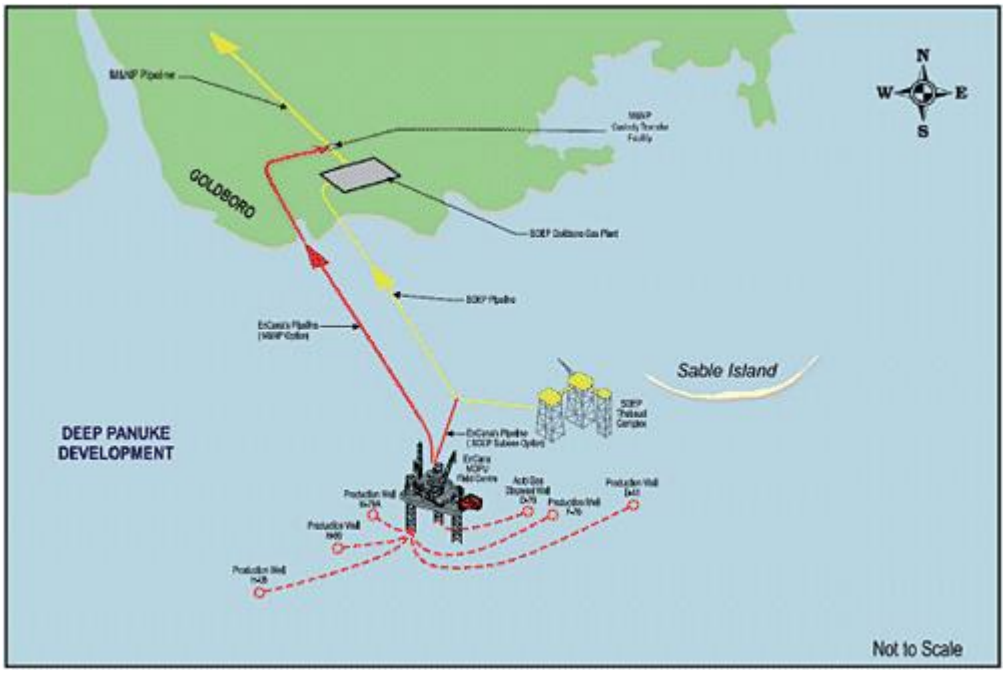

Fig. 2. Schematic diagram of EnCana gas pipeline development off Nova Scotia.

Environment Canada [6]

Environment Canada is a federal agency and reports to the Minister of the Environment. It is responsible for weather forecasting. EC is also concerned with the monitoring of environmental effects and the regulation of toxic substances.

The Canadian Ice Service is a branch of EC that monitors ice cover in the areas shown in Fig. 3. The Integrated Satellite Tracking Of Pollution (ISTOP) is a surveillance program run by the Canadian Ice Service. RADARSAT-2 images are analyzed to detect oil spills within the 200 mile Exclusive Economic Zone (EEZ). Satellite passes are coordinated with aircraft and patrol vessels to maximize the probability of detecting oily discharges and associating these with a ship.[7]

The Department of Fisheries and Oceans is another branch of EC that is responsible for providing information on the fish and mammals that may populate areas affected by spills.

The Canadian Wildlife Service is a branch of EC and migratory birds are its responsibility in the event of an oil spill.

---

[5] http://www.cnsopb.ns.ca/
[6] http://www.ec.gc.ca/default.asp?lang=En&n=FD9B0E51-1
[7] http://www.marinepollution-pollutionmaritime.gc.ca/eng/menu.htm

The Emergencies Science and Technology Section, Science and Technology Branch, conducts research in oil spills and the detection and remediation. It also organizes the Arctic Marine Oilspill Program (AMOP) conferences.

