



Protection of the Environment

August 1996

Canada

Synopsis

Environmental considerations are an important factor in much of the National Energy Board's decision making. This bulletin describes the Board's environmental responsibilities and the related processes it has developed for the regulation of energy projects under its jurisdiction.

THE BOARD

The National Energy Board is an independent regulatory tribunal that was created by the Parliament of Canada in 1959. Its powers and jurisdiction are based on the *National Energy Board Act*, the *Canada Oil and Gas Operations Act* and certain provisions of the *Canada Petroleum Resources Act*. The purpose of the Board is to make decisions that are fair, objective, and respected. The Board achieves this purpose by regulating in the Canadian public interest certain areas of the oil, gas, and electric utility industries. Copies of the Acts are available from the Board and from the Canada Communications Group, Public Works and Government Services Canada, 45 Sacré-Coeur Blvd., Hull, Quebec, K1A 0S7.

PUBLICATIONS

This information bulletin is one of a series that the Board publishes on its activities and procedures. Comments on this bulletin or suggestions for future topics are welcome. These bulletins provide general information only. For details of particular items, reference must be made to the relevant legislation.

BULLETINS IN THIS SERIES

1. Pipeline Route Approval Procedures
2. The Public Hearing Process
3. Non-Hearing Procedures
4. How to Participate in a Public Hearing
5. The Board's Publications
6. The Regulation of Tolls and Tariffs
7. The National Energy Board Library
8. Electric Power: A Compendium of Terms
9. Protection of the Environment
10. Pipeline Tolls and Tariffs: A Compendium of Terms
11. The Frontier Information Office
12. Pipeline Safety
13. Pipeline Regulation: An Overview for Landowners and Tenants

© Her Majesty the Queen in Right of Canada 1996 as represented by the National Energy Board

Cat No. NE 12-3/9E
ISSN 0825-0170

This information bulletin is published separately in both official languages.

For further information, please contact:

Communications Group
National Energy Board
444 Seventh Avenue S.W.
Calgary, Alberta T2P 0X8
(403) 292-4800
Fax: (403) 292-5503

© Sa Majesté la Reine du Chef du Canada 1996 représentée par l'Office national de l'énergie

No du cat. NE 12-3/9F
ISSN 0825-0189

Ce bulletin est publié séparément dans les deux langues officielles.

Pour de plus amples renseignements, contactez :

Groupe des Communications
Office national de l'énergie
444, Septième Avenue S.-O.
Calgary (Alberta) T2P 0X8
(403) 292-4800
Télécopieur: (403) 292-5503

Introduction

The National Energy Board (the NEB or the Board) is responsible for environmental matters relating to the construction and operation of interprovincial and international pipelines and international and designated interprovincial power lines, the export of energy, and Frontier oil and gas activities within its jurisdiction. This includes ensuring environmental protection during the planning, construction, operation, maintenance, and abandonment of energy projects. The specific Acts under which the Board exercises its environmental responsibilities are the *National Energy Board Act* (NEB Act), the *Canada Oil and Gas Operations Act* (COGO Act) and the *Canadian Environmental Assessment Act* (CEA Act). As a result of the *Canada Transportation Act* coming into effect on 1 July 1996, the Board's jurisdiction has been broadened to also include pipelines that transport commodities other than oil or natural gas.

To discharge its responsibilities and protect the public interest, the Board has developed procedures which are outlined in this bulletin. The Board has also established *Guidelines for Filing Requirements* (the Guidelines) which set out the kinds of environmental information that should be considered by an applicant in making a project submission. The Guidelines have been in effect since 1976, and were updated in 1995 to incorporate the environmental assessment requirements under the CEA Act.

Environmental Assessment Process

The Board's consideration of environmental matters predates both the *Environmental Assessment and Review Process Guidelines Order* (1984) and the CEA Act (1995). The Board has assumed a mandate for the protection of the environment under the NEB Act and the COGO Act. The NEB Act requires the Board to consider matters of public interest that could be affected by the approval of an application. The COGO Act requires the Board to ensure that oil and gas activities on Frontier lands are carried out safely, in a manner which protects the environment and involves sound reservoir conservation practices.

