Guidelines for the Preparation of the Environmental Impact Statement of the Rabaska Project

March 2005

FOREWORD

The Limited Partnership of Gaz Métro, Gaz de France and Enbridge Inc. (the proponents) submitted, on May 3, 2004, a project notice concerning the construction of a liquefied natural gas (LNG) terminal and related infrastructure (Rabaska Project) in the Ville Guay/Beaumont area.

The Rabaska Project (the project) is subject to the *Canadian Environmental Assessment Act* given the requirement that the proponents obtain various federal authorizations. The National Energy Board, the Department of Fisheries and Oceans, and Transport Canada are the responsible authorities mandated to ensure that an environmental assessment of the Rabaska Project is undertaken. The permits and authorizations which trigger the federal environmental assessment process and that will likely be necessary to complete the project are:

a certificate of public convenience and necessity to be issued pursuant to section 52 of the *National Energy Board Act*;

an authorization by the Minister of Fisheries and Oceans pursuant to subsection 35(2) of the *Fisheries Act*;

an approval by the Minister of Transport pursuant to subsection 5

(1) of the *Navigable Waters Protection Act*.

The Rabaska Project is subject to a comprehensive study, under paragraphs 13 d) and 28 c) of the *Comprehensive Study List Regulations* because the project includes a liquefied natural gas storage (LNG) facility with a capacity of over 50,000 tonnes and a marine terminal designed to accommodate tankers of over 25,000 Deadweight Tonnage. As required under the comprehensive study process, the responsible authorities held a public consultation on the scope of the environmental assessment and reported to the federal Minister of the Environment on the scope of the environmental assessment, public concerns, the potential for adverse environmental effects and the ability of the comprehensive study to address issues related to the project. Given the responsible authorities' recommendation and the level of public concerns, the Minister of the Environment decided to refer the environmental assessment of the project to a review panel.

The Rabaska Project is also subject to Quebec's environmental impact assessment and review process under the *Environment Quality Act*. An administrative agreement on the coordination of environmental assessment processes was finalized in May 2004 between Canada and Quebec. Its goal is to promote inter-governmental cooperation while respecting the requirements of the *Canadian Environmental Assessment Act* and Quebec's *Environment Quality Act*. The main objective is to coordinate the various stages of the federal and provincial processes. A cooperative environmental assessment committee has been established for this purpose. This committee is responsible for, among other things, reviewing the conformity of the environmental impact statement with the requirements set out in the guidelines.

In May 2004, the Environmental Assessment Branch of Quebec's ministère de l'Environnement issued its guidelines entitled, *Directive pour le projet Rabaska – Implantation d'un terminal méthanier et des infrastructures connexes 3211-04-39*. Pursuant to the *Canada-Quebec Agreement on Environmental Assessment Cooperation*, the present guidelines have been developed based on Quebec's guidelines, providing, where relevant, the additional information required to meet the requirements under the *Canadian Environmental Assessment Act*. They follow the same structure and numbering as Quebec's guidelines and must be read concurrently. Please note that the terms "effects" and "impacts" are used interchangeably in the two documents. Quebec's guidelines are available (in French) on the ministère de l'Environnement du Québec Internet site at: http://www.menv.gouv.qc.ca/evaluations/documents/rabaska.pdf.

These guidelines, combined with Quebec's guidelines, constitute the consolidated guidelines under the *Canada-Quebec Agreement on Environmental Assessment Cooperation*. The proponents are invited to produce an environmental impact statement that responds to the requirements of these consolidated guidelines.

SCOPE OF THE PROJECT

The scope of the project established for the purposes environmental assessment comprises the various components of the project as described by the proponents in the document entitled *Project Description – Rabaska Project – Implementation of an LNG Terminal (June 2004)* as well as the activities and works described in the present

guidelines.

The scope of the project includes the construction, operation, maintenance and foreseeable modifications and, where relevant, the abandonment, decommissioning and rehabilitation of the sites related to the liquefied natural gas terminal and, more specifically, the following works and activities:

