

Black Spruce Exploration Corp. Western Newfoundland Drilling Program, 2015-2016
Revised Draft Scoping Document

1 Purpose

This document provides scoping information for the Environmental Assessment (EA) of the proposed exploration drilling program in the nearshore area of Exploration Licence (EL) 1120 on the west coast of the island of Newfoundland and all other related activities (the Project). Black Spruce Exploration Corp. (BSE), the proponent, is proposing to drill one exploration well in 2015-2016 from an onshore location in the Lark Harbour area of the Bay of Islands to a location in the offshore area. The project will involve conventional drilling activities only. No hydraulic fracturing or other reservoir stimulation techniques are planned or proposed.

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.

2 Regulatory Considerations

The Project will require an authorization pursuant to Section 138 (1) (b) of the *Canada-Newfoundland and Labrador 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 Newfoundland and Labrador Department of Natural Resources issues drilling program approvals pursuant to Section 12 and grants the authority to drill a well pursuant to Section 32 of the *Newfoundland and Labrador Petroleum Drilling Regulations* promulgated under the *Petroleum and Natural Gas Act*.

The C-NLOPB formally delegates the responsibility for preparation of an acceptable environmental assessment report to Black Spruce Exploration Corp., the project proponent.

3 Scope of the Project

The project to be assessed consists of the following components:

- 3.1 The Proponent plans to conduct exploration drilling in the nearshore area of Exploration Licence 1120 between 2015 and 2016, as described in the "*Black Spruce Exploration Corp 2015 – 2016 Western Newfoundland Exploration Drilling Environmental Assessment Project Description (Revised)*" (Amec Foster Wheeler May 2015). One program on EL 1120 from an onshore location at Lark Harbour is proposed in 2015-2016.
- 3.2 Drilling will be conducted using a mobile onshore drilling unit. The following program activities are anticipated: drill site access and preparation; mobilization of the drilling unit; land-based support vehicles; water-based and/or synthetic-

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based drilling fluid systems; emissions and waste handling and disposal; well testing and evaluation; and well suspension or abandonment.

- 3.3 The temporal scope of the proposed drilling program is 'year-round' for the 2015-2016 period.

4 Factors to be Considered

The EA shall include a consideration of the following factors:

- 4.1 The purpose of the project;
- 4.2 The environmental effects¹ 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;
- 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; and
- 4.8 Consultations undertaken by BSE 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

BSE will prepare and submit to the C-NLOPB an EA for the above described physical activity, and as described in the project description "*Black Spruce Exploration Corp 2015 – 2016 Western Newfoundland Exploration Drilling Environmental Assessment Project Description (Revised)*" (Amec Foster Wheeler May 2015).

The EA will address the factors listed above; the issues identified in Section 5.2 (following), and document any issues and concerns that may be identified by the proponent through regulatory, stakeholder, and public consultation.

Program activities are proposed for the Western Newfoundland and Labrador Offshore Area, which has been studied in the Western Newfoundland and Labrador Offshore Area Strategic Environmental Assessment Update (April 2014) (Western SEA Update) .

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

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For the purposes of this assessment, the information provided in the Western SEA Update should support the EA to avoid unnecessary duplication of information. Appropriate references should be included in the EA.

It is recommended that the “valued ecosystem component” (VEC) approach be used to focus its analysis. A definition of each VEC (including components or subsets thereof) identified for the purposes of environmental assessment, and the rationale for its selection, shall be provided.

The scope of the factors, to be considered in the 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.

Discussion of the biological and physical environments in the Study and Project Areas should consider the data available in the Western SEA Update. Where data gaps exist, the EA should clearly identify the lack of data available.

5.1 Boundaries

The EA will consider the potential effects of the proposed drilling 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 fate of hydrocarbons entering the marine environment from an accidental event associated with the land-based drilling program as determined from spill trajectory analysis;
- the natural variation of a VEC or subset thereof;
- 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 EA report shall clearly describe the spatial boundaries (e. g. Study Area, Project Area) and shall include figures, maps and the corner-point coordinates. Boundaries should be flexible and adaptive to enable adjustment or alteration based on field data. 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

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follows.

5.1.1 Spatial Boundaries

Project Area

The area in which drilling activities is to occur.

Study Area

The area defined by spill trajectory modelling which could potentially be affected by hydrocarbons entering the marine environment from accidental events.

Regional Area

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

5.1.2 Temporal Boundaries

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

5.2 Summary of Potential Issues

The EA report for the proposed drilling activity should contain descriptions of the biological and physical environments, as identified below. Where applicable, information may be summarized from existing environmental assessment reports for the Western Newfoundland Offshore Area. The EA report should provide only summary descriptions of those biological and physical parameters. However, where new information is available, (e.g., fisheries data) for any of the following factors, the new data and/or information should be provided. If information is not updated, justification must be provided. Where information is summarized from existing EA reports, it should be properly referenced; with specific reference to those sections of the existing EA report summarized.

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 The Western SEA Update provides information on the western Newfoundland offshore physical environment. This SEA provides descriptions of the meteorological and oceanographic characteristics, including extreme conditions. Only new information for

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the Study Area that has become available since the publication of the above noted document, and that is relevant to the consideration of environmental effects and any change to the Project that may be caused by the environment, should be provided in the EA.