In addition, the Board must meet the requirements of the CEA Act. The Board, as a "responsible authority" under the CEA Act, ensures that environmental assess-

The Board's environmental activities are carried out in three distinct phases. The first phase involves evaluating the potential environmental effects of proposed projects through environmental assessments and, where applicable, the establishment of terms and conditions to avoid, mitigate or compensate for possible adverse effects. During this phase, the Board ensures that its assessments are coordinated with those of other responsible regulatory authorities, both to avoid duplication and to streamline the regulatory process.

During the second phase, the environment is protected through the monitoring and enforcement of terms and conditions attached to the project approval. This involves site inspections during project implementation. For example, this could occur when a pipeline or facility is under construction or while a well is being drilled.

The final phase is the ongoing, long-term monitoring of operations. This ensures the clean-up, restoration and maintenance of project sites and rights-of-way to acceptable standards. It is also directed at ensuring that operators have effective emergency response plans in place and that the operator and/or the Board can respond immediately to any incidents.

ments are conducted for projects under its jurisdiction according to the standards prescribed by that legislation. The CEA Act promotes the uniform consideration of environmental matters across federal departments and agencies, and is intended to encourage a "one project, one assessment" approach.

The purposes of the CEA Act are:

- a) to ensure that the environmental effects of projects receive careful consideration;
- b) to promote sustainable development and thereby achieve or maintain a healthy environment and economy;
- c) to ensure that projects do not cause significant adverse environmental effects; and

- d) to ensure an opportunity for public participation in the environmental assessment process.

Under the CEA Act, an environmental effect is defined as:

- a) any change that the project may cause in the environment, including any effect of any such change on health and socio-economic conditions, on physical and cultural heritage, on the current use of lands and resources for traditional purposes by aboriginal persons, or on any structure, site, or thing that is of historical, archaeological, paleontological, or architectural significance; and
- b) any change to the project that may be caused by the environment;

whether any such change occurs within or outside Canada.

The CEA Act also requires that cumulative environmental effects be considered in an environmental assessment.

There are four sets of regulations that guide the application of the CEA Act. They are:

- *Law List Regulations* - these regulations list the provisions of various Acts which trigger environmental assessment under the CEA Act. The section of the NEB Act that relates to the construction and operation of a pipeline is one such example.
- *Inclusion List Regulations* - these regulations define which physical activities require environmental assessment under the CEA Act. Examples of NEB regulated physical activities would be the carrying out of drilling programs on Frontier lands or the abandonment of the operation of a pipeline.
- *Exclusion List Regulations* - these regulations determine the types of projects which do not require an environmental assessment under the CEA Act. However, when appropriate, projects excluded under the CEA Act, such as certain pipeline maintenance or repair projects and energy exports are assessed by the Board according to the NEB Act.

- *Comprehensive Study List Regulations* - these regulations establish projects which require a comprehensive environmental study. Certain applications before the NEB meet these criteria. An example would be the construction of a new pipeline over 75 kilometres in length on a new right-of-way.

If a project fits the criteria for a comprehensive study, the Board may either conduct the study and then submit the report to the Minister of the Environment, or the Board may refer the project to the Minister for a panel review. The Minister may also decide, based on the findings of the report, to initiate a panel review. In the event of a panel review, the Minister may choose to substitute an environmental assessment by a separate review panel for the Board's hearing process or choose to establish a joint panel. For panel reviews, the Canadian Environmental Assessment Agency makes intervenor funding available for those individuals or groups that meet certain criteria and wish to participate in the hearing process.