- transportation of the liquefied natural gas (LNG) from the boundaries of waters under Canadian jurisdiction until its arrival at the terminal;
- a jetty designed to accommodate liquefied natural gas tankers ranging in capacity between 138,000 m^3 and 160,000 m^3 together with all related unloading facilities;
- cryogenic lines to move the liquefied natural gas (LNG) from the jetty to the terminal;
- a terminal capable of delivering 500 million ft^3 per day of vaporized gas and consisting of:
  - two storage tanks;
  - pumping, compression and vaporizing facilities;
  - maintenance, control and administration buildings;
  - a water treatment plant, including water intake and outfall where necessary;
  - a metering station together with all related facilities including gas fractionation facilities;
- a pipeline of approximately 50 kilometres between the existing facilities of the Trans Quebec & Maritimes Pipeline (TQMP) in Saint-Nicolas and the Ville Guay/Beaumont area, including a metering station, cathodic protection and shutoff valves; and
- all related works and activities including all temporary facilities required for the construction of the above-mentioned facilities, namely:
  - permanent and temporary access roads;
  - a communications system;
  - all temporary or permanent power supply lines;
  - dredging and sediment disposal, if necessary;
  - construction worksites and storage areas;
  - handling and storage of petroleum products and hazardous materials;
  - handling, storage and use of explosives, if any.

INTRODUCTION

1. CHARACTERISTICS OF THE IMPACT STATEMENT

Refer to Quebec's guidelines (page 1).

2. DEPARTMENTAL AND GOVERNMENTAL REQUIREMENTS

Refer to Quebec's guidelines (page 2).

Exchanges between the proponents and government organizations are encouraged so that the environmental impact statement responds adequately to the methodology and guidelines. The proponents will find references to several guides containing more detailed information on approaches recommended by certain government agencies.

In addition, the proponents shall contact the appropriate authorities, namely the National Energy Board, the Canadian Transportation Agency, Fisheries and Oceans Canada, Transport Canada, to ensure that they meet their respective regulatory requirements to obtain the necessary permits, authorizations and statements of conformity. As part of the regulatory processes, the proponents shall supply the information requested in the Fisheries and Oceans Canada document entitled *Informations nécessaires pour l'analyse des effets du projet d'aménagement d'un terminal méthanier, Projet Rabaska, en vertu de la Loi sur les pêches* and the Transport Canada document entitled *Termpol Review Process*[1] *2001* (TP743E). The National Energy Board requirements are specified in the Board's *Filing Manual*, published in April 2004, and in all other documentation that the Board has issued or shall issue in relation to the Rabaska Project. The proponents can also contact Environment Canada to find out about their responsibilities with regard to the *Environmental Emergency Regulations, Migratory Birds Regulations* and *Species at Risk Regulations*.

3. INTEGRATION OF SUSTAINABLE DEVELOPMENT OBJECTIVES

Refer to Quebec's guidelines (page 2).

4. INCENTIVE TO ADOPT AN ENVIRONMENTAL AND SUSTAINABLE DEVELOPMENT POLICY

Refer to Quebec's guidelines (page 2).

5. INCENTIVE TO CONSULT THE PUBLIC AT THE BEGINNING OF THE PROCESS

Refer to Quebec's guidelines (page 3).

For much of the information required by the present guidelines, local knowledge will have as important a contribution to make as scientific and engineering knowledge. The proponents shall fully consider local knowledge and expertise in preparing the environmental impact statement.

For the purposes of the present environmental assessment, local knowledge may be regarded as the knowledge, understanding and values of local populations that bear the determination on the effects of the project and proposed mitigation measures. This knowledge is based on personal observation, collective experience and oral transmission over generations.

PART I: CONTENT OF THE ENVIRONMENTAL IMPACT STATEMENT

1. CONTEXT OF THE PROJECT

1.1 PRESENTATION BY THE PROPONENT

Refer to Quebec's guidelines (page 7).

The proponents shall describe the experience they acquired during the construction and operation of other projects of the same nature.

1.2 CONTEXT AND PURPOSE OF THE PROJECT

Refer to Quebec's guidelines (page 7).

1.3 ALTERNATIVE TO THE PROJECT

Refer to Quebec's guidelines (page 9).

1.4 RELATED FACILITIES AND PROJECTS

Refer to Quebec's guidelines (page 9).

2. DESCRIPTION OF THE EXISTING ENVIRONMENT

2.1 STUDY AREA BOUNDARIES

Refer to Quebec's guidelines (page 10).

With respect to the environmental baseline, the proponents shall present temporal series of data and sufficient information to establish the averages, trends and extremes of the construction, operation, maintenance, decommissioning of temporary works and the rehabilitation of the sites affected by the project.

2.2 DESCRIPTION OF RELEVANT COMPONENTS

Refer to Quebec's guidelines (page 10).