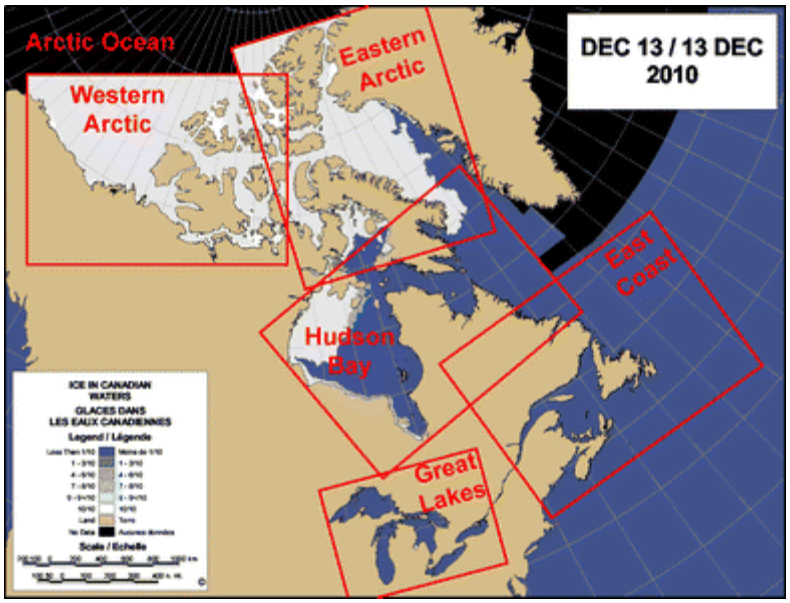

Fig. 3. Areas of interest to Canadian Ice Service.

Regional Environmental Emergencies Team [8]

A Regional Environmental Emergencies Team (REET) is an advisory body specializing in environmental emergencies. REET members represent several federal, provincial and municipal government departments, aboriginal communities, private sector agencies, and local individuals. In Ontario, for example, Environment Canada and the Ontario Ministry of the Environment co-chair the REET program. To assist in emergency planning and preparation Ontario has been divided into 18 planning areas as shown in Fig. 4.

In contrast, the Arctic REET seems to cover the entire NEB AOIs. It is not clear if the Arctic REET is an effective body as it is not mentioned explicitly in the Administrator's 2010 Annual Report of the Ship Oil Pollution Fund[9]. However, the report does list known pollution incidents.

[8] http://www.on.ec.gc.ca/emergency/reet/reet-e.html
[9] http://www.ssopfund.gc.ca/english/outreach1.asp

Fig. 4. REET planning areas in Ontario.

Transport Canada [10]

Transport Canada is accountable to the Minister of Transport and is responsible for Canada's Marine Oil Spill Preparedness and Response Regime. The regime was established in 1995, and is built on a partnership between government and industry. TC sets the guidelines and regulatory structure for the preparedness and response to marine oil spills from shipping. It covers marine oil pollution incidents in Canada of up to 10,000 tonnes. The Regime is built on the principle of cascading resources, which means that in the event of a spill, the resources of a specific area can be supplemented with those from other regions (geographic areas) or from our international partners, as needed.

In practice TC is responsible for the National Aerial Surveillance Program (NASP), in which instrumented Government Of Canada Dash aircraft, augmented by commercial aircraft, patrol the AORs systematically to detect oily discharges from ships and oil platforms.

Canadian Coast Guard [11]

The Canadian Coast Guard is a Special Operating Agency of the Department of Fisheries and Oceans and is responsible for ensuring the clean-up of all oil and other noxious substance

[10] http://www.tc.gc.ca/eng/mediaroom/backgrounders-b06-m005e-1710.htm
[11] http://www.ccg-gcc.gc.ca/eng/CCG/Home

spills, in Canadian waters. The AORs are shown in Fig. 5. This also indicates the locations of regional offices and depots. The AORs correspond to those in Fig. 1.

