1. Purpose

This document provides scoping information for the environmental assessment of the proposed White Rose petroleum production project. The proposed project location is on the Grand Banks offshore Newfoundland, approximately 350 kilometres east of St. John's. Husky Oil Operations Limited (Husky), as operator for the White Rose field, represents the project proponents.

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) in consultation with the Department of Fisheries and Oceans (DFO), Environment Canada (EC), Industry Canada (IC) and C-NOPB's other advisory agencies in the Governments of Canada and of Newfoundland and Labrador[1]. The C-NOPB also considered environmentally related comments that were documented by Husky between late 1999 and May 2000, during its public consultation process.

2. Regulatory Considerations

The White Rose project is subject to the provisions of the *Canada-Newfoundland Atlantic Accord Implementation Act* and the *Canada-Newfoundland Atlantic Accord Implementation Newfoundland Act* (the Accord Acts). The Accord Acts require that prior to production from a pool or field, the operator of the pool or field must hold a valid production licence and that an approved Development Plan be in place. Approval of the Development Plan includes consideration of matters relating to the safety of operations, protection of the environment, and conservation of the petroleum resource. Approval of a Canada-Newfoundland Benefits Plan is a statutory pre-condition to approval of the Development Plan.

Husky has indicated that it plans to submit its development application, comprising a Development Plan, an Environmental Impact Statement (EIS), a Socio-Economic Impact Statement (SEIS) and a Canada-Newfoundland Benefits Plan, to the C-NOPB in late July 2000. The C-NOPB intends to appoint a Commissioner under Section 44 of the Accord Acts to conduct public hearings on the development application. The Commissioner will be empowered to receive comments from the public concerning any matters associated with the development application.

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

The White Rose project also is subject to the *Canadian Environmental Assessment Act* (CEAA). The C-NOPB must issue a production licence respecting the project, and thereby "has the administration of federal lands and . . . disposes of those lands or any interests in those lands . . .for the purpose of enabling the project to be carried out" within the meaning of paragraph 5(1)(c) of CEAA. The C-NOPB therefore requires an environmental assessment under CEAA, and is a "responsible authority" respecting the project.

The Department of Fisheries and Oceans (DFO) has determined that the project will result in the harmful alteration, disruption or destruction of fish habitat and thereby require an Authorization for Works or Undertakings Affecting Fish Habitat under Section 35(2) of the *Fisheries Act*. As Section 35(2) authorization requirement is a law list trigger under CEAA, the DFO is also a Responsible Authority with respect to the environmental assessment of the proposed project. Further, as a condition of this authorization, the proponent will be required to develop a fish habitat compensation plan that will be used by DFO in the development of a compensation agreement to compensate for losses of productive fish habitat in accordance with DFO's *Policy for the Management of Fish Habitat*.

Similarly, Environment Canada (EC) has determined that the construction of glory holes during the project and the deposition of spoils upon the surrounding seabed likely will require a Disposal at Sea Permit under the *Canadian Environmental Protection Act*, and that EC is a responsible authority. Finally, Industry Canada (IC) has determined that the radio equipment on the production installation will require its approval pursuant to Section 5 (1)(f) of the *Radiocommunications Act*, and that therefore it is a responsible authority respecting the proposed project as well. The project is subject to a "comprehensive study" level of assessment under CEAA since it falls within the *Comprehensive Study List Regulations*, Part IV, Oil and Gas Projects, Section 11.

The C-NOPB will be the "lead responsible authority" 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, DFO, EC and IC intend that the environmental impact statement submitted with the development application, together with such supporting documents as may be necessary, will fulfill the requirements for a "comprehensive study report" (CSR) pursuant to the CEAA, and pursuant to Section 17 (1) of the CEAA, formally delegate the responsibility for preparation of an acceptable CSR to Husky Oil Operations Limited, the project proponent.***

3. Scope of the Project

The project to be assessed consists of the following components:

3.1 Construction, installation, operation, maintenance, modification, decommissioning and abandonment of a petroleum production facility respecting the White Rose field, as described in the *White Rose Oilfield Project Description* prepared by Husky and dated March 17, 2000[2];

3.2 Construction, installation, operation, maintenance, modification, decommissioning and abandonment of subsea facilities associated with the White Rose field, including drilling and workover of development wells, subsea flow lines and any related seabed trenching, excavation, covering and/or spoil deposition;

3.3 Operation of support craft associated with the above facilities, including but not limited to mobile offshore drilling units, platform supply and standby vessels and helicopters, and shuttle tanker activity that is incremental to that already in existence or expected to be in existence; and

3.4 Any new onshore facilities that are expected to be required to support the above activities.

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 need for the project;

4.3 Alternatives to the project;

4.4 Alternative means of carrying out the project which are technically and economically feasible and the environmental effects of any such alternative means;

4.5 The environmental effects[3] of the Project, including those due to malfunctions or accidents that may be reasonably expected to occur in connection with the project;

[2] The Project Description may be viewed on the White Rose Web site at www.huskywhiterose.com
[3] The term "environmental effects" is defined in Section 2 of the CEAA.