In addition to the elements listed in Table 2 of Quebec's guidelines, the proponents shall, without limiting themselves thereto, use the following list to describe the main components of the biophysical and human environments:

description of the watercourses affected by the pipeline, including the width, depth, flow, current velocity, bank slope, substrate type (clay, silt, sand, gravel, cobble, rock, etc.). Where necessary, indicate if the watercourse is permanent or intermittent;

natural obstacles (physical, physico-chemical, hydraulic, etc.) to fish migration and movement in the watercourses affected, be they permanent, temporary or partial;

climate change trends and how they affect the study area, particularly with respect to water levels in the St. Lawrence River;

seismology;

mapping of every exceptional plant community requiring special protection;

description and location of all wetlands in the study area, including type, functions and area of each wetland;

all freshwater, saltwater or diadromous fish species in the study area, including the characteristics of their habitats (for example: spawning, fry-rearing, nursery, feeding and wintering areas, migratory routes, etc.) which could be affected by the project. The proponents, without limiting themselves thereto and depending on

the circumstances, shall:

- provide a list of fish species likely to use the environment targeted by the project and indicate at risk aquatic species appearing on federal and provincial lists;
- specify the location and areas of potential or confirmed fish habitats and describe, based on their physical (substrate, slope, current, bathymetry, etc.) and biological (vegetation, benthos) characteristics, how they will be used by fish (spawning, rearing, nursery, wintering, feeding and migration);
- locate and describe in detail the fish habitats best suited for species at risk that appear on federal and provincial lists that have been or are likely to be found in the study area;
- describe the migratory and local movement conditions and needs (upstream/ downstream) of the different fish species (migratory and non-migratory) in areas where the components of the project could constitute an obstacle to the unrestricted movement of fish; and
- describe and map aquatic plant beds (immersed, submerged) and aquatic and riparian vegetation (arborescent, shrubby and herbaceous), including the floodplain, in the sectors affected by the project and indicating its functions with respect to the fish habitat (e.g., spawning bed, shelter, cover, thermal protection, etc.);

all of the bird species that are present in the study area or are likely to use it, including the characteristics of their habitats (e.g., nesting, feeding, migration, etc.) that could be affected by the project. The proponents, without limiting themselves thereto and depending on the circumstances, shall:

- provide a list of bird species that are likely to use the environment targeted by the project and indicate species at risk that appear on federal and provincial lists;
- specify the location and areas of bird habitats and describe, on a quantitative basis (e.g., number of nesting couples/ha), how they are used by birds (nesting, feeding, resting, migration);
- accurately locate and describe the habitats well-suited for at risk bird species that appear on federal and provincial lists and have been or are likely to be found in the study area; and
- provide a list of bird species present in the study area that are of scientific, social, economic or cultural interest (explain why). Pay particular attention to valued species;

specific composition, abundance and habitats of semi-aquatic and marine mammals;

wildlife and plant species of special interest (in terms of abundance, distribution and diversity) and their significant habitats, whether they are terrestrial or aquatic paying special attention to species that are rare, vulnerable, threatened, or likely to be designated as threatened or vulnerable, and endangered species. More specifically, the proponents shall describe the use of

the environment and habitats by the endangered species designated in the Schedule of the federal *Species at Risk Act* (SRA). The proponents shall provide a list of species at risk that appear on federal and provincial lists;

wilderness areas devoted to protection and conservation or of interest for their recreational, aesthetic, historic, educational or spiritual value, particularly:

- the Grande Plée Bleue nature area and conservation park;
- the Parc de la Pointe-de-la-Martinière project;

mapping of all exceptional wildlife habitats requiring special protection;

commercial and recreational navigation (e.g., transport and mooring activities in the area, support services for maritime traffic in the terminal sector and the approaches, routes frequently used by boats);

current use of land, wildlife and plant resources, both terrestrial and aquatic, for traditional purposes (if relevant, specify the use of land and resources by Aboriginal communities);

cultural, historical, archaeological and paleontological resources; and

current night time light levels in locations where a relatively significant increase in lighting is anticipated for the purposes of the project.

3. DESCRIPTION OF THE PROJECT AND ALTERNATIVE MEANS OF CARRYING IT OUT

3.1 FEASIBLE ALTERNATIVE MEANS

Refer to Quebec's guidelines (page 14).

The proponents shall specifically present alternative means for the following elements:

maritime routes used by the LNG tankers (choice of route used by the LNG tankers to reach the jetty and to moor);

choice of site, location of the jetty, the LNG terminal and its components;

jetty design, particularly in terms of the visual impact and the impact on the river bed and water circulation;

layout of the pipeline;

layout of the temporary and permanent roads, power supply lines, railway spur, location of worksites;

location of the storage areas for hazardous materials;

methods for pipeline water crossings;

dredging and disposal methods for dredged material, where applicable; and

methods for blasting in an aquatic setting or nearby, where applicable.

3.2 SELECTION OF ALTERNATIVE MEANS RELEVANT FOR THE PROJECT

Refer to Quebec's guidelines (page 14).

