1 Purpose

This document provides scoping information for the environmental assessment of a proposed seismic survey program, including localized geohazard surveys, in the Jeanne d'Arc Basin area over the period 2008 through 2016. The proposed project is located on the northeastern Grand Banks offshore Newfoundland, approximately 260 km east of St. John's (Figure 1.1 and 3.1 in the Project Description). Norsk Hydro Canada Oil & Gas Inc. (Norsk Hydro) is the project proponent.

Included in this document is a description of the scope of the project, the factors to be considered in the assessment, and the scope of those factors.

The document has been developed by the C-NLOPB in consultation with the federal and provincial fisheries and environmental departments.

2 CEA Act Regulatory Considerations

The Project will require authorizations pursuant to Section 138 (1)(b) of the *Canada-Newfoundland Atlantic Accord Implementation Act* and Section 134(1)(a) of the *Canada-Newfoundland and Labrador Atlantic Accord Implementation Newfoundland and Labrador Act*.

The C-NLOPB has determined, in accordance with paragraph 3(1)(a) of the *Regulations Respecting the Coordination by Federal Authorities of Environmental Assessment Procedures and Requirements* (FCR), that an environmental assessment of the project under section 5 of the *Canadian Environmental Assessment Act* (CEA Act) is required.

Pursuant to Section 12.2 (2) of the CEA Act, the C-NLOPB will be assuming the role of the Federal Environmental Assessment Coordinator (FEAC) for this screening and in this role will be responsible for coordinating the review activities by the expert government departments and agencies that participate in the review.

> ***The C-NLOPB intends that the environmental assessment report submitted with any supporting documents, as may be necessary, will fulfill the requirements for a Screening. The C-NLOPB, therefore, pursuant to Section 17 (1) of the CEA Act, formally delegate the responsibility for preparation of an acceptable Screening environmental assessment to Norsk Hydro Canada Oil & Gas Inc., the project proponent. The C-NLOPB will prepare the Screening Report that will include the determination of significanc*e.**

3 Scope of the Project

The project to be assessed consists of the following components.

3.1 Norsk Hydro proposes to conduct a seismic survey program including localized geohazard surveys. A 3D survey will be conducted in 2008 and other surveys (3D and potentially 2D) will be conducted as needed in subsequent years. This program may include "4D" surveys that typically resurvey areas in order to evaluate changes in existing producing reservoirs over time.

3.2 Operation of support craft associated with the above activities, including but not limited to standby/picket vessels and helicopters.

3.3 An initial 3D seismic survey is proposed during 2008 and subsequent surveys, including geohazard surveys, are proposed over the remaining eight years. Surveys may occur between 1 April and 31 October of any given year. The typical duration of a 2D or 3D survey, depending on the area to be surveyed, could vary from 40 to >100 days within that temporal scope. The duration of a geohazard survey in support of a drilling program is 4 to 5 days depending on weather.

4 Factors to be Considered

The environmental assessment shall include a consideration of the following factors in accordance with Section 16 of the CEA Act.

4.1 The purpose of the project.

4.2 The environmental effects[1] of the Project, including those due to malfunctions or accidents that may occur in connection with the Project and any change to the Project that may be caused by the environment.

4.3 Cumulative environmental effects of the Project that are likely to result from the project in combination with other projects or activities that has been or will be carried out.

4.4 The significance of the environmental effects described 4.2 and 4.3.

4.5 Measures, including contingency and compensation measures as appropriate, that are technically and economically feasible and that would mitigate any significant adverse environmental effects of the project.

4.6 The significance of adverse environmental effects following the employment of mitigative measures, including the feasibility of additional or augmented mitigative measures.

4.7 The need for, and the requirements of, any follow-up programs in respect of the Project consistent with the requirements of the CEA Act and the SARA.

4.8 Report on consultations undertaken by Norsk Hydro with interested parties who may be affected by program activities and/or the public respecting any of the matters described above.

