International Association for Impact Assessment

Use of Environmental Assessment by the Canadian Offshore Petroleum Boards[1]

Kate Kooka, Peter Morrison, and Kimberley Leach

Office of the Auditor General of Canada

Abstract

The Canada-Nova Scotia Offshore Petroleum Board and the Canada-Newfoundland and Labrador Offshore Petroleum Board regulate the oil and gas industry operating off the coast of Atlantic Canada. The boards use both strategic environmental assessment and project environmental assessment to identify and help manage the environmental risks and impacts associated with industrial activity. In February 2013, the Commissioner of the Environment and Sustainable Development reported the results of a performance audit of how the boards are carrying out these activities. The audit identified the need for improvements in how expert input is used, the timing of strategic environmental assessments, how information gaps are addressed, and the boards' policies and procedures.

Introduction

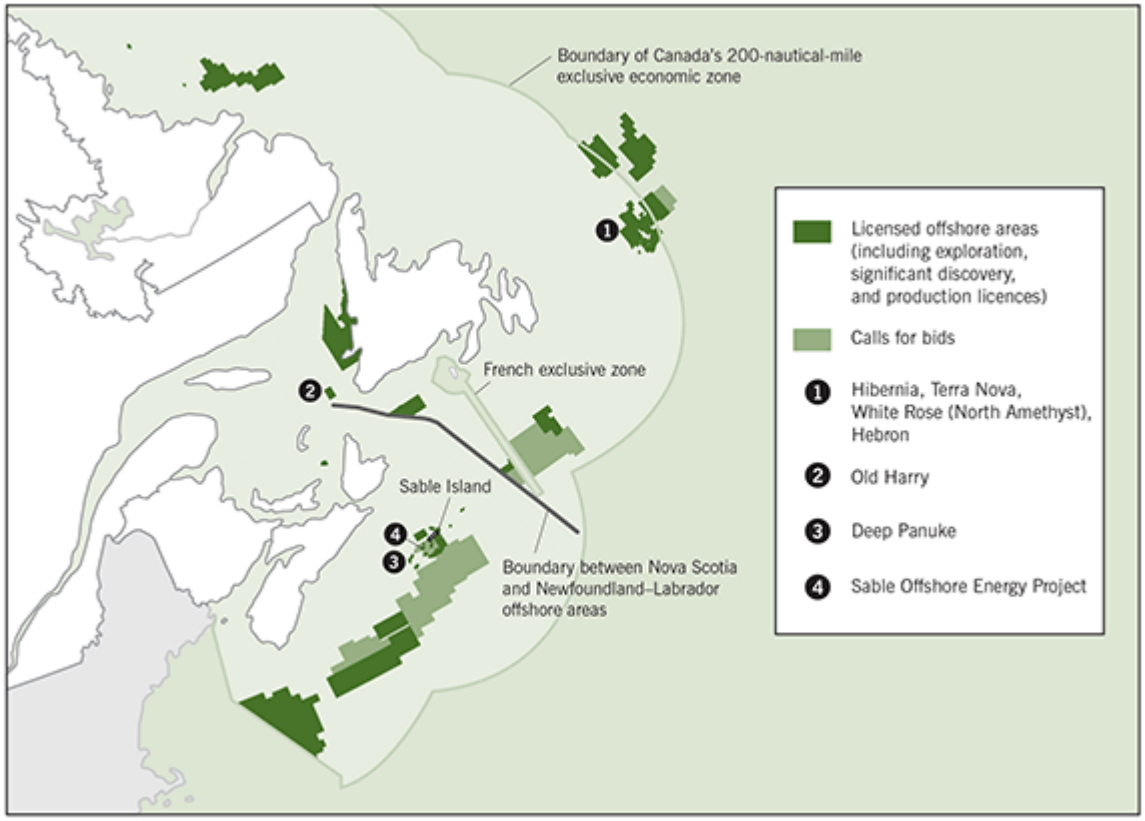
Several environmental effects, both operational and accidental, have been associated with offshore oil and gas activities (e.g. Fisheries and Oceans Canada, 2011). For instance, seismic surveys to identify possible drilling locations may generate underwater noise many times higher than normal ambient levels, with potentially adverse behavioural and physiological effects on a range of marine organisms. Drilling and extraction activities generate waste, such as drill cuttings and produced water, which may contain hydrocarbons. During production, the practice of flaring (burning off natural gas) releases greenhouse gases and other air pollutants, as well as creating a hazard for seabirds attracted by the flare. Accidental impacts include oil spills, which may harm seabirds and fish, and could affect the fishing industry and coastal areas. The 2010 Deepwater Horizon blowout in the Gulf of Mexico is a reminder of the environmental risks associated with offshore oil and gas activities.