3.3 DESCRIPTION OF THE SELECTED ALTERNATIVE MEANS

Refer to Quebec's guidelines (page 15).

In addition to the elements listed in Table 3 of Quebec's guidelines, the proponents shall describe, without limiting themselves thereto, the following components:

- liquefied natural gas (LNG) supply sites;
- type, capacity, age and features of the tankers that will transport the LNG (include, the crew's experience and skills);
- delivery frequency, and the main navigational routes that will be used, including seasonal variations due to climate or other causes, and the mooring plan;
- marine facilities, including the jetty, piers, boat launching and mooring areas, refuelling station, mooring dolphin, tugboat moorage areas, unloading arms, supervisory control systems for tanker movements and unloading, and all other relevant facilities, on the jetty and on land;
- schedule for marine work and description of permanent and temporary works;
- description of marine equipment needed to carry out the work;
- dimensions, operating mechanisms, controls and articulated joints for transferring LNG from the tankers;
- construction techniques or criteria used to determine the techniques proposed for all of the work carried out in the St. Lawrence River;
- cryogenic equipment (pumps, pipes and installations for pressure control and metering);
- the LNG terminal, including a description of the following elements:
  - storage tanks;
  - equipment and tubing (technical design);
  - LNG plant and storage capacity;
  - location, design and control mechanisms of the LNG shutoff valves on the storage tanks as well as pumping, compression and vaporization facilities;
  - process flow chart and instrumentation diagram;
  - description of the process flow;
  - technical characteristics of the feedstock and product;
  - secondary containment systems;
  - maintenance, control and administration buildings;
  - metering station together with all related facilities including gas fractionating installations;
  - gas vapour treatment systems;
  - combustible gas system;

the pipeline, including a description of the following elements:

- layout, width of right-of-way, technical characteristics of the pipeline;
- pigging facilities;
- compression, pumping and metering facilities, if any;
- shutoff valves;
- cathodic protection and anti-corrosion measures and installations;
- waste sites for hydrostatic tests;
- water crossing methods;
- maintenance of rights-of-way.

technical data on all pressured vessels and boilers;

procedures and equipment as well as diagrams and mass balances for each stage of the process;

all liquid, solid and gaseous waste, and their management;

ventilation equipment for all of the project areas;

LNG leak confinement measures in all project areas;

all related works and activities including all temporary installations required for the construction of the above-mentioned facilities, in particular:

- permanent and temporary access roads;
- railway road crossings;
- telecommunications networks;
- all temporary and permanent power supply lines and any other power supply system;
- construction worksites, garages and storage areas;
- handling, storage and management of petroleum products and hazardous materials, including on the tankers;
- handling, storage and use of explosives, where applicable, indicating the location and blasting plan (number of blasts required, type of explosives and charges used, blasting frequency, detonation method, etc.);
- drinking water supply;
- the type and scope of the lighting planned at the different sites;

other information:

- information described in Section 3.10 of the Transport Canada document entitled *Termpol Review Process 2001* (TP743E);
- scheduling changes that could affect the project;
- timing for the decommissioning and abandonment of the project's various components;
- foreseeable changes and extensions to the facilities.

4. ANALYSIS OF THE EFFECTS OF THE SELECTED ALTERNATIVE MEANS

Refer to Quebec's guidelines (page 18).

4.1 DETERMINATION AND ASSESSMENT OF EFFECTS

Refer to Quebec's guidelines (page 18).

The proponents shall present as accurately as possible the anticipated effects on the elements described in the preceding section. The proponents shall in particular report the accumulated knowledge and environmental assessments conducted elsewhere in Canada and around the world with respect to the anticipated and observed effects for projects of the same nature.

In addition to the elements listed in Table 5 of Quebec's guidelines, the assessment shall in particular, without being limited thereto, address the following elements:

changes in the riverbed and the shoreline of the St. Lawrence River in the study area;

detailed analysis of sedimentology of the site used to dispose of dredged sediment, in the event of a spill in the aquatic environment. The proponents shall specify the forecasted stability of the deposit site in the short, medium and long term, based on the granulometry and cohesion (which is a function of the granulometry and the type of dredge used) of the sediment that will be deposited. If the site is dispersive, the proponents shall specify where the sediments will be transported after being deposited, in the short, medium and long term;

areas that have been temporarily or permanently encroached upon, drained or modified as a result of the project, with a description of these environments with respect to the various types of fish habitats (potential or confirmed);

the effects on the water table and the supply of drinking water (quantity and quality);