Biological Environment

5.2.2 The Western SEA Update provides information on the western Newfoundland offshore biological environment. This SEA provides descriptions of: marine birds; fish and fish habitat; marine mammals and sea turtles; species at risk; sensitive areas; and human activities, including fisheries. Only new information for the Study Area that has become available since the publication of the above noted document, and that is relevant to the consideration of environmental effects, should be provided in the EA.

Marine Resources

5.2.3 Birds

For the Study Area, provide a summary description of the following:

- Spatial and temporal species distributions
- Species habitat, feeding, breeding, and migratory characteristics of relevance to the EA;
- Attraction of birds to lighting;
- Procedures for handling birds that may become stranded
- Physical displacement as a result of on-shore equipment presence (e.g. disruption of foraging activities)
- Means by which bird mortalities associated with project operations may be documented and assessed;
- Effects of petroleum spills (from accidental events) that enter the marine environment;
- 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.

5.2.4 Marine Fish and Shellfish

For the marine areas within the defined Study Area, provide a summary description of the following:

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

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- Environmental effects associated with hydrocarbons entering the marine environment, due to the Project, including cumulative effects.

5.2.5 Marine Mammals and Sea Turtles

For the defined Study Area, provide a summary description of the following:

- Spatial and temporal distribution;
- Description of marine mammal and sea turtle lifestyles/life histories relevant to the Study Area;
- 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 associated with hydrocarbons entering the marine environment, due to the Project, including cumulative effects.

5.2.6 Species at Risk (SAR)

For the defined Study Area, provide a description of the following:

- A description, to the extent possible, of SAR as listed in Schedule 1 of the *Species at Risk Act (SARA)*, those listed under the *Newfoundland and Labrador Endangered Species Act*, 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.

5.2.7 “Sensitive” Areas

Provide a summary description of the following:

- A description, to the extent possible, of any “Sensitive” Areas in the Study Area deemed important or essential habitat to support any of the marine resources or seabird/shorebirds identified;
- Environmental effects from accidental events, 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.

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Marine Use

5.2.8 Noise/Acoustic Environment

Provide a description of the following:

- Disturbance/displacement of VECs and SAR associated with VSP 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.

5.2.9 Fisheries

For the defined Study Area, provide a summary description of the following:

- Fishery activities (including traditional, existing and potential commercial, recreational and aboriginal/subsistence);
- 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;
- 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;
- Program(s) for compensation of affected parties, including fisheries interests, for accidental damage resulting from project activities;
- Means by which adverse effects of accidental events upon commercial fisheries may be mitigated through design and/or operational procedures; and
- Environmental effects of accidental events of the Project, including cumulative effects.

Freshwater Resources

5.2.10 Freshwater Ecosystem

Characterization, including quantification to the degree possible, of the spatial area that is predicted to be affected by drilling activities.

5.2.11 Freshwater Fish

- Distribution and abundance of species utilizing the Study Area.
- Description to the extent possible of location, type, diversity and areal extent of freshwater fish habitat in the Study Area.
- Means by which potentially significant effects upon fish (including critical life stages) may be mitigated through design and scheduling.
- Environmental effects of the Project.

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Human Activities

Provide a description of the nearest human receptors, including nearest residences or sensitive areas such as schools, daycares, places of worship, nursing homes, and parks.

Environmental Management

5.2.12 Accidental Events

For the Study Area, provide the following:

- Discussion on the potential for spill events from drilling activities to enter the marine environment
- Description of marine and freshwater areas likely to be affected by hydrocarbons or other harmful substances from a spill event
- Fate of hydrocarbons or other harmful substances in the marine environment, as determined by spill trajectory analysis
- Discussion on the potential effects for spill events from drilling activities on marine and freshwater fish and fish habitat
- For the defined Study Area, environmental effects of any accidental events from Project activities. Cumulative effects should be included.
- Mitigations to reduce or prevent such events from occurring.
- Contingency plans to be implemented in the event of an accidental release.

5.2.13 Discharges and Emissions

Provide a description of planned project discharges and emissions, including:

- Emissions from construction and operational activities that may affect air quality;
- Noise from construction and operational activities;
- Drilling muds, fluids, and cuttings, grey water, black water, cooling water, blow out preventer fluid, and fluid recovered to surface from near-wellbore stimulation;
- Characterization, quantification and modeling, as required, of expected discharges and the timing of discharges, including a description of the trajectory models employed; and
- Environmental effects of discharges, including cumulative effects.
BSE'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).

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Biological and Follow-up Monitoring

Discuss the need for and requirements of a follow-up program (as defined in Section 2 of the *Canadian Environmental Assessment Act, 2012 (CEAA)* and pursuant to the SARA. The discussion should also include any requirement for compensation monitoring (compensation is considered mitigation).

Details regarding the monitoring and 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 (January 2012)).

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 significant 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 November 2007 *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 no limited to: proposed oil and gas activities under EA review (listed on the C-NLOPB Public registry at www.cnlopb.ca); other drilling 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.

6 Projected Timelines for the Environmental Assessment Process

ACTIVITY	TARGET	RESPONSIBILITY
EA Report review upon receipt from Proponent	6 weeks	C-NLOPB & Expert Departments and Agencies
Compile comments on EA	1 week	C-NLOPB
Review of EA Addendum/Response Document (<i>if necessary</i>)	2 weeks	C-NLOPB & Expert Departments and Agencies
Determination Report	3 weeks	C-NLOPB

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Total	12 weeks	
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