One of the benefits of the CEA Act is the ease with which the public can access information about specific environmental assessments. As part of the public notification procedure, a public registry system has been established through the CEA Agency to identify projects which are to undergo an environmental assessment according to the CEA Act. For more information on the registry system contact:

Public Registry Coordinator
Canadian Environmental Assessment Agency
200 Sacré-Coeur Blvd., 13th Floor
Hull, Quebec
K1A 0H3
Phone: (819) 997-1000
Fax: (819) 994-1469

Environmental Assessment Information Requirements

The Board's *Guidelines for Filing Requirements*, dated 22 February 1995, specify information that must be filed by an applicant when seeking authorization to construct, operate, maintain, or abandon a pipeline. Environmental information requirements for the construction of power lines under the Board's jurisdiction can be found in the *Memorandum of Guidance to Interested Parties Concerning Full Implementation of the September 1988 Canadian Electricity Policy* dated 7 July 1993. The Board's environmental information requirements for international power lines will be contained in the proposed *Electricity Regulations*.

Applicants are required to file information detailing how the proposed project(s) would affect the environment and what proposed mitigative measures the company would implement. The level of detail the Board requires may vary with the magnitude of the project and its potential for environmental effects. This environmental information will be one of the determining factors in the Board's decision making process. The same information will be used by the Board to monitor the construction, operation, and maintenance of facilities and to ensure compliance with the commitments made by the applicant. All project-related information, including environmental reports submitted by the applicant, are available for public viewing in the Board's library.

Pipeline Activities

Environmental information submitted by a project applicant must include a detailed description of the project, site or routing information, a description of the effects of the project on the environment, proposed mitigative measures, contingency plans for dealing with environmental emergencies, and descriptions of any inspection and monitoring programs. Oil and gas pipeline projects are assessed according to the NEB Act, the COGO Act and the CEA Act.

Environmental considerations relating to pipeline construction and operation may include:

- conflicts with existing land-uses;
- soil conservation on agricultural lands;
- preservation of wildlife and fish habitat;
- avoidance of sensitive areas and seasons for fish and wildlife species;

- protection of rare or unique plant communities, rare and endangered wildlife, and associated habitat;
- contamination of soil and groundwater;
- conservation of timber resources;
- preservation of heritage resources;
- preservation of water resources; and
- effects from above-ground facilities, such as noise and air emissions, and aesthetics.

Environmental issues vary depending on the scope, location, timing, and nature of the project. Factors such as soil erosion, soil mixing and compaction along a pipeline trench or right-of-way from vehicle traffic can be a greater or lesser concern depending on the location. For example, these effects may have the potential to disrupt the natural drainage of farmland and impair its agricultural capacity.

The Board may request that the applicant develop an environmental issues list (EIL) as a management tool. This assists in tracking the resolution of environmental concerns described in the application and is used during the assessment, construction, and post-construction phases of the project. In the EIL, environmental issues and their means of resolution are identified for each specific location. The NEB reviews the EIL and monitors the actions taken toward the resolution of issues.

Power Lines

While the construction of most electric power lines and associated facilities fall within provincial jurisdiction, the NEB regulates the construction of international and designated interprovincial power lines. These projects are assessed according to both the NEB Act and the CEA Act.

Environmental considerations relating to the construction of power lines may include:

- conflicts with existing land-uses;
- surface and near surface geology;
- soil conservation;
- habitats of land animals, wetland furbearers and waterfowl;
- the habitats of rare or endangered plant species;
- spawning beds and fish habitat;

- public recreational areas;
- historic parks, historic and archaeological sites, ecological reserves;
- radio and television interference and noise; and
- the aesthetics of tower facilities.

Frontier Projects

Frontier oil and gas projects vary in both type and location. They range from onshore seismic data acquisition to Arctic offshore production. Depending on the situation, potential concerns can relate to factors such as timber cutting, dredging, artificial island construction, aircraft and vessel traffic, waste handling, and well blowouts. Environmental assessment of Frontier projects are carried out under both the COGO Act and the CEA Act.

Environmental considerations relating to Frontier projects may include:

- effects of offshore oil spills;
- effects of underwater noise from drilling and marine transportation on fish and marine mammals;
- protection of polar bears and marine mammals;
- wildlife and fish habitat and population protection;
- effects of waste discharges from offshore rigs;
- hazards to operations posed by sea ice, icebergs, and severe storms;
- protection of permafrost;

- contamination of soil and groundwater;
- water pollution;
- public consultation; and
- socio-economic effects arising directly from environmental effects.