physical-chemical changes in the environment taking into account the effects of these changes on the fish species and their habitats (turbidity, contaminants, etc.);

modifications of hydrological and hydrometric conditions on fish habitat and the fish species' lifecycle activities (e.g., reproduction, fry-rearing, movements, etc.);

geomorphological changes and their impact on hydrodynamic conditions and on fish habitats (e.g., modification of substrates, dynamic imbalance, silting of spawning beds, etc.);

modifications in migration conditions or local movements (upstream and downstream migration, and lateral movements) following the construction and operation of the works;

modification of species found and of ichtyological functions (spawning, fry-rearing and feeding grounds, migratory corridor, etc.) at the dredging and disposal sites, during and after dredging

work;

during the assessment of the project's impact on fish habitats, special attention shall be paid to the rainbow smelt (an anadromous population in the southern estuary of the St. Lawrence whose status as a vulnerable population was recommended in 2003) that frequent in the study area;

where applicable, the effects related to the use of explosives and demonstration of compliance with *Guidelines for the Use of Explosives in or Near Canadian Fisheries Waters* (Wright and Hopky 1998) when using explosives. If this is not the case, a request for authorization under Section 32 of the *Fisheries Act* shall be submitted to the Fisheries and Oceans Canada;

the project's contribution to atmospheric emissions, and particularly greenhouse gas emissions, taking into account the *Quebec Action Plan on Climate Change* and the objectives of the *Kyoto Protocol*;

effects on soil quality, particularly in farming areas (compaction, erosion, structure, loosening, drainage);

modifications in the use of the environment and habitats by designated endangered species;

losses of area, fragmentation and losses of wetland functions;

losses of habitat (quality, area, functions) for avian communities, with special attention to species at risk and species of particular social, economic and cultural interest;

risk of causing significant effects on renewable resources and compromising the capacity of these resources to respond to present needs as well as those of future generations;

effects on the current use of terrestrial and aquatic resources by Aboriginal communities for traditional purposes;

effects on tourism, particularly marine tourism and especially the passage of cruise ships;

effects on maritime traffic in the event of a delayed LNG tanker;

potential effects of intensified shipping and port activities on regional shipping networks and systems and on fishing;

effects on noise level, at site boundaries and sensitive sites (schools, hospitals, residential sectors), including underwater noise level in the marine terminal area. The proponents shall provide a map specifying the location of the sensitive sites and, for each one, the noise levels before the project, and the anticipated noise levels during construction and project operation; and

effects on the population and wildlife, related to an increase in night time light levels at the various project sites.

4.2 MITIGATION OF THE EFFECTS OF THE SELECTED ALTERNATIVE MEANS

In addition to the information provided in Section 4.2 (page 22) of Quebec's guidelines, the proponents shall take into account the following information.

The proponents will describe the practices, policies and commitments that constitute mitigation measures and that will be applied as part of standard practice, regardless of location. The proponents shall then

describe their environmental protection plan and their environmental management system through which they will deliver this plan. The plan shall provide an overall perspective on how potentially adverse effects will be managed over time. In addition, the proponents shall describe their commitments and provisions directed at promoting beneficial or mitigating adverse socioeconomic effects. The proponents shall discuss any requirements with contractors and sub-contractors to ensure that these parties comply with these commitments and policies.

4.3 CHOICE OF OPTIMAL ALTERNATIVE MEANS AND COMPENSATION OF RESIDUAL EFFECTS

Refer to Quebec's guidelines (page 22).

For inevitable residual effects, the proponents may propose compensation measures for the biological environment, for the citizens and communities affected. The loss of fish habitat shall be compensated by the creation or improvement of equivalent habitats. It is important to note that the term "compensation" does not refer to financial compensation, unless the adverse effect relates to an economic loss.

With regard to expropriations that may be necessary, the proponents shall explain how (criteria, parameters used) financial compensation will be negotiated and who will be responsible for this process. They shall also describe the recourse available to owners in case of a disagreement.

The impact statement shall include an evaluation of the significance of the residual effects, taking into account the application of mitigation measures—which are technically and economically feasible—in a manner that is rigorous and as objective as possible. The chosen method and the criteria used to determine the significance of the effects must be clearly described and explained. The analysis of the significance of the effects shall contain sufficient information to allow the authorities concerned and the public to understand and evaluate the proponents' reasoning.

If significant adverse effects are identified, the proponents shall determine the degree of probability that they will occur. The proponents shall also address the degree of scientific uncertainty related to the data and methods used within the framework of their environmental analysis.

4.4 PROJECT SUMMARY

Refer to Quebec's guidelines (page 23).