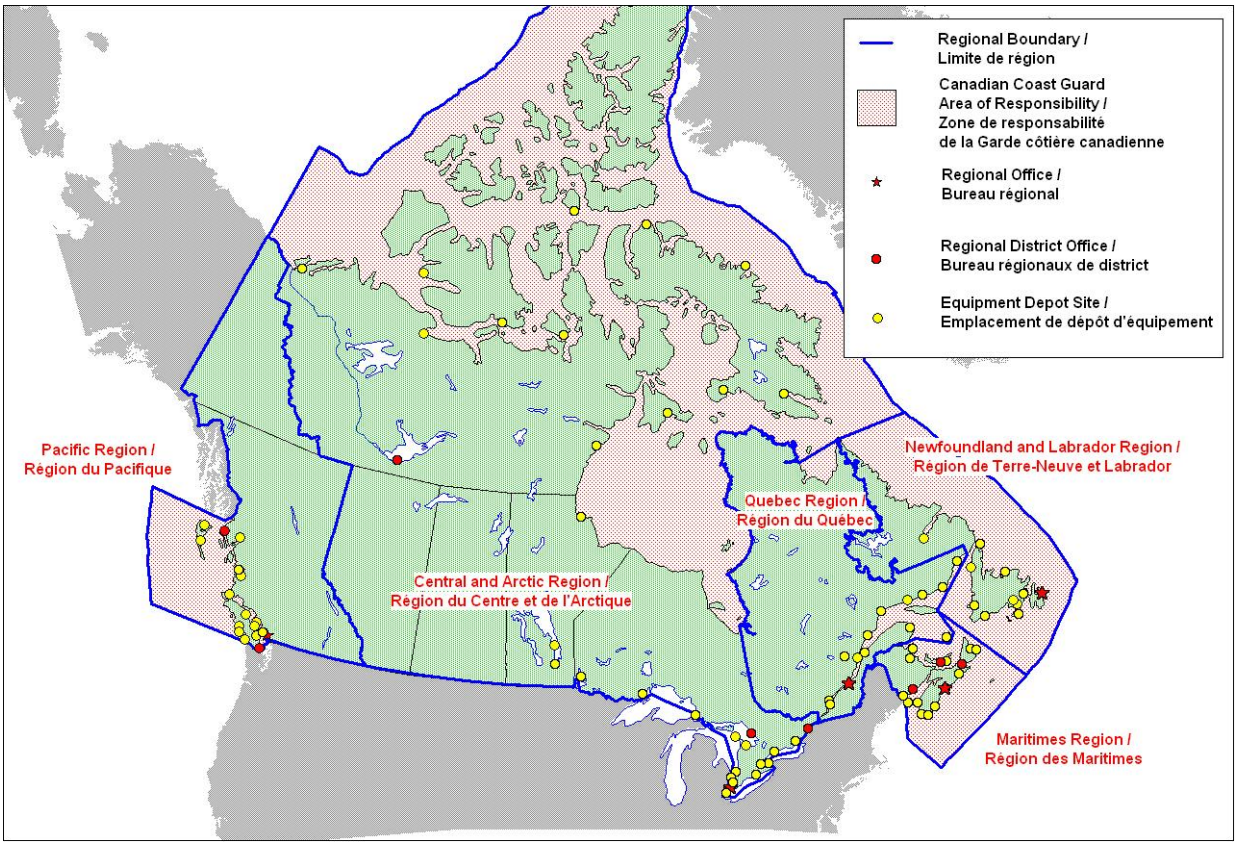

Fig. 5. CCG offices and depots.

Fig. 6. CCG ship with booms for oil spill collection.

Canadian law places the onus for responding to pollution incidents on the polluter and the Coast Guard's role, through its Environmental Response Division, is to monitor the polluter's efforts. If a polluter is unknown, unwilling, or unable to respond to an incident, Coast Guard will step in and manage the response. However, this does not lessen the polluter's responsibility. Through legislation, the Canadian Coast Guard can seek compensation for costs incurred when managing or monitoring the response to an incident.

Fig. 6 shows a CCG ship with boom attached for oil collection.

