1 Purpose

This document provides scoping information for the environmental assessment of the proposed exploratory and delineation drilling program in the Jeanne d'Arc Basin area of the Newfoundland and Labrador Offshore Area, and all other related works and activities (The Project). Husky Energy is proposing to drill up to 10 exploration and delineation wells on its acreage in the Jeanne d'Arc Basin (see Figure 1.1 and 3.3 in attached Project Description). The exploration/delineation drilling program will commence in 2005, with drilling to be conducted up to the end of 2007. During this period, drilling will occur at various times and locations within the boundaries of the project area described in Figure 1.

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.

The document has been developed by the Canada-Newfoundland Offshore Petroleum Board (C-NOPB), as Responsible Authority, in consultation with the Department of Fisheries and Oceans (DFO), Environment Canada (EC), Transport Canada, Natural Resources Canada, Department of National Defence, the Canadian Environmental Assessment Agency, and C-NOPB's other advisory agencies in the Governments of Canada and of Newfoundland and Labrador1.

2 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*. Subject to Section 5(1)(d) of the *Canadian Environmental Assessment Act* (CEA Act), the C-NOPB is a responsible authority (RA) and must undertake an environmental assessment of the Project. The project as proposed is described in the *Inclusion List Regulations* and therefore is subject to a screening level of assessment under the CEA Act.

The C-NOPB will be the Federal Environmental Assessment Coordinator (FEAC) respecting the assessment and in this role will be responsible for coordinating the review activities of the other responsible authorities as well as those of other expert government departments and agencies that participate in the review

> ***The C-NOPB intends the environmental assessment submitted with any supporting documents as may be necessary will fulfill the requirements for a Screening. The C-NOPB, therefore, pursuant to Section 17 (1) of the CEAA, formally delegate the responsibility for preparation of an acceptable Screening environmental assessment to Husky Energy, the Project proponent. The C-NOPB will prepare the Screening Report, which will include the determination of significance..***

3 Scope of Project

The project to be assessed consists of the following components:

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

3.1 One or two mobile offshore drilling units (MODUs) will be employed in the drilling of up to 10 exploratory and/or delineation wells on acreage held by Husky Energy, as of January 15, 2005, in the Jeanne d'Arc Basin area. For each well drilled, the following program activities are anticipated: a MODU (jack-up, drill ship, or semi-submersible), up to two supply and standby vessels per MODU, helicopter support, vertical seismic programs, and wellsite surveys, as required. The temporal scope of the project will include all activities conducted from July 2005 through to December 2007

4 Factors to be Considered

The environmental assessment 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 be reasonably expected to occur in connection with the project or 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 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. (Refer to the Canadian Environmental Assessment Agency's 2002 "OperationalPolicy Statement" regarding Follow-up Programs[3]); and;

4.8 Reports on comments undertaken by Husky Energy with interested parties who may be affected by program activities, and/or the public respecting any of the matters described above that are received.

5 Scope of the Factors to be Considered

Husky Energy will prepare and submit to the C-NOPB an environmental assessment for the above described works and activities, as described in the project description "*Husky Delineation/Exploration Drilling Program for Jeanne d'Arc Basin Area Project Description"* (LGL 2005). The environmental assessment will address the factors listed

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

above, the issues identified in Section 5.4, and document any issues and concerns that may be identified by the proponent through regulatory, stakeholder, and public consultations.

This survey is proposed for the Jeanne d'Arc Basin, which has been studied extensively in a number of recent environmental assessments. Husky Energy completed a Comprehensive Study under the CEA Act for the White Rose project, located in the Jeanne d'Arc Basin. For the purposes of this assessment, the information provided in the environmental assessment documents for Comprehensive Study can be used in support of the environmental assessment for the proposed drilling program.

If the "valued ecosystem component" (VEC) approach to focus its analysis is used in the environmental assessment, 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 environmental assessment will consider the potential effects of the proposed physical activity 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 Project activities;
- the natural variation of a VEC or subset thereof;
- the timing of sensitive life cycle phases in relation to the scheduling of project 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;
- The area within which a VEC functions and within which a project effect may be felt;

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 will include a consideration of, and an analysis of, the 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:

- fishing activities
- other oil and gas activities (drilling, production, seismic)
- petroleum exploration activity (ongoing, approved, or approval has been applied for)
- marine transportation

The cumulative effects assessment should include a consideration of spatial area of subsea structures (glory holes and spoil disposal area, spud cans) and petroleum-related activities (cuttings' depositional areas) for ongoing petroleum activities in the study area.

The scope of the factors to be considered in the environmental assessment will include 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 "Spatial Boundaries" identified below. Considerations relating to definition of "significance" of environmental effects are provided in the following sections.