The proponents shall include a summary of the project's residual effects after implementation of the mitigation and compensation measures so that the reader clearly understands the real consequences of the project, the degree of mitigation of the effects and which effects cannot be mitigated. A summary table that presents the effects on the various components of the environment, before mitigation, the mitigation and compensation measures applied and the residual effects, shall be presented.

4.5 OTHER EFFECTS TO CONSIDER
4.5.1 Effects of the environment on the project

As part of their analysis, the proponents shall take into account the effects of the environment on the project, namely exceptional

meteorological conditions (e.g., strong winds, tides and fog), lightning, natural risks, stability of the riverbed, sediment dynamics, shore zone physical processes. The proponents shall examine in particular the presence and action of ice on tanker navigation and mooring. The proponents shall also provide an analysis of the risks related to seismic activity in the area surrounding the LNG terminal. The proponents shall demonstrate that this information was integrated in both project planning and emergency measures planning.

4.5.2 Cumulative effects

The proponents shall identify and assess the cumulative effects on the environment that are likely to result from the project in combination with other projects or activities that have been or will be carried out.

In the cumulative effects assessment, the proponents can refer to the approach outlined in the Canadian Environmental Assessment Agency's *Cumulative Effects Assessment Practitioners Guide*, 1999.

Cumulative effects may result if:

- implementation of the project being studied causes direct residual negative effects, taking into account the application of technically and economically feasible mitigation measures, on the environmental components;
- the same environmental components are affected by other past, present or future actions (projects or activities) likely to be carried out.

The environmental components that will not be affected by the project or will be affected positively by the project can, therefore, be omitted from the cumulative effects assessment. A cumulative effect on an environmental component may, however, be important even if the assessment of the project's effects on this component reveals that the effects of the project are minor.

Accordingly, the proponents shall:

- identify and justify the environmental components that will be included in the cumulative effects assessment. The proponents may focus their analysis on the cumulative effects on the main valued environmental components that could potentially be most affected by the project;
- present a justification for the geographic and temporal boundaries of the cumulative effects assessment. The proponents shall note that these limits can vary from one environmental component to the next. Based on new information unknown at the beginning of the project assessment, it may be necessary to modify these limits;
- describe and justify the choice of projects and selected activities for the cumulative effects assessment, including past activities and projects and those being carried out and any future project or activity likely to be carried out;
- describe the mitigation measures that are technically and economically feasible, determine the significance of the cumulative effects and, where applicable, the compensation measures. The proponents shall assess the effectiveness of the measures applied to mitigate the cumulative effects. In order to clearly define the

predicted effects, they shall assess the significance of the long-term residual effects. In cases where measures exist that could be effectively applied to mitigate these effects, but that are beyond the scope of the proponents' responsibility, the proponents shall identify these effects and the parties that have the authority to act. In such cases, the proponents shall summarize the discussions that took place with the other parties in order to implement the necessary measures over the long term; and

consider the need for a follow-up program to verify the accuracy of the assessment or to dispel the uncertainty concerning certain cumulative effects.

The proponents are encouraged to discuss with the federal authorities the determination of the scope of the cumulative effects assessment, including the selection of the environmental components and the determination of the temporal and spatial boundaries.

5. MANAGEMENT OF ACCIDENT RISKS

Refer to Quebec's guidelines (page 23).

5.1 RISK OF TECHNOLOGICAL ACCIDENTS

Refer to Quebec's guidelines (page 23).

The risk analysis shall include an estimate of the repercussions related to accident scenarios for all of the structures and activities related to the project, including aboard the tankers. Among other things, the risk analysis shall take into account elements and events both of a natural order (earthquake, strong winds, presence of ice) and a human order (human error, etc.).

The risk analysis shall serve to define the areas where the safety of the surrounding populations and the integrity of the environment could be affected, as well as the presence of sensitive elements (e.g., schools, residential neighbourhoods, natural sites of particular interest, etc.). Specifically, the proponents shall address the following factors:

properties of liquefied natural gas (LNG) and its behaviour during an accidental release, at sea, or land or in a confined area;

modelling of the dispersion of gas vapours, including:

a description of the gas vapour dispersion models used during spills on land or at sea, including any formulated hypotheses, accompanied by supporting documentation and the results of the modelling;

an evaluation of the existing gas vapour dispersion models regarding LNG spills on land and at sea and a rationale for the choice of models to be used;

the risk and effects that an accident may have (e.g., collision of a tanker with a high tension pylon or an explosion around the jetty) on a Hydro-Québec high-tension line crossing the river close to the proposed jetty;

for shipping and transshipment operations to the terminal, the proponents shall provide the information described in sections 3.15 and 3.8 of Transport Canada's document entitled *Termpol*

Review Process 2001 (TP743E).