Department of Fisheries and Oceans [12]

This is responsible to the Minister of Fisheries and Oceans but is a part of Environment Canada. Among the responsibilities of the DFO are:

- Save lives.
- Work with security forces to ensure the safe and secure use of Canada's waterways.
- Help with ship-to-shore communication, navigation, and clear passageways for safe water travel.
- Study, conserve and protect aquatic ecosystems.
- Conduct scientific research and related activities, which are vital to the understanding and sustainable management of Canada's oceans and aquatic resources.
- Work in collaboration to manage the commercial, recreational and Aboriginal fisheries.
- Provide services to fishermen such as issuing licences.
- Create the conditions to support a vibrant and sustainable aquaculture industry.
- Maintain a network of harbours.
- Ensure compliance with environmental standards and regulations in support of economic development and other activities.
- Provide high-quality hydrographic data, products and services.
- Respond to ship-sourced oil spills through the CCG.
- Develop and promote the wise use of technology to ensure the long-term health of Canada's waters.

Indian and Northern Affairs Canada [13]

The agency reports to the Minister of Indian Affairs and Northern Development. The agency mainly represents aboriginal interests. In the event of an arctic oil spill, it would be the lead agency for facilities and operations licenced by DIAND. Otherwise NEB and the CCG would lead. Whereas INAC plays a significant regulatory role in northern development, it is difficult to determine how it would be involved in a major offshore spill.

Mackenzie Valley Environmental Impact Review Board [14]

The MVEIRB was formed as a result of the Mackenzie Valley Resource Management Act and falls under INAC. It is responsible for assessing the social, economic and cultural impacts of developments on the aboriginal peoples living in the area. It makes recommendations

[12] http://www.dfo-mpo.gc.ca/index-eng.htm
[13] http://www.ainc-inac.gc.ca/index-eng.asp
[14] http://www.reviewboard.ca/

on environmental assessments and reports to the Minister of Indian Affairs and Northern Development.

The environmental impact assessment may go through three stages which are:

- The preliminary screening, which may result in permitting and licencing if no EA is required.
- An EA followed by a final approval by the Minister of Indian Affairs and Northern Development, which would result in permitting and licencing.
- A full environmental impact review, which is subject to approval by the Minister of Indian Affairs and Northern Development with subsequent permitting and licencing.

Nunavut Impact Review Board [15]

This board is a creature of INAC arising out of the Nunavut Land Claims Agreement. Its mandate is to assess and monitor the biophysical and socio-economic impacts of projects and make recommendations to the Minister of Indian Affairs and Northern Development as well as to the province. This resembles the MVEIRB.

Canadian Environmental Assessment Agency [16]

The CEAA is accountable to the Minister of the Environment and is responsible for the administration of the federal environmental assessment process. It accomplishes this through research and development, by training programs and advisory roles during studies, screenings, mediations and reviews. The process itself determines whether a project requires an EA under the Canadian Environmental Assessment Act.

However, projects that fall under NEB jurisdiction are an exception.

Summary and Conclusions

Surveillance is presently handled by national programs ISTOP and NASP. The detection of oil on open water is well established. In icy waters there is no reliable surveillance.

In the event of a spill, the operator is supposed to notify the appropriate authority but there is little reason to do so if spills cannot be detected under a systematic surveillance program.

A major spill in offshore arctic waters could be very damaging to the ecology with oil persisting for over 20 years. It could have a very large effect on northern aboriginal communities.

Spills can involve several federal Ministers and provincial bodies including:

- Minister of Natural Resources.
- Minister of the Environment.
- Minister of Transport.
- Minister of Fisheries and Oceans.
- Minister of Indian Affairs and Northern Development.

[15] http://www.nirb.ca/
[16] http://www.ceaa-acee.gc.ca/

Timeliness and decision-making would be problematic if a well defined plan were not in place for handling spills of all magnitudes.

The arctic area that could be open to shipping is large and offshore drilling is likely to be approved after 2014. The density of CCG depots and facilities is currently very sparse in the arctic especially when compared to the east coast. A considerable investment in facilities and equipment would seem to be necessary to have a reasonable chance of remediation for a large spill.