5.1 Spatial Boundaries

The proponent shall clearly define, and provide the rationale for the spatial and temporal boundaries that are used in its environmental assessment. A 'study area' shall be clearly defined by illustration in a figure. Boundaries should be flexible and adaptive to enable adjustment or alteration based on field data and/or modelling results. The Study Area and associated boundaries will be described based on consideration of potential areas of effects as determined by modeling (spill trajectory and cuttings dispersion), the scientific literature, and project-environment interactions (including transportation corridors). A suggested categorization of spatial boundaries follows.

5.1.1 Spatial Boundaries

Project area The area in which Project activities are to occur.

Affected area The area which could potentially be affected by Project activities beyond the project area.

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

Provincial The area extending beyond the "region" boundary but confined to the Province of Newfoundland and Labrador, the area of jurisdiction of the C-NOPB;

National Areas of Canadian jurisdiction (including exclusive economic zone and continental shelf) outside the "provincial" area.

Vertical, horizontal and temporal distributions of VECs may also be used to aid in determining the EA boundaries. The selection of spatial boundaries for the Study Area shall be consistent with the CEAA Operational Policy: *The Process for Defining the Spatial Boundary of a Study Area during an Environmental Assessment of Offshore Exploratory Drilling Projects*, available on the CEA Agency's web site.

5.2 Temporal Boundaries

The temporal scope should describe the timing of all project activities. Scheduling of

project activities should consider the timing of sensitive life cycle phases of the VECs in relation to physical activities.

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 that are predicted by the environmental assessment. 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. The effects assessment methodology should clearly describe how data gaps are considered in the determination of significance of effects.

5.4 Summary of Potential Issues

The environmental assessment will contain descriptions of the physical and biological environments and contain descriptions and definitions of EA methodologies. Where information is summarized from existing environmental assessment reports (White Rose Comprehensive Study Report and supporting documents (Husky 2000)), the sections referenced should be clearly indicated. Effects of relevant Project activities on those Valued Ecosystem Components (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 environmental assessment will include, but not limited to the following:

General

5.4.1 The methodology that the Proponent uses to assess environmental effects;

5.4.2 Identification, where possible, of testable hypotheses associated with the results of the assessment;

Physical Environment

5.4.3 Meteorological and oceanographic (current regime, water column profile, bathymetry, substrate) characteristics of the Study Area, including extreme conditions

5.4.4 Site-specific sea ice and iceberg conditions, including iceberg scour of the seabed

5.4.5 Physical environmental monitoring, observation and forecasting programs that will be in place during the project

5.4.6 Ice management/mitigation procedures, including criteria respecting disconnection of project installations and assessment of the efficiency of detection and deflection techniques

5.4.7 Effects of the environment on the Project, including cumulative effects. The effects assessment should pay specific attention to effects of environmental factors on jack-up rigs, and mitigations that may be implemented to reduce these effects.

Discharges and Emissions

5.4.8 Planned project discharges to the marine environment

- drilling fluids and cuttings, produced water (from well testing), bilge water, grey water, black water, cooling water, deck drainage, blowout prevent fluid, ballast water;
- characterization, quantification and modelling of expected discharges including a description of the models employed
- means for reduction, re-use and recovery of wastes beyond those specified in regulations and guidelines, including a description of best available/practicable technology;

Air Quality

5.4.9 Air emissions (nitrogen/sulphur oxides; VOCs; particulate matter; carbon monoxide) and green house gases associated with Project activities

- implication for health and safety of workers that may be exposed to emissions
- annual estimates of greenhouse gas emissions and a description of potential means for their reduction and reporting
- estimates of rates and quantities of emissions;
- mitigation and monitoring
- assessment of effects, including cumulative effects

Noise/Acoustic Environment

5.4.10 Noise and acoustic issues in the marine environment that may be generated from drilling operations (drill rig, thruster-equipped vessels, VSP programs) and abandonment (wellhead severance); Assessment of effects of noise/disturbance on VECs, including cumulative effects

Marine Resources

5.4.11 Characterization, including quantification to the degree possible, of the spatial area of seabed that is predicted to be affected by drill cuttings and other discharges, and subsea structures (e.g., jack-up spud cans)and the extent of impact on benthic fish and shellfish

5.4.12 Marine and/or migratory birds using the Grand Banks area

- spatial and temporal species distributions
- species habitat, feeding, breeding, and migratory characteristics of relevance to the environmental assessment;
- effects of hydrocarbon spills from accidental events
- attraction of birds to vessel lighting, flares, potential effects and mitigations
- procedures for handling birds that may become stranded on drill rigs or support vessels
- means by which bird mortalities associated with Project operations may be documented and assessed;
- means by which potentially significant effects upon birds may be mitigated through design and/or operational procedures
- environmental effects due to the Project, including cumulative effects,