5.2 SAFETY MEASURES

Refer to Quebec's guidelines (page 24).

To reduce the risks identified in the previous section, the proponents shall describe the safety measures planned for the actual project locations as well as the areas outside the main site, namely the maritime route and the pipeline right-of-way. Specifically, the proponents shall provide the following information:

- review of the safety standards in effect in Canada, the United States and in Europe for natural gas terminal projects, compared to the standards that will apply to the Rabaska Project;
- how the systems' design and the management of their operations will minimize the risks of accidents and natural hazards;
- description of the LNG confinement measures in the event of a leak on land or at sea;
- description and rationale of the location and area of restricted zones or buffer zones (on land or offshore);
- description of the measures that would be taken to restrict public access to the hazard zones;
- emergency power supplies.

5.3 EMERGENCY ACTION PLAN

Refer to Quebec's guidelines (page 24).

The proponents shall provide the information described in Section 3.18 of Transport Canada's document entitled *Termpol Review Process 2001* (TP743E).

The proponents shall also conform to the requirements of the *Environmental Emergency Regulations* of the *Canadian Environmental Protection Act*.

6. ENVIRONMENTAL MONITORING

Refer to Quebec's guidelines (page 26).

7. ENVIRONMENTAL FOLLOW-UP

Refer to Quebec's guidelines (page 26).

8. PUBLIC CONSULTATION

The proponents shall describe the consultations and the information sessions that they will hold or that they have already held within the context of the project at the local, regional and national levels, where applicable. They shall indicate the methods used and their relevance, the places where the consultations were held, the persons and organizations consulted, the concerns voiced and the extent to which this information was incorporated in the design of the project as well as in the environmental impact statement. Moreover, the proponents shall describe any outstanding issues that will not or cannot be addressed.

The proponents shall also report their exchanges with government

organizations.

PART II – PRESENTATION OF THE IMPACT STATEMENT

1. METHODOLOGICAL CONSIDERATIONS

Refer to Quebec's guidelines (page 29).

2. CONFIDENTIALITY OF CERTAIN INFORMATION

Refer to Quebec's guidelines (page 29).

Section 55 of the *Canadian Environmental Assessment Act* stipulates the need to establish a Canadian environmental assessment registry to facilitate public access to records relating to environmental assessments and to provide this information in a timely manner. The registry is composed of two complementary components:

An Internet site – An electronic registry maintained by the Canadian Environmental Assessment Agency to which responsible authorities add specific information on each environmental assessment;

Project files – Physical files maintained by the responsible authorities during the environmental assessment containing documents that are generated, assembled or submitted with respect to the environmental assessment.

Documents included in the public registry of the project shall be made available to the public upon request.

It is possible that the information contained in a file and/or document supplied to a responsible authority may be excluded from the Canadian Environmental Assessment Registry (accessible to the public), if the information meets the criteria for exclusion set out in sections 55.5 (1) and (2) of the *Canadian Environmental Assessment Act*.

3. REQUIREMENTS RELATED TO PRODUCING THE REPORT

Refer to Quebec's guidelines (page 30).

In addition to the copies required by Quebec government, the proponents shall provide 25 additional copies of the complete impact statement for the purposes of the federal process, as well as 25 electronic copies in an appropriate format. If addenda are produced as a result of the questions and comments from government agencies, an equivalent number of copies of these shall also be made available.

The proponents shall make the environmental impact statement and the summary available on an Internet site, including all additional documents that complete the impact statement.

REFERENCE DOCUMENTS

Environment Canada. 2004. Environmental Assessment Best Practice Guide for Wildlife at Risk in Canada. Prepared by Pauline Lynch-Stewart for the Canadian Wildlife Service, Ottawa. 72 pages.

Environment Canada. 2002. Sediment Sampling Guide for Dredging and Marine Engineering Projects in the St. Lawrence River. Volume 1.

Planning Guidelines. Environment Canada, Environment Protection Branch, Quebec Region. Technological and Industrial Sectors Section. 105 pages.

Environment Canada. 2002. Sediment Sampling Guide for Dredging and Marine Engineering Projects in the St. Lawrence River. Volume 2. Field Operations Manual. Environment Protection Branch, Quebec Region. Technological and Industrial Sectors Section. 106 pages.

