

## 1 Purpose

This document provides scoping information for the environmental assessment of the proposed exploratory/delineation drilling program in the Laurentian Subbasin area of the Newfoundland and Labrador Offshore Area, and all other related works and activities (The Project). ConocoPhillips Canada Resources Corporation (ConocoPhillips Canada), on behalf of its partners Murphy Oil Corporation and BHP Billiton Limited, is proposing to drill up to seven exploration and delineation wells on exploration licences (ELs) 1081, 1082, 1085, 1086, and 1087 in the Laurentian Subbasin area (see Figure 1.1 in the Project Description). The exploration/delineation drilling program may commence in late 2006, with drilling to be conducted up to the end of 2013. During this period, drilling will occur at various times and locations within the boundaries of the project area described in Figure 1.1

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 and Labrador Offshore Petroleum Board (C-NLOPB), as Responsible Authority, in consultation with the Department of Fisheries and Oceans (DFO), Environment Canada (EC), and C-NLOPB's other advisory agencies in the Governments of Canada and of Newfoundland and Labrador<sup>1</sup>.

## 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-NLOPB 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-NLOPB 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-NLOPB intends the environmental assessment 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 ConocoPhillips Canada, the Project proponent. The C-NLOPB will prepare the Screening Report, which will include the determination of significance..***

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<sup>1</sup>Appendix 1 contains a list of the departments and agencies consulted during the preparation of the document.

### 3 Scope of Project

The project to be assessed consists of the following components:

- A mobile offshore drilling unit (MODU) will be employed in the drilling of up to seven exploratory and/or delineation wells on ELs 1081, 1082, 1085, 1086, and 1087 in the Laurentian Subbasin area. For each well drilled, the following project components are anticipated: a MODU (jack-up, drill ship, or semi-submersible), water based and synthetic based drilling fluid systems, supply and standby vessels, helicopter support, vertical seismic programs, wellsite surveys (as required), and well abandonment. The temporal scope of the project will include all activities conducted from late 2006 through to December 2013.

### 4 Factors to be Considered

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

- 4.1 The purpose of the project;
- 4.2 The environmental effects<sup>2</sup> of the Project, including those due to malfunctions or accidents that may 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 "Operational Policy Statement" regarding Follow-up Programs<sup>3</sup>); and;
- 4.8 Reports on consultations undertaken by ConocoPhillips Canada 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

ConocoPhillips Canada will prepare and submit to the C-NLOPB an environmental assessment for the above described works and activities, as described in the project

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<sup>2</sup> The term "environmental effects" is defined in Section 2 of the CEA Act, and Section 137 of the *Species at Risk Act*.

<sup>3</sup> 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](http://www.ceaa-acee.gc.ca/012/newguidance_e.htm#6).

description “*Laurentian Sub-basin Exploration Drilling Program Project Description*” (LGL 2005). The environmental assessment will address the factors listed 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 Laurentian Subbasin area. In 2003, the C-NLOPB completed a strategic environmental assessment (SEA)<sup>4</sup> of offshore oil and gas exploration activities for the Laurentian Subbasin. In addition, environmental assessments for seismic activities in the area have been undertaken in recent years. For the purposes of this screening, the information provided in the SEA and environmental assessment documents for the area 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 assessment of cumulative environmental effects should be consistent with the principles described in the February 1999 CEA Agency *Cumulative Effects Assessment Practitioners Guide* and in the March 1999 CEA Agency 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 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.

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

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<sup>4</sup> Jacques Whitford Environment. Strategic Environmental Assessment Laurentian Subbasin. November 2003.

## 5.1 Boundaries

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 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.

International Areas outside of Canadian jurisdiction.

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 CEA Act 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.

### **5.1.2 Temporal Boundaries**

The temporal scope should describe the timing of all project activities from first well drilled to abandonment of all wells. Scheduling of project activities should consider the timing of sensitive life cycle phases of the VECs in relation to physical activities.