5.4.13 Marine fish, shellfish, reptiles and marine mammals:

- characterization of existing environment in the Study Area;
- distribution and abundance of 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 aerial extent of marine fish habitat in the Study Area, in particular those indirectly or directly supporting traditional, historical, present or potential fishing activity, and including any critical (e.g. spawning, feeding, overwintering) habitats;
- traditional historical fishing activity –abundance data for certain species in this area, prior to the severe decline of many fish species (e.g., an overview of survey results and fishing patterns in the survey areas for the last 20 years);
- 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,

5.4.14 Marine Mammals and Sea turtles

- spatial and temporal distribution and abundance of species utilizing the study area
- description of marine mammal lifestyles/life histories relevant to study area
- means by which potentially significant effects upon marine mammals/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

5.4.15 Species at Risk (SAR):

- provide a description of species at risk 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.
- means by which adverse effects upon SAR and their critical habitat may be mitigated through design, scheduling, and/or operational procedures
- a summary statement stating whether project effects are expected to contravene the prohibitions of SARA (Sections 32 (1), 33, 58(1))
- monitoring and mitigation, consistent with recovery strategies/action plans (endangered/threatened) and management plans (special concern)
- assessment of effects (adverse and significant) on species and critical habitat, including cumulative effects

5.4.16 "Sensitive" Areas

- provide a description, to the extent possible, of any 'sensitive areas' in the project area, such as 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
- means by which adverse effects upon "sensitive areas" may be mitigated through design and/or operational procedures

Marine Use

5.4.17 Presence of structures and/or operations:

- size and location of temporary exclusion zones;
- 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 research surveys;
- cumulative effects when combined with those of other present, past and likely future projects.

5.4.18 Traditional, existing and potential commercial, recreational and aboriginal/subsistence fisheries, including foreign fisheries.

- description of fisheries in the Study Area (including traditional, existing and potential commercial, recreational and aboriginal/subsistence and foreign fisheries, where practicable) including species, location, gear type, and timing
- consideration of underutilized species and species under moratoria;
- fisheries liaison/interaction policies and procedures;
- program(s) for compensation of affected parties, including fisheries interests, for accidental damage resulting from project activities
- environmental effects due to the Project, including cumulative effects.

5.4.19 Accidental Events

- Quantification of blowout risk;
- Quantification of risk of oil spills of all volumes associated with the project;
- Modelled physical fate of oil spills, including descriptions of models and/or analyses that are employed and the physical data upon which they are based;
- Environmental effects of oil or chemical spills;
- Cumulative effects in consideration of "chronic" oil pollution on the Grand Banks (e.g. spills from other offshore operations, bilge dumping and other discharges from vessels);
- Mitigation measures to be employed to reduce or prevent such events from occurring, and
- Effectiveness of spill countermeasures

Environmental Management

5.4.20 Husky Energy's environmental management system and its components, including, but not limited to:

- pollution prevention policies and procedures;
- environmental compliance monitoring;
- provisions or management system auditing
- chemical selection and management procedures
- fisheries liaison/interaction policies and procedures
- program(s) for compensation of affected parties, including fisheries interests, for accidental damage resulting from project activities
- emergency response plan(s)

Biological and Follow-up Monitoring

5.4.21 Discuss the need for and requirements of a follow-up program (as defined in Section 2 of CEAA) and as may be required pursuant to the *Species at Risk Act (SARA)*. The discussion should also include any requirement for compensation monitoring as compensation is considered mitigation.

5.4.22 Provide an overview of observations procedures to be implemented regarding marine mammals and seabirds.

Abandonment and Decommissioning

5.4.23 Plans for abandonment of wellheads in the project area

References Cited

Husky Energy. 2000. White Rose Oilfield Comprehensive Study Report.

LGL. 2005. Husky Delineation/Exploration Drilling Program for Jeanne d'Arc Basin Area Project Description. Prepared for Husky Energy, January 18, 2005.

APPENDIX 1

Departments and Agencies Consulted by the Boards

"Responsible Authorities" under the *Canadian Environmental Assessment Act*

Canada-Newfoundland Offshore Petroleum Board

Potential "Federal Authorities" under the *Canadian Environmental Assessment Act*

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

Other Departments/Agencies

Canadian Environmental Assessment Agency
Newfoundland and Labrador Department of Natural Resources
Newfoundland and Labrador Department of Environment and Conservation
Newfoundland and Labrador Department of Fisheries and Aquaculture