Since 1986, the Canada–Newfoundland and Labrador Offshore Petroleum Board has regulated oil and gas activities in areas offshore from Newfoundland and Labrador (Figure 1). Since 1990, the Canada–Nova Scotia Offshore Petroleum Board has performed the same function in the areas offshore from Nova Scotia. Each board was established through mirror legislation in the provincial and federal legislatures. The boards operate independently of the two levels of government, except when ministers review certain decisions prescribed in legislation.

The two boards have similar regulations under their enabling legislation, and the boards have worked together to develop shared guidelines for the industry they regulate. (The National Energy Board, an independent federal agency, regulates the offshore industry in other parts of Canada, including the Arctic.) Federal departments, in particular Environment Canada and Fisheries and Oceans Canada, provide scientific advice to the boards.

[1] This paper is based on the audit report prepared by the Office of the Auditor General of Canada: "Chapter 1 – Atlantic Offshore Oil and Gas Activities" from the 2012 Fall Report of the Commissioner of the Environment and Sustainable Development. http://www.oag-bvg.gc.ca/internet/English/parl_cesd_201212_01_e_37710.html

Figure 1. Location of oil and gas activities in the offshore areas of Atlantic Canada



Under their legislation, the boards' core regulatory responsibilities include safety, protection of the environment, and conservation of petroleum resources. The boards have indicated that they place the highest priority on human safety, followed by environmental protection.

The two boards assess the potential environmental impacts due to offshore oil and gas activities and set requirements for preventing or reducing these potential impacts. The two boards follow similar steps in reviewing and approving or authorizing offshore activities. Most of these steps are required under their enabling legislation, environmental assessment legislation, and associated regulations.

Use of strategic environmental assessment by the boards

Strategic environmental assessment (SEA) is a tool that contributes to informed decisions by incorporating environmental considerations into the development of public policy and strategic decisions. In Canada, a SEA of a federal policy, plan, or program proposal is required if the proposal is sent to a Minister or Cabinet for approval, and if the implementation of the proposal could result in important environmental effects (Privy Council Office and Canadian Environmental Assessment Agency, 2010). Strategic environmental assessments are to consider the scope and nature of the likely environmental effects, the need for mitigation measures to reduce the potential effects, and the likely importance of the effects.

The offshore boards have applied this tool to conduct regional environmental assessments (e.g. Harriman Gunn, 2009). They analyze broad geographic areas where oil and gas activities may occur, and identify areas or components of the environment that are particularly sensitive and should be avoided or protected by using mitigation measures. These assessments may also identify key information gaps. The results can reduce the time and effort required to assess project-specific environmental effects, which

offshore operators do later in the approval process. Fidler and Noble (2012) have commented on the need to better link these two levels of environmental assessment in Canada and in other countries.

According to international practices and guidance (e.g. International Association for Impact Assessment, 2002), an SEA should include

- examination of alternatives to the proposed plan or program,
- effective public participation, and
- consideration of environmental information early enough to influence decision making.

Use of project environmental assessment by the boards

After an SEA has been conducted, the boards may issue licences for operators to carry out exploratory activities in the area. Before any activity can begin, however, boards must first authorize operators to conduct the activity. As part of the authorization process, operators are required to conduct project environmental assessments.

A project environmental assessment should outline the mitigation and monitoring requirements to reduce or eliminate potential environmental impacts of a proposed project. According to legislation, and various regulations, guidance, policies, and procedures, the boards need to ensure that monitoring and follow-up programs are implemented for approved project environmental assessments and authorizations.

In July 2012, Parliament replaced the *Canadian Environmental Assessment Act* with new legislation. This change affected how the boards are supposed to consider environmental impacts. Under the previous legislation, the boards were required to assess activities that included seismic surveys, drilling of exploration wells, and offshore production facilities. Under the new legislation and the associated regulations, only production projects are currently required to undergo assessment, and the Canadian Environmental Assessment Agency will lead these assessments.

However, the boards continue to be responsible for environmental protection under their enabling legislation. The boards have indicated that, in the short term, they plan to apply environmental review processes similar to those required under the old environmental assessment legislation. In addition, under the new legislation, the boards are responsible for assessing projects on federal lands when they have a decision in relation to those projects.

Audit observations

In February 2013, the Office of the Auditor General released an audit that looked at the two boards and how they managed environmental impacts and risks. The audit examined three areas of the boards' mandates, including how the boards assess and monitor the potential environmental impacts of proposed oil and gas activities, how they ensure compliance with environmental requirements, and how they prepare for and respond to spills, in collaboration with other parties.