5 Scope of the Factors to be Considered

Norsk Hydro will prepare and submit to the C-NLOPB an environmental assessment for the physical activities as described in the project description *"Project Description – Seismic Survey Program for Jeanne d'Arc Basin Area, 2008 - 2016"* (Norsk Hydro 2007), and as described above. The environmental assessment will address the factors listed above; the issues identified in Section 5.2; and document any issues and concerns that may be identified by the proponent through regulatory, stakeholder, and public consultation.

[1] The term "environmental effects" is defined in Section 2 of the CEAA and Section 137 of the *Species at Risk Act*

Program activities are proposed for the Jeanne d'Arc Basin, which has been studied extensively in a number of recent environmental assessments. For the purposes of this assessment, the information provided in the environmental assessment documents for offshore oil and gas activities in the Jeanne d'Arc Basin area can be used in support of the environmental assessment for the proposed seismic program.

If a "valued ecosystem component" (VEC) approach is used to focus its analysis, a definition of each VEC (including components or subsets thereof) identified for the purposes of environmental assessment, and the rationale for its selection, shall be provided.

The scope of the factors to be considered in the environmental assessment includes the components identified in the "Summary of Potential Issues" setting out the specific matters to be considered in assessing the environmental effects of the project and in developing environmental plans for the project and the defined "Boundaries" (see below). Considerations relating to definition of "significance" of environmental effects are provided in the following sections.

Discussion of the biological and physiological environments should consider the data available for the project and study area. Where data gaps exist, the EA should clearly identify the lack of data available.

5.1 Boundaries

The EA will consider the potential effects of the proposed seismic program activities within spatial and temporal boundaries that encompass the periods and areas during and within which the project may potentially interact with, and have an effect on, one or more VEC. These boundaries may vary with each VEC and the factors considered, and should reflect a consideration of:

- the proposed schedule/timing of the seismic survey and its ancillary activities;
- the natural variation of a VEC or subset thereof;
- the timing of sensitive life cycle phases in relation to the scheduling of proposed physical activities;
- interrelationships/interactions between and within VECs;
- the time required for recovery from an effect and/or return to a pre-effect condition, including the estimated proportion, level, or amount of recovery; and
- the area within which a VEC functions and within which a proposed effect may be felt.

The proponent shall clearly define and provide the rationale for the spatial and temporal boundaries used. The EA report shall clearly describe the special boundaries (i.e. Study Area, Project Area), and shall include figures, maps and the corner-point coordinates.

Boundaries should be flexible and adaptive to enable adjustment or alteration based on field data and/or modeling results. The Study Area and associated boundaries will be described based on consideration of potential areas of effects as determined by modelling (spill trajectory), the scientific literature, and project-environment interactions (including

transportation corridors). A suggested categorization of spatial boundaries as follows.

5.1.1 Spatial Boundaries

Project Area

The areas in which activities are to occur, and include the area of the buffer zone normally defined for line changes.

Affected Area

The area which could potentially be affected by project activities beyond the '"Project Area".

Regional Area

The area extending beyond the "Affected Area" boundary. The "Regional Area" boundary will also vary with the component being considered (e.g., boundaries suggested by bathymetric and/or oceanographic considerations).

5.1.2 Temporal Boundaries

The temporal scope should describe the timing of project activities. Scheduling of project activities should consider the timing of sensitive life cycle phases of the VECs in relation to physical activities.

5.2 Summary of Potential Issues

The EA for the proposed seismic program should contain descriptions of the physical and biological environments, as identified below. Where new information is available (e.g. fisheries data) the new information should be provided. Where information is summarized from existing environmental assessment reports, the environmental assessment reports should be properly referenced and the EA report should specifically reference the section of the completed EA report summarized.

The environmental assessment will contain descriptions and definitions of EA methodologies employed in the assessment of effects. Where information is summarized from existing EA reports, the sections referenced should be clearly indicated. Effects of relevant project activities on those VECs most likely to be in the Study Area will be assessed. Discussion of cumulative effects within the Project and with other relevant marine projects will be included. Issues to be considered in the EA will include, but not limited to the following:

5.2.1 Physical Environment

Provide a summary description of the meteorological and oceanographic characteristics, including extreme conditions, and any change to the Project that may be caused by the environment.