### **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 CEEA 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.

### **5.3 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, 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

- 5.3.1** 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;

#### Physical Environment

- 5.3.3** Meteorological and oceanographic (current regime, water column profile, bathymetry, substrate) characteristics of the Study Area, including extreme conditions
- 5.3.4** Geological characteristics of the Study Area, including predominant characteristics, substrate, seafloor stability/mobility extremes, particularly for slope areas
- 5.3.5** The Laurentian Subbasin SEA indicated that the area is potentially one of the most seismically active areas. Discussion of potential for seismicity, geohazard events including impacts on slope stability, etc. in the Study Area.

- 5.3.6 Site-specific sea ice and iceberg conditions, including iceberg scour of the seabed
- 5.3.7 Physical environmental monitoring, observation and forecasting programs that will be in place during the project
- 5.3.8 Ice management/mitigation procedures, including criteria respecting disconnection of project installations and assessment of the efficiency of detection and deflection techniques
- 5.3.9 Effects of the environment on the Project, including cumulative effects.

#### Discharges and Emissions

- 5.3.8 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 (assumptions used in models should be clearly stated)
  - 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 effects, including cumulative effects

#### Air Quality

- 5.3.9 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

- 5.3.10 Noise and acoustic issues in the marine environment that may be generated from drilling operations (drill rig, thruster-equipped vessels) geohazard surveys, VSP programs, and abandonment (wellhead severance);
  - means by which potentially significant effects may be mitigated through design and/or operational procedures
  - Assessment of effects of noise/disturbance on VECs, including cumulative effects

#### Marine Resources

- 5.3.11 Ecosystem
  - description of plankton and benthos in Study Area,

- description of coral communities likely present in the Study Area, and potential for coral communities to exist based on local habitat conditions
- 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 and the extent of impact on benthic communities (e.g., fish, shellfish, corals, etc.)
- means by which potentially significant effects upon benthic communities, in particular corals, may be mitigated through design and/or operational procedures,
- assessment of effects, including cumulative effects.

#### **5.3.12 Marine and/or migratory birds using the Study Area**

- spatial and temporal species distributions (observation/monitoring data collected during ongoing petroleum activities should be discussed)
- 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,

#### **5.3.13 Marine fish and shellfish**

- 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;
- identification of important spawning, feeding, migratory and essential habitats
- 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,

#### **5.3.14 Marine Mammals and Sea turtles**

- spatial and temporal distribution and abundance of species utilizing the study area (observation/monitoring data collected during previous exploration activities should be discussed)
- 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

**5.3.15** 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

**5.3.16** “Sensitive” Areas

- provide a description, to the extent possible, of any ‘sensitive areas’ in the Study 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

**5.3.17** 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.

**5.3.18** The Laurentian Subbasin SEA report, identified a munitions dumpsite in the Laurentian Subbasin area. The C-NLOPB determined that “no activity that involves direct physical disturbance of the seabed in the dumpsite area will be authorized until the C-NLOPB is satisfied that such activities in the area of the dumpsite will not pose a threat to human safety or the environment.”

Accordingly, the EA report must clearly specify that this hazard area must be avoided until such time that it can be demonstrated to the Board’s satisfaction that the site does not pose any threat. Specifically, this means that the geographical



location of the wellsite must be selected to avoid the hazard. An appropriate "activity exclusion zone" around the dumpsite must be identified taking into account the uncertainty associated with the position of any dumped munitions, the "footprint" of any "dropped objects zone" around the drilling installation, and any other relevant factors, so as to ensure that all activity is located a safe distance away from the potential hazards associated with the munitions. No wells may be drilled within the "activity exclusion zone" and no other activity that involves direct physical disturbance of the seabed will be authorized by the C-NLOPB within the established "activity exclusion zone".

**5.3.19** 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
- 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);
- consideration of underutilized species commonly found in 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 (e.g., waved whelk, sea cucumber) 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.

**5.3.20** Accidental Events

- Quantification of blowout risk;
- Quantification of risk of oil/condensate/gas blowouts or spills of all volumes associated with the project;
- Modelled physical fate of oil/condensate/gas blowouts or spills, including descriptions of models and/or analyses that are employed and the physical data upon which they are based;
- Environmental effects of accidental events;
- 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

**5.3.21** ConocoPhillips Canada’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

**5.3.22** Discuss the need for and requirements of a follow-up program (as defined in Section 2 of CEEA) 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.

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

Abandonment and Decommissioning

**5.3.24** Plans for abandonment of wellheads in the project area

## **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