Environment Canada. 1998. Wetlands Environmental Assessment Guideline. By Robert Milko, Biodiversity Protection Branch. Canadian Wildlife Service. Ottawa. 20 pages. Internet: http://www.cws scf.ec.gc.ca/publications/eval/wetl/index_e.cfm

Environment Canada. 1998. Migratory Birds Environmental Assessment Guidelines. By Robert Milko, Biodiversity Protection Branch, Canadian Wildlife Service. Internet: http://www.cws scf.ec.gc.ca/publications/eval/mig/index_e.cfm

Environment Canada. 1997. Guide for Impact Assessment on Birds. By Serge Lemieux, editor, Environmental Assessment Branch and Canadian Wildlife Service -- Quebec Region. 50 pages and appendices. Internet: http://www.qc.ec.gc.ca/faune/faune/pdf/guidebirds.pdf

Environment Canada and Ministère de l'environnement du Québec. May 1992. Interim Criteria for Assessing the Quality of St. Lawrence River Sediment

Environment Canada, 1991. Federal Policy on Wetland Conservation

Canadian Coast Guard, 2000, Application Guide – *Navigable Waters Protection Act*. Internet: http://lois.justice.gc.ca/en/N-22/index.html

Hegmann, G., C. Cocklin, R. Creasey, S. Dupuis, A. Kennedy, L. Kingsley, W. Ross, H. Spaling and D. Stalker. 1999. Cumulative Effects Assessment Practitioners Guide. Prepared by AXYS Environmental Consulting Ltd. and the CEA Working Group for the Canadian Environmental Assessment Agency, Hull, Quebec. Internet: http://www.ceaa-acee.gc.ca/default.asp?lang=En&n=43952694-1&toc=hide

Department of Fisheries and Oceans. July 2004. Informations nécessaires pour l'analyse des effets du projet d'aménagement d'un terminal méthanier, Projet Rabaska, en vertu de la Loi sur les pêches. Document accompanying the letter addressed to Mr. Carey Johannesson dated July 12, 2004.

Department of Fisheries and Oceans. 2002. Practitioners Guide to Fish Habitat Compensation.

Department of Fisheries and Oceans. 1998a. Fish Habitat Conservation and Protection Guidelines. Internet: http://www.dfo-mpo.gc.ca/canwaters-eauxcan/infocentre/guidelines-conseils/guides/fhmguide/index_e.asp

Department of Fisheries and Oceans. 1998b. Decision Framework for the Determination and Authorization of Harmful Alteration, Disruption or Destruction of Fish Habitat. 23 p. Internet: http://www.dfo-mpo.gc.ca/canwaters-eauxcan/infocentre/guidelines-conseils/guides/hadd/index_e.asp

Department of Fisheries and Oceans. 1986. Policy for the Management of Fish Habitat. Ministère des Pêches et des Océans. 1986. Politique de gestion de l'habitat du poisson. Internet: http://www.dfo-mpo.gc.ca/canwaters-eauxcan/infocentre/legislation-lois/policies/fhm-policy/index_e.asp

Canadian Transportation Agency. Guide to Road Crossings of Railways. Internet: http://www.cta-otc.gc.ca/rail-ferro/xings/road2_e.html

Canadian Transportation Agency. Guide to Railway Line Construction. Internet: http://www.cta-otc.gc.ca/rail-ferro/railways/construction_e.html

National Energy Board. April 2004. Filing Manual.

Québec. 1999. Ministère de la Santé et des Services sociaux. Lignes directrices pour la réalisation des évaluations de risques toxicologiques pour la santé humaine dans le cadre de la procédure d'évaluation et d'examen des effets sur l'environnement et l'examen de réhabilitation de terrains contaminés.

Québec. 1984. Ministère de la Culture et des Communications. Guide de référence archéologique pour la réalisation des études d'impacts sur l'environnement relative aux aménagements linéaires et ponctuels.

Transport Canada. 2001. Termpol Review Process 2001. TP743E. Internet: http://www.tc.gc.ca/MarineSafety/TP/Tp743/menu.htm

Wright, D.G. and G.E. Hopky. 1998. Guidelines for the Use of Explosives In or Near Canadian Fisheries Waters. Can. Tech. Rep. Fish. Aquat. Sci. 2107. Internet: http://www.dfo-mpo.gc.ca/canwaters-eauxcan/infocentre/guidelines-conseils/guides/explosguide/pdf/explos_e.pdf.

---

[1] "TERMPOL Review Process (TRP)" refers to the "Technical Review Process of Marine Terminal Systems and Transshipment Sites". The TRP focuses on a dedicated design ship's selected route in waters under Canadian jurisdiction to its berth at a proposed marine terminal or transshipment site and, specifically, to the process of cargo handling between vessels, or off-loading from ship to shore or vice-versa.

Date Modified: 2005-04-08