Marine Resources

5.2.2 Marine and/or migratory birds using the Study Area.

Provide a summary description of the following:

- Spatial and temporal distributions (observations from prior programs should be included);

- Species habitat, feeding, breeding, and migratory characteristics of relevance to the EA;
- Attraction of birds to vessel lighting;
- Procedures for handling birds that may become stranded on seismic vessels;
- Means by which bird mortalities associated with project operations may be documented and assessed;
- Effects of petroleum spills from accidental events, including fluid loss from streamers;
- Means by which potentially significant effects upon birds may be mitigated through design and/or operational procedures; and
- Environmental effects due to the Project, including cumulative effects.

5.2.3 Marine Fish and Shellfish

Provide a summary description of the following:

- Distribution and abundance of marine fish and invertebrate species utilizing the Study Area with consideration of critical life stages (e.g., spawning areas, overwintering, juvenile distribution, and migration);
- Description to the extent possible, of location, type, diversity and areal extent of marine fish habitat in the Study Area. In particular, those indirectly or directly supporting traditional, aboriginal, historical, present or potential fishing activity, and including any essential (e.g. spawning, feeding, overwintering) habitats;
- The means by which potentially significant effects upon fish and commercial fisheries may be mitigated through design, scheduling, and/or operational procedures; and
- Environmental effects due to the Project, including cumulative effects.

5.2.4 Marine Mammals and Sea Turtles

Provide a summary description of the following:

- Spatial and temporal distribution (observation and monitoring data collected during previous surveys should be discussed);
- Description of marine mammal and sea turtle lifestyles/life histories relevant to Study Area;
- Disturbance to/displacement of marine mammals and sea turtles due to noise and the possibility of ship strikes;
- Means by which potentially significant effects upon marine mammals and sea turtles (including critical life stages) may be mitigated through design, scheduling, and/or operational procedures; and
- Environmental effects due to the Project, including cumulative effects.

5.2.5 Species at Risk (SAR)

Provide a summary description of the following:

- A description, to the extent possible, of SAR as listed in Schedule 1 of the *Species at Risk Act (SARA)*, and those under consideration by COSEWIC in the Study Area, including fish, marine mammals, sea turtles and seabird species;
- A description of critical habitat (as defined under SARA), if applicable, to the Study Area;
- Monitoring and mitigation, consistent with recovery strategies/action plans (endangered/threatened) and management plans (special concern);

- A summary statement stating whether project effects are expected to contravene the prohibitions of SARA (Sections 32 (1), 33, 58(1));
- Means by which adverse effects upon SAR and their critical habitat may be mitigated through design, scheduling, and/or operational procedures; and
- Assessment of effects (adverse and significant) on species and critical habitat, including cumulative effects.

5.2.6 "Sensitive" Areas

Provide a summary description of the following:

- A description, to the extent possible, of any 'Sensitive" Areas in the Study Area, deemed important or essential habitat to support any of the marine resources identified;
- Environmental effects due to the project, including cumulative effects, on those "Sensitive" Areas identified; and
- Means by which adverse effects upon "Sensitive" Areas may be mitigated through design, scheduling, and/or operational procedures.

Marine Use

5.2.7 Noise/Acoustic Environment

Provide a summary description of the following:

- Disturbance/displacement of VECs and SAR associated with seismic activities;
- Means by which potentially significant effects may be mitigated through design, scheduling and/or operational procedures; and
- Effects of seismic activities (direct and indirect) including cumulative effects, on the VECs and SAR identified within the EA. Critical life stages should be included.

5.2.8 Presence of Seismic Vessel(s)

Provide a summary description of the following:

- Description of project-related traffic, including routings, volumes, scheduling and vessel types;
- Effects upon access to fishing grounds;
- Effects upon general marine traffic/navigation, including fisheries research surveys, and mitigations to avoid research surveys; and
- Environmental effects assessment, including cumulative effects.