4.6 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;

4.7 The significance of the environmental effects described in 4.5 and 4.6;

4.8 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;

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

4.10 The capacity of renewable resources that are likely to be significantly affected by the project to meet the needs of the present and those of the future;

4.11 The need for, and the requirements of, any follow-up programs in respect of the project; and

4.12 Comments from the public respecting any of the matters described above that are received in accordance with CEAA and its regulations.

5. Scope of the Factors to be Considered

Husky Oil Operations Limited will prepare and submit to the C-NOPB an environmental assessment for the above described physical works and activities. The environmental assessment will address the factors listed above, as well as the matters listed in the appropriate sections of the 1988 C-NOPB *Development Application Guidelines,* and issues and concerns identified and documented by Husky through regulatory, stakeholder, and public consultation.

It is understood that the proponent will be using the "valued ecosystem component" (VEC) approach 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 environmental assessment will consider the potential effects of the proposed physical works and physical 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 construction, operation, maintenance, and decommissioning phases of the proposed physical works and/or physical 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 works and/or 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;

- 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*, and will 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 (*i.e.*, other projects or activities for which formal plans or applications have been made). These other projects should include, but not necessarily be limited to, the following:

- fishing activities;
- (for marine birds) hunting activities;
- marine transportation activities;
- the Hibernia project;
- the Terra Nova project; and
- petroleum exploration activity that either has been approved or whose approval has been applied for, or equivalently a level and scale of activity reasonably predictable from a consideration of recent historical activity and present offshore land holdings.

The scope of the factors to be considered in the environmental assessment pursuant to the CEAA will include the components identified in the Summary of Potential Issues provided in Section 5.3, 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 in Section 5.1. Considerations relating to definition of "significance" of environmental effects are provided in Section 5.2.

5.1 Spatial Boundaries

The proponent shall clearly define, and provide the rationale for the spatial boundaries that are used in its environmental assessment. Boundaries should be flexible and adaptive to enable adjustment or alteration based on field data and/or modelling results. A suggested categorization of boundaries follows.

Project area	The area directly disturbed, altered or destroyed by construction, installation, operation, decommissioning and related activities, including associated physical works (i.e., locations of glory holes and/or caisson wells, production installation and its moorings, drilling unit moorings, subsea flowlines) and any vessel and/or fishery exclusion zones that may be established.
Affected area	The area which could potentially be affected by project activities beyond the project area, including associated physical works and activities. The "affected area" boundary varies with the component being considered (e.g., for assessment of the effects of routine drilling discharges, the area calculated, modelled or otherwise estimated to be affected would be included within this boundary).
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, or both.
National	Areas of Canadian jurisdiction (including exclusive economic zone and continental shelf) outside the "provincial" area.
Transboundary	The area outside Canada's jurisdiction.

5.2 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.

5.3 Summary of Potential Issues

Issues to be considered in the environmental assessment will include generally the matters listed in the appropriate sections of the 1988 C-NOPB *Development Application Guidelines,* as well as issues and concerns that pertain to environmental effects and are identified and documented by Husky through regulatory, stakeholder, and public consultation. These issues should include, but not necessarily be limited to, the following:

General

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

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

Air Quality

5.3.3 Air emissions associated with project activities, including annual estimates of emissions of sulphur dioxide, nitrous oxides, particulate matter, hydrocarbons and carbon monoxide and any implications for health and safety of workers that may be exposed to them;

5.3.4 "Greenhouse gas" emissions associated with project activities, including annual estimates of these emissions and a description of potential means for their reduction and reporting;

Marine Resources

5.3.5 Characterization, including quantification to the degree possible, of the spatial area of seabed that is predicted to be affected by dredging, trenching and dredge spoil disposal, drill cuttings and other discharges;

5.3.6 Marine and/or migratory birds using the Grand Banks:

- spatial and temporal species distributions
- species habitat, feeding, breeding, and migratory characteristics of relevance to the environmental assessment;
- particularly sensitive (e.g., "threatened", "endangered" etc.) species;
- potential attraction to lights, flaring and/or domestic wastes associated with project structures;
- potential for bioaccumulation by birds of heavy metals associated with project discharges;
- effects of project-related aircraft overflights upon bird concentrations and/or colonies;
- effects of oil spills of all sizes, as well as any "sheens" that may be associated with regulated discharges;
- 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