The focus here will be on the observations with respect to environmental assessment processes. The audit found that both boards applied some good practices. For example, with respect to SEA, the boards sought input from key stakeholders, including federal departments and the public. As required, the boards reviewed and approved project environmental assessments before approving projects. They also coordinated the review by appropriate federal departments, held appropriate consultations, and identified mitigation measures and monitoring programs. However, the audit also identified four specific areas for improvement:

1. Use of expert input

The boards depend on the input and support of federal departments and agencies in several ways. During both strategic and project environmental assessments, Environment Canada and Fisheries and

Oceans Canada advise the boards on possible impacts, suitable mitigation measures, and the need for follow-up monitoring. The departments' support is essential given the range of different environmental impacts, the need to be well informed about emerging environmental issues and research, and the small number of environmental staff at each board. The audit found that the final strategic environmental assessment did not always incorporate the input from federal experts, even when the advice provided was to correct factual inaccuracies.

2. Timing of SEAs

The audit examined SEAs conducted by both boards to determine whether the SEAs were completed before the boards designated an offshore area for operators to bid on licences. In all four cases, the boards issued a call for bids before the SEA was completed. In one of these cases, the responsible board awarded exploration licences before the assessment was finished. Although the boards took some steps to communicate preliminary results, potential bidders did not always have complete information about the environmental constraints and the required protection measures until near the end of, or after, the bid preparation process. This is counter to one of the key features of a good SEA mentioned above, which is to consider environmental information early in the decision-making process.

The audit recommended that the boards ensure the results of up-to-date SEAs are available prior to issuing a call for bids. This would maximize opportunities for protecting the environment and would ensure that potential project proponents have the environmental information to make appropriate decisions.

3. Information gaps

The audit found that both strategic and project environmental assessments identified some information gaps—for example, related to the effects on seabirds from drilling and operating wells, the effects of seismic surveys, and the effects of trace contaminants in produced water. Although some research is under way, incomplete scientific research and information in these areas could limit the ability of a range of organizations to assess and monitor environmental effects.

To address these information gaps, the audit recommended that the boards should work with their federal partners, including Environment Canada and Fisheries and Oceans Canada, to identify and address the key information gaps in strategic and project environmental assessments.

4. Need for clear policies and procedures

The new environmental assessment legislation and associated regulations will affect what environmental reviews the boards perform and how other federal entities provide expert support to the boards. Board staff said that the boards would continue to assess environmental effects based on their responsibilities under their enabling legislation and as federal authorities under the new legislation. However, it is unclear what support will be available from federal departments and agencies, such as Environment Canada and Fisheries and Oceans Canada—organizations on which the boards have depended for advice and expertise in conducting their assessments. There is no specific requirement for federal authorities to provide this support to the boards for projects not designated under the new legislation. There are agreements that outline the expectations for support from federal departments, but these have not yet been revised since the legislative changes came into effect.

The audit found that both boards lacked up-to-date and approved policies and procedures for guiding their review of project environmental assessments. Given the changes introduced by the new legislation, such policies and procedures will be particularly important as the boards reconsider how they will review project environmental impacts.

The audit recommended that the boards document or update their policies and procedures, and update their agreements with their federal partners, including Environment Canada and Fisheries and Oceans

Canada, to ensure that the boards will have the capacity for effective environmental review of projects not designated under the new legislation.

In addition to the findings related to environmental assessment, the auditors also found that the boards have largely taken adequate steps to ensure that offshore operators comply with environmental requirements. However, the audit also found that the boards and federal entities are not adequately prepared to respond to a major oil spill. This finding emphasizes the importance of environmental assessment, which may help anticipate and prevent environmental disasters.

Changes since the audit was completed

Several changes have occurred since the audit was completed. For example, the Nova Scotia Board issued a public statement saying that is has updated its environmental assessment policies and procedures in line with the new legislation (Canada-Nova Scotia Offshore Petroleum Board, 2013d).

The Board has also made some changes in the sequence of conducting SEAs. Recent SEAs (Canada-Nova Scotia Offshore Petroleum Board, 2013b and 2013c) are supposed to be completed before issuing a call for bids, which has historically occurred in mid April (Canada-Nova Scotia Offshore Petroleum Board, 2013a). Further, in its most recent SEA, the Board is including a buffer zone to consider the impacts of oil and gas activities outside of the potential licence areas (Stantec, 2013).

As of June 2013, new federal regulatory and legislative proposals could further change which offshore projects are subject to environmental assessments and who would conduct them.

Conclusions

Environmental assessment, at both the strategic and project levels, is critical to mitigating potential adverse environmental effects of offshore oil and gas activities. The offshore petroleum boards in Atlantic Canada illustrate the need to ensure good links between SEA and project environmental assessment.

While the audit found that both boards are conducting assessments and have demonstrated some good practices, there are improvements that can be made to strengthen the environmental assessment process and practice with the ultimate goal of reducing the potentially significant adverse environmental effects of offshore oil and gas activities. Questions remain about which decisions should be made at which stage in the process, how the public and experts should be involved, and how information gaps should be filled. Some of the observations and recommendations from this audit may be applicable to regulatory systems in other regions of Canada and in other countries (e.g. Dagg *et al*., 2011).

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