CANADA-NEWFOUNDLAND and LABRADOR OFFSHORE PETROLEUM BOARD

Husky Energy Labrador Shelf Seismic Program 2009-2017

Final Scoping Document

April 2, 2009

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ISBN: 978-1-897101-52-0

Purpose

This document provides scoping information for the Environmental Assessment (EA) of the proposed seismic and geohazard surveys on the Labrador Shelf and all other related activities (the Project). Husky Energy (Husky), the proponent, is proposing to collect seismic and geohazard data on exploration licenses (ELs) 1106, 1107, 1108 and 1109 on the Labrador Shelf. A 2-D seismic survey is proposed to commence in the summer of 2009. Other 2-D, 3-D and geohazard surveys may occur at various times between 2010 and 2017.

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

This document has been developed by the Canada-Newfoundland and Labrador Offshore Petroleum Board (C-NLOPB) in consultation with federal and provincial fisheries and environmental departments[1].

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* (Accord Acts).

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 has determined that the environmental assessment report and any supporting documents to be submitted by Husky Energy will fulfill the requirements of a Screening. The C-NLOPB, therefore, pursuant to Section 17 (1) of the CEA Act, formally delegates the responsibility for preparation of an acceptable Screening environmental assessment to Husky Energy, the project proponent. The C-NLOPB will prepare the Screening Report, which will include the determination of significance.***

[1]Appendix 1 contains a list of the departments and agencies consulted during the preparation of the document.

3 Scope of the Project

The project to be assessed consists of the following components:

3.1 Seismic and geohazard data will be collected on exploration licenses (ELs) 1106, 1107, 1108 and 1109 on the Labrador Shelf (the Project Area), as described in "*Labrador Shelf Seismic Program – Project Description*" (Husky Energy January 2009). A 30 km buffer around the exploration leases is included in the Project Area to accommodate both streamer deployment and seismic vessel turning radius. Seismic survey operations will be carried out such that streamer deployment and end-of-survey line turning operations will not extend into the Labrador Inuit Settlement Area (known as the "Zone").

3.2 Approximately 2,000 to 3,000 km of 2-D seismic data will be collected in 2009. The 2-D seismic survey vessel will tow a sound source, one airgun array 4,000 to 7,000 cubic inches in total volume and towed at depths about of approximately 6 to 15 m. The airguns will be operated with compressed air at pressures of 2,000 to 2,500 psi and producing peak-to-peak pressures of approximately 140 to 165 bar-m. There will be one towed streamer, 6,000 to 10,000 m in length, which will be towed behind the vessel at depths of approximately 8 to 30 m. The wellsite/geohazard survey will be collected over closer lines (250 m) using smaller equipment and lower pressures.

3.3 2-D seismic data will be collected in 2009. Additional 2-D, 3-D, and/or geohazard surveys will be undertaken between 2010 to 2017. The timing of survey activities will be between July 1 and November 30 of any given year. The duration of the initial 2-D survey is estimated at 40 to 60 days and the duration of a typical geohazard survey is approximately 4 days. The estimated duration of a 3-D program, depending on the area to be covered, is approximately 30 to 75 days.

4 Factors to be Considered

The EA shall include a consideration of the following factors in accordance with Section 16 of CEAA:

4.1 The purpose of the project;

4.2 The environmental effects[2] 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 have been or will be carried out;

4.4 The significance of the environmental effects described in 4.2 and 4.3;

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

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. (Refer to the Canadian Environmental Assessment Agency's 2002 "OperationalPolicy Statement" regarding Follow-up Programs[3]); and

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

5 Scope of the Factors to be Considered

Husky Energy will prepare and submit to the C-NLOPB an EA for the above-described physical activity, and as described in the project description "*Labrador Shelf Seismic Program – Project Description*" (Husky Energy January 2009).

The EA 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.

If the Valued Ecosystem Component (VEC) approach to focus its analysis is used in the EA, 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 EA, will include the components identified in Section 5.2 - 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 "Spatial Boundaries" identified below (Section 5.1). Considerations relating to definition of "significance" of environmental effects are provided in the following sections.

5.1 Boundaries

The EA will consider the potential effects of the proposed seismic program 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 VECs. These boundaries may vary with each VEC and the factors considered, and should reflect a consideration of:

- the proposed schedule/timing of the seismic program;

[3] CEA Agency Guidance documents and Operational Policy Statements are available on its web site: http://www.ceaa-acee.gc.ca/012/newguidance_e.htm#6.

- the natural variation of a VEC or subset thereof;
- the timing of sensitive life cycle phases in relation to the scheduling of seismic 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 project effect may be felt.