Exports

Since energy exports are not included in the *Law List Regulations*, they are not subject to environmental assessment according to the CEA Act. A consideration of environmental matters in relation to energy exports is done under the authority of the NEB Act.

For long-term gas export authorizations (over two years), the Board has relied upon the necessary connection test. Applicants may be requested to file information sufficient to determine if the requirements of the applied-for export licence and new facilities or activities are integrated to the extent that they can be seen to form part of a single course of action. If new facilities or activities will be constructed or undertaken, as per the necessary connection test, applicants could be requested to file an assessment of the potential environmental and directly-related social effects of those new facilities or activities. Environmental considerations related to upstream facilities could also arise for applications to export energy other than natural gas.

Additional Considerations and Information Requirements

Socio-economic Matters

In addition to physical and biological effects, energy activities also have the potential to affect social, economic, and cultural environments. Traditionally, the Board has considered these effects as a matter of public interest and also as a component of the environment under both the NEB Act and the COGO Act.

Socio-economic considerations can vary, and may include:

- local and regional economic impacts and effects;
- demographic effects such as changes in population numbers and distribution;
- project-related public fiscal expenditures;
- health effects such as those related to noise and gas emissions, water degradation, and other pollutants;
- cumulative effects on the basic economy or traditional culture of the affected area or surrounding region; and
- other patterns of human disturbance.

Under the CEA Act, the Board has a responsibility to assess certain effects that flow directly from environmental changes, including effects on:

- human health;
- socio-economic conditions;
- physical and cultural heritage, including effects on items or sites of archaeological, paleontological, architectural significance; and
- the current use of lands and resources for traditional purposes by aboriginal persons.

Information submitted by an applicant is required to include confirmation showing that the applicant is fully aware of any significant socio-economic effects of the proposed project, has measures in place to mitigate adverse impacts and to promote positive outcomes, and is committed to carrying out those measures. These requirements help to ensure that the project benefits not only the producers and consumers but also, to the extent possible, those people directly affected in the local area.

Right-of-Way Matters

It is possible to minimize the adverse environmental effects of pipeline construction through careful route selection. Companies are encouraged when selecting a route to avoid sensitive areas for wildlife, plants, fish and human activities, wherever possible. By developing comprehensive route selection studies and processes, impacts on environmentally sensitive areas can usually be reduced or avoided. The Board's Guidelines require applicants to provide information on pipeline routing, including alternative routes if considered, the route preferred by the company, and the rationale for the preferred route. Land requirements for pipelines and facilities are also assessed by the Board to ensure the amount of land required is reasonable and justified.

Public Notification

The Board's Guidelines establish how an applicant is expected to notify the public of energy projects under its jurisdiction. In most instances, the applicant is required to:

- implement a public information program;
- explain the proposal under review to the interested public;
- allow an opportunity for public comment;
- provide information to the public about possible environmental and social effects; and
- respond to enquiries concerning the project.

When filing an application with the Board, the applicant must provide information regarding the public notification program, meetings with interested parties, and a summary of public comments and concerns. For certain types of projects, such as those for which no significant environmental or social concerns have been identified, an applicant has the right to seek an exemption from the Board's public notification requirements.

Post Approval Activities

Inspection and Monitoring

The NEB requires that companies employ qualified inspectors to oversee construction activities. The Board also conducts its own inspections and audits to ensure that construction activities comply with applicable legislation and the conditions of project approval.

Once construction has been completed, the company is required to restore and maintain the right-of-way in a condition acceptable to both the landowner and to the Board. The right-of-way is normally restored so that it is similar to the surrounding environment and consistent with current land use. Typically, restoration is completed within one or two years following construction.