5.2.9 Fisheries

Provide a summary description of the following:

- A description of fishery activities (including traditional, existing and potential commercial, recreational and aboriginal/subsistence and foreign fisheries) in the Study Area;
- Consideration of underutilized species and species under moratoria that may be found in the Study Area as determined by analyses of past DFO research surveys and Industry GEAC survey data, with emphasis on those species being considered for future potential fishers, and species under moratoria;
- Traditional historical fishing activity, including abundance data for certain species in this area, prior to the severe decline of many fish species (e.g., a general overview of survey results and fishing patterns in the survey areas for the last 20 years);

- An analysis of effects of project operations and accidental events upon the foregoing. The analysis should include consideration of recent scientific literature on effects of seismic activity on invertebrate species, including identified data gaps;
- Fisheries liaison/interaction policies and procedures;
- Program(s) for compensation of affected parties, including fisheries interests, for accidental damage resulting from project activities;
- Means by which adverse effects upon commercial fisheries may be mitigated through design and/or operational procedures; and
- Environmental effects due to the Project, including cumulative effects.

5.2.10 Accidental Events

- Discussion on the potential for spill events related to the use and maintenance of streamers.
- Environmental effects of any accidental events arising from streamers or accidental releases from the seismic and/or support vessels (e.g., loss of product from streamers). Cumulative effects in consideration of other oil pollution events (e.g., illegal bilge disposal) should be included.
- Mitigation to reduce or prevent such events from occurring.
- Contingency plans to be implemented in the event of an accidental release.

Environmental Management

5.2.11 Norsk Hydro's environmental management system and its components, including, but not limited to:

- Pollution prevention policies and procedures;
- Fisheries liaison/interaction policies and procedures;
- Program(s) for compensation of affected parties, including fisheries interests, for accidental damage resulting from project activities; and
- Emergency response plan(s).

Biological and Follow-up Monitoring

5.2.12 Discuss the need for and requirements of a follow-up program (as defined in Section 2 of CEAA) and pursuant to the SARA. The discussion should also include any requirement for compensation monitoring (compensation is considered mitigation).

Details regarding the monitoring and observations procedures to be implemented regarding marine mammals, sea turtles and seabirds (observation protocols should be consistent with the C-NLOPB Geophysical, Geological, Environmental and Geotechnical Program Guidelines (April 2004)).

5.3 Significance of Adverse Environmental Effects

The Proponent shall clearly describe the criteria by which it proposes to define the "significance" of any adverse effects (i.e., following the employment of mitigative measures) that are predicted by the environmental assessment. This definition should be consistent with the November 1994 CEA Agency reference guide *Determining Whether a*

Project is Likely to Cause Significant Adverse Environmental Effects, and be relevant to consideration of each VEC (including components or subsets thereof) that is identified.

5.4 Cumulative Effects

The assessment of cumulative environmental effects should be consistent with the principles described in the February 1999 CEAA "*Cumulative Effects assessment Practitioners Guide*" and in the March 1999 CEAA operational policy statement "*Addressing Cumulative Environmental Effects under the Canadian Environmental Assessment Act*". It should include a consideration of environmental effects that are likely to result from the proposed project in combination with other projects or activities that have been or will be carried out. These include, but are not limited to:

- Proposed oil and gas activities under EA review (listed on the C-NLOPB Public registry at www.cnlopb.n1.ca);
- Other seismic activities;
- Fishing activities, including Aboriginal fisheries;
- Other oil and gas activities; and
- Marine transportation.

6 Projected Timelines for the Environmental Assessment Process

The following are estimated timelines for completing the EA process. The timelines are offered based on experience with recent environmental assessments of similar project activities.

ACTIVITY	TARGET	RESPONSIBILITY
Submission of EA upon receipt of Scoping Document	8 weeks	Proponent
Prepare for EA review	~1 week	C-NLOPB
EA review	6 weeks	C-NLOPB & Regulatory Agencies
Compile comments on EA	2 weeks	C-NLOPB
Submission of EA Addendum/Response to EA Comments	4 weeks	Proponent
Review of EA Addendum/Response Document	3 weeks	C-NLOPB & Regulatory Agencies
Screening Report (Determination of Significance of Project Effects)	2 weeks	C-NLOPB
Total	26 weeks	