The proponent shall clearly define, and provide the rationale for the spatial and temporal boundaries that are used in its EA. The Study Area chosen shall be clearly described in the EA report. Boundaries should be flexible and adaptive to enable adjustment or alteration based on field data. The Study Area will be described based on consideration of potential areas of effects as determined by the scientific literature, and project-environment interactions. A suggested categorization of spatial boundaries follows.

5.1.1 Spatial Boundaries

Project Area

The area in which seismic 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 "*Strategic Environmental Assessment (SEA) Labrador Shelf Offshore Area*" (Sikumiut Environmental Management Ltd. 2008) provides a detailed discussion of the biological and physical environmental conditions. The proposed Project Area for the seismic and geohazard surveys falls within the area captured within the recently produced Labrador Shelf SEA. Therefore, the EA report should provide only summary descriptions of those biological and physical parameters, as identified below. Where new information is available, (e.g., fisheries data) the new information should be provided. The Labrador Shelf SEA should be properly referenced; the EA report should specifically reference the section of the SEA report summarized.

Physical, environmental, and monitoring data collected in the past from offshore activities in the area should be considered and incorporated, where applicable, in the EA report.

The EA 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 defined 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 be limited to, the following:

Physical Environment

5.2.1 Provide a brief 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

Provide a summary description, where applicable, of the information presented in the Labrador Shelf SEA report. New or updated information should be provided, where applicable, to address any changes to the following:

- Spatial and temporal species distributions;
- Species habitat, feeding, breeding, and migratory characteristics of relevance to the Study Area;
- Noise disturbance from seismic equipment including both direct effects (physiological), or indirect effects (foraging behaviour, prey species, adult attendance at the nest);
- Physical displacement as a result of vessel presence (e.g. disruption of foraging activities);
- 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 hydrocarbon 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, where applicable, of the information presented in the Labrador Shelf SEA report. New or updated information should be provided, where applicable, to address any changes to 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, 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 (including critical life stages) 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, where applicable, of the information presented in the Labrador Shelf SEA report. New or updated information should be provided, where applicable, to address any changes to the following:

- Spatial and temporal distribution;
- Description of marine mammal and sea turtle lifestyles/life histories relevant to the 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, where applicable, of the information presented in the Labrador Shelf SEA report. New or updated information should be provided, where applicable, to address any changes to 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 mammal, 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 SAR and critical habitat, including cumulative effects.

5.2.6 "Sensitive" Areas

Provide a summary description, where applicable, of the information presented in the Labrador Shelf SEA report. New or updated information should be provided, where applicable, to address any changes to the following:

- A description, to the extent possible, of any 'Sensitive" Areas in the Project 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, where applicable, of the information presented in the Labrador Shelf SEA report. New or updated information should be provided, where applicable, to address any changes to 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, where applicable, of the information presented in the Labrador Shelf SEA report. New or updated information should be provided, where applicable, to address any changes to 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;
- Means by which potentially significant effects may be mitigated through design, scheduling and/or operational procedures; and
- Environmental effects assessment, including cumulative effects.

5.2.9 Fisheries

Provide a summary description, where applicable, of the information presented in the Labrador Shelf SEA report. New or updated information should be provided, where applicable, to address any changes to the following:

- A description of fishery activities (including traditional, existing and potential commercial, recreational and aboriginal/subsistence and foreign fisheries) in the Project 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 the 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.
- Mitigations 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 Husky Energy'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 fishery 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 the CEA Act) and pursuant to the SARA. The discussion should also include any requirement for compensation monitoring (compensation is considered mitigation).

Details regarding the monitoring and observation 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"* (May 2008)).

5.3 Significance of Adverse Environmental Effects

The Proponent shall clearly describe the criteria by which it proposes to define the "significance" of any residual adverse effects that are predicted by the EA. This definition should be consistent with the November 1994 CEAA 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. SARA species shall be assessed independent of non-SARA species. The effects assessment methodology should clearly describe how data gaps are considered in the determination of significance of effects.

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, other seismic activities; fishing activities, including Aboriginal fisheries; other oil and gas activities; and marine transportation. The C-NLOPB website lists all current and active offshore petroleum activity within the NL offshore area, and provides a listing of activities undergoing environmental assessment.

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	

APPENDIX 1

Departments and Agencies Consulted by C-NLOPB

Federal Authorities under the *Canadian Environmental Assessment Act*

Fisheries and Oceans Canada
Department of National Defence
Environment Canada
Natural Resources Canada
Transport Canada
Health Canada

Other Departments/Agencies

Canadian Environmental Assessment Agency

Provincial Departments (Government of Newfoundland and Labrador)

Department of Environment and Conservation
Department of Fisheries and Aquaculture
Department of Natural Resources

Nunatsiavut Government