On most pipeline projects, the Board requires that the company file post-construction reports identifying any environmental issues that have arisen during the reporting period. These reports must indicate those issues which have been resolved, those which remain unresolved, and the measures the company proposes to take regarding unresolved issues. Typically these reports are filed six months after the completion of construction, and then again after each growing season for the next two years.

Inspections and audits by the Board continue into the operating phase of projects. Rights-of-way for all projects under NEB jurisdiction are checked periodically to confirm the effectiveness of ongoing environmental protection measures. Specific operational issues, such as noise emissions from compression and pumping facilities, are also periodically monitored.

Companies are also required to maintain and update operation and maintenance manuals and routinely check for signs of pipeline leaks or impacts to the land along the right-of-way, such as slope movement, erosion, compaction, weed infestations, and infringements on the right-of-way by third parties. When ongoing issues are identified, the Board can require that further action be taken by the company to remediate the situation.

Environmental inspections of Frontier activities involve verifying a company's compliance with, and the effectiveness of, environmental operating requirements. For example, requirements and standards have been put in place for the measurement, observation and prediction

of weather, sea ice, and sea conditions to ensure the safety of operations and the environment in an offshore setting. In addition, operators of offshore production projects are required to submit environmental protection and monitoring plans. To verify environmental assessment predictions and to determine the effectiveness of mitigative measures, the Board reviews these reports and monitors compliance with the plans.

Contingency Plans for Environmental Emergencies

Since the potential exists for accidental releases from pipelines and facilities, the Board requires companies to establish procedures for handling these incidents. These procedures must be detailed in a contingency plan which is filed with the Board. Where there is a potential for incidents to significantly affect the environment, public health, or safety, the Board requires companies to establish an emergency response plan.

When an incident occurs, the company must report it to the Board immediately. For significant incidents, Board staff monitor the company's response to ensure that appropriate recovery, clean-up, and site restoration activities are carried out. After repairs are made and the site is restored, the company must file a report with the NEB describing the location, extent of damage, volumes of product lost, containment measures, and the clean-up and restoration procedures. In the case of a serious incident, the Board may call a public inquiry to evaluate emergency, safety, and environmental protection procedures and associated regulations.

To address any potential consequences of Frontier exploration activities, especially in offshore areas, companies are required to test their contingency and emergency response plans. This is accomplished through simulated emergency response or spill exercises. These exercises are designed to test response strategies and communications systems, and to provide an opportunity for field staff to gain practical experience in the deployment of spill response equipment.

Financial Liability and Security

The COGO Act allows claims for compensation of actual loss or damages resulting from the release of oil, gas or debris resulting from regulated activities. Prior to

the issuance of an authorization under the COGO Act, the Board requires proof of financial responsibility to be demonstrated by the applicant. The Board may, if necessary, act directly to resolve outstanding issues by using the financial securities held by the Board.

Landowner Concerns

Environmental problems are likely to be noticed first by landowners or property tenants. However, anyone who believes a company's construction procedures or facility operations are causing adverse environmental effects should contact both the company and the Board. In response, the company is required to contact the affected landowner and reply to the Board outlining actions taken to resolve the situation. The Board's responsibility is to ensure that appropriate actions have been taken by the company to address concerns.

Abandonment

Abandonment of any pipeline or related facility regulated by the NEB requires prior Board approval. The NEB assesses whether the abandonment will have any adverse environmental effects and what restoration work will be required. A restoration plan is approved before work begins to ensure that land disturbed by the removal or sealing of a pipeline, or the decommissioning of surface facilities, is restored.

Keeping Current

The field of environmental protection is constantly undergoing new developments. The NEB updates its policies and procedures as necessary to ensure that facilities within its jurisdiction receive the benefit of up-to-date environmental regulation and to take into account the development of improved construction and mitigative measures.

Contacting the Board

Parties requiring more information about this bulletin or other NEB matters should contact:

The Office of the Secretary
National Energy Board
444 Seventh Avenue S.W.
Calgary, Alberta
T2P 0X8
Phone: (403) 292-4800
Fax: (403) 292-5503