5.3.7 Marine fish, shellfish, reptiles and marine mammals, and their respective benthic and water-column habitat:

- characterization of existing environment in the project area, affected area and region;
- Distribution and abundance of species utilizing the project, affected area and region with consideration of life stages (e.g., spawning areas, overwintering, juvenile distribution, migration, feeding areas, prey requirements, relative abundance, benthos, diversity);
- Description to the extent possible of location, type, diversity and areal extent of marine fish habitat in the project and affected areas, in particular those indirectly or directly supporting traditional, historical, present or potential fishing activity, and including any critical (e.g. spawning, feeding, overwintering) habitats;
- environmental effects due to the project, including cumulative effects, with consideration of lethal and sublethal effects, species interrelationships, fish health and productivity and a quantification of affected habitat;

Marine Use

5.3.8 Presence of structures and/or operations:

- size and location of temporary or project-life 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 developments

5.3.9 Traditional, existing and potential commercial, recreational and aboriginal/subsistence fisheries, including foreign fisheries:
- consideration of underutilized species and species under moratoria;
- consideration of the traditional fishery and the changing nature of the fishery;
- effects of project operations and accidental events upon the foregoing, including potential reopening of fisheries currently under moratoria;
- effects due to real or perceived fish/shellfish taint;
- cumulative effects when combined with other developments;

Discharges and Emissions

5.3.10 Effects of electromagnetic emissions from radio equipment upon personnel safety and means of mitigation/elimination;

5.3.11 Planned project discharges to the marine environment:
- dredge spoil, drilling fluids and cuttings, produced water, bilge water, "grey" water, "black" water, cooling water, deck drainage;
- characterization, quantification and modelling of expected discharges (e.g., concentration of metals, nutrients, hydrocarbons, biocides, etc., timing of 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";
- assessment of technical and economic feasibility of subsurface re-injection of produced water and of drill cuttings associated with organic –phase drilling fluids;

Accidental Events

5.3.12 Quantification of blowout risk;

5.3.13 Quantification of risk of oil spills of all volumes associated with the project;

5.3.14 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;

5.3.15 Environmental effects of oil or chemical spills;

5.3.16 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);

5.3.17 Effectiveness of spill countermeasures;

Physical Environment

5.3.18 Meteorological, oceanographic and seabed characteristics of project area and region, including extreme conditions;

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

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

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

Environmental Management

5.3.22 Proponent's/Project environmental management system and its components, including:

- pollution prevention policies and procedures;
- environmental effects monitoring programs (see below);
- environmental compliance monitoring;
- provisions for management system auditing;
- environmentally-related training for project employees and contractors, including project vessels;
- 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

5.3.23 Provision of an acceptable fish habitat compensation strategy, including options considered, in accordance with the Department of Fisheries and Oceans *Policy for the Management of Fish Habitat*.

5.3.24 Emergency response plans, including:

- risk-based determination of oil spill response needs, including those for small-volume spills;
- types and location of response equipment;
- target times for equipment deployment;

Environmental Effects Monitoring (EEM)

5.3.25 Characteristics of EEM programs for both routine and accidental events, including a description of the process by which these programs will be designed;

5.3.26 Parameters to be monitored and the rationale for their choice, including specific consideration of marine birds, reptiles and mammals; fisheries; fish and shellfish health/productivity and taint; fish habitat; and marine environmental quality;

5.3.27 Linkage of monitoring hypotheses to testable hypotheses (where available) identified by environmental assessment predictions;

5.3.28 Site-specific baseline information that is required to support monitoring programs;

5.3.29 Integration with other projects' programs (e.g., Hibernia, Terra Nova), including regional monitoring considerations;

5.3.30 Distinction of "signal" from "noise" in monitoring programs;

5.3.31 Independent/peer review of monitoring results;

5.3.32 Linkage of monitoring results into environmental management system;

5.3.33 Potential requirements for fish habitat compensation monitoring and for post-dredging monitoring

Abandonment/Decommissioning

5.3.34 Plans for abandonment and/or decommissioning of the project area and associated facilities following termination of production, including any anticipated requirement for post-abandonment monitoring.

APPENDIX 1

Departments and Agencies Consulted by C-NOPB

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

Environment Canada

Fisheries and Oceans

Industry Canada

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

Atlantic Canada Opportunities Agency

Health Canada

Natural Resources Canada

Other Departments/Agencies

Canadian Environmental Assessment Agency

St. John's Port Authority

Provincial Departments (Government of Newfoundland and Labrador)

Department of Mines and Energy

Department of Environment and Labour

Department of Fisheries and Aquaculture