

Decision Statement
Issued under Section 54 of the *Canadian Environmental Assessment Act, 2012*

to
Shell Canada Limited
c/o Candice Cook-Ohryn
Environmental Lead

400 4th Avenue SW
Calgary, Alberta
T2P 2H5

for the
Shelburne Basin Venture Exploration Drilling Project

Description of the Designated Project

Shell Canada Limited is proposing to conduct an exploratory drilling program approximately 250 kilometres off the coast of Nova Scotia, consisting of up to seven exploration wells within Exploration Licenses 2423, 2424, 2425, 2426, 2429, and 2430, over a four year period from 2015 to 2019. Specific drilling locations will be determined using seismic data gathered as part of the Shelburne Basin 3D Seismic Survey conducted in summer 2013.

Conduct of the Environmental Assessment

The Canadian Environmental Assessment Agency (the Agency) conducted an environmental assessment of the Shelburne Basin Venture Exploration Drilling Project in accordance with the requirements of the *Canadian Environmental Assessment Act, 2012* (CEAA 2012). The Agency commenced the environmental assessment on January 17, 2014 and submitted its report to me in my capacity as Minister of the Environment.

Decision on Environmental Effects referred to in subsection 5(1) of CEAA 2012

In accordance with paragraph 52(1)(a) of CEAA 2012, after considering the report of the Agency on the Shelburne Basin Venture Exploration Drilling Project and the implementation of mitigation measures that I consider appropriate, I determined that the Designated Project is unlikely to cause significant adverse environmental effects referred to in subsection 5(1) of CEAA 2012.

In accordance with subsection 53(1) of CEAA 2012, I have established the conditions below in relation to the environmental effects referred to in subsection 5(1) of CEAA 2012, with which Shell Canada Limited must comply.

Decision on environmental effects referred to in subsection 5(2) of CEEA 2012

The carrying out of the Designated Project may require the following federal authorities to exercise a power or perform a duty or function conferred on them under an Act of Parliament other than CEEA 2012:

- The Canada-Nova Scotia Offshore Petroleum Board may issue an authorization under paragraph 142(1)(b) of the *Canada-Nova Scotia Offshore Petroleum Resources Accord Implementation Act*; and
- Fisheries and Oceans Canada may issue an authorization under paragraph 35(2)(b) of the *Fisheries Act*.

In accordance with paragraph 52(1)(b) of CEEA 2012, after considering the report of the Agency on the Shelburne Basin Venture Exploration Drilling Project and the implementation of mitigation measures that I consider appropriate, I determined that the Designated Project is not likely to cause significant adverse environmental effects referred to in subsection 5(2) of CEEA 2012.

In accordance with subsection 53(2) of CEEA 2012, I have established the conditions below in relation to the environmental effects referred to in subsection 5(2) of CEEA 2012, with which Shell Canada Limited must comply.

1 Definitions

- 1.1 *Abandoned* – as defined in the *Nova Scotia Offshore Petroleum Drilling and Production Regulations*, in relation to a well, means a well or part of a well that has been permanently plugged.
- 1.2 *Aboriginal and commercial fishers* – means holders of communal commercial or commercial fishing licences and those fishing for food, social or ceremonial purposes in the regional assessment area.
- 1.3 *Aboriginal groups* – the 12 Mi'kmaw First Nations of Nova Scotia represented by the Kwilmu'kw Maw-klusuaqn (Mi'kmaq Rights Initiative) Negotiation Office, the Sipekne'katik First Nation in Nova Scotia and the New Brunswick First Nations of Fort Folly, St. Mary's and Woodstock.
- 1.4 *Aggregations of habitat-forming corals or sponges* – means an aggregation of coral or sponges that are a part of a commercial, recreational or Aboriginal Fishery or are known or observed to support fish that are part of a commercial, recreational or Aboriginal Fishery as defined in the *Fisheries Act*.
- 1.5 *Board* – Canada-Nova Scotia Offshore Petroleum Board.
- 1.6 *Days* – calendar days.

- 1.7 *Designated Project* – the drilling program and related work and activity of the Shelburne Basin Venture Exploration Drilling Project as described in documents provided by the Proponent to support the environmental assessment under the *Canadian Environmental Assessment Act, 2012* (Canadian Environmental Assessment Registry Reference Number 80058).
- 1.8 *Drilling installation* – as defined in the *Nova Scotia Offshore Certificate of Fitness Regulations*, means a drilling unit or a drilling rig and its associated drilling base, and includes any associated dependent diving system.
- 1.9 *Fish* – as defined in the *Fisheries Act*, includes (a) parts of fish, (b) shellfish, crustaceans, marine animals and any parts of shellfish, crustaceans or marine animals, and (c) the eggs, sperm, spawn, larvae, spat and juvenile stages of fish, shellfish, crustaceans and marine animals.
- 1.10 *Fish habitat* – as defined in the *Fisheries Act*, means spawning grounds and any other areas, including nursery, rearing, food supply and migration areas, on which fish depend directly or indirectly in order to carry out their life processes.
- 1.11 *Flaring* – the open-air burning of hydrocarbons, such as may be produced during the testing of oil and gas wells.
- 1.12 *Follow-up program* – as defined in the *Canadian Environmental Assessment Act, 2012*, means a program for (a) verifying the accuracy of the environmental assessment of a designated project; and (b) determining the effectiveness of any mitigation measures.
- 1.13 *Mitigation measures* – as defined in the *Canadian Environmental Assessment Act, 2012*, means measures for the elimination, reduction or control of the adverse environmental effects of a designated project, and includes restitution for any damage to the environment caused by those effects through replacement, restoration, compensation or any other means.
- 1.14 *Migratory bird* – as defined in the *Migratory Birds Convention Act, 1994*, means a migratory bird referred to in the Convention, and includes the sperm, eggs, embryos, tissue cultures and parts of the bird.
- 1.15 *Pre-drill survey* – a survey conducted once the drilling unit is in position to characterize the seabed and to confirm that no potential surface seabed hazards or sensitivities are present at the drilling location.
- 1.16 *Project area* –The project area encompasses the immediate area in which project activities and components may occur and within which direct physical disturbance may occur as a result of the Project.
- 1.17 *Proponent* – Shell Canada Limited.
- 1.18 *Qualified individual* – someone who, through suitable education, experience and knowledge relevant to a particular matter, may be reasonably relied on to provide advice within his or her area of expertise.
- 1.19 *Regional assessment area* – the area within which residual environmental effects from the Designated Project activities and components may interact cumulatively with the residual

environmental effects of other past, present, and reasonably foreseeable future physical activities.

- 1.20 *Safety zone* – the area around the drilling installation up to a distance of 500 m from the outer edge of the installation.
- 1.21 *Species at risk* – as defined in the *Species at Risk Act*, means an extirpated, endangered or threatened species or a species of special concern.
- 1.22 *Suspended* – means a well or part of a well in which drilling operations have temporarily ceased.
- 1.23 *Testing* – means a formation flow test as defined in the *Nova Scotia Offshore Petroleum Drilling and Production Regulations*, that is conducted (a) to induce the flow of formation fluids to the surface of a well to procure reservoir fluid samples and determine reservoir flow characteristics; or (b) to inject fluids into a formation to evaluate injectivity.
- 1.24 *Vertical seismic profiling survey* – survey used to calibrate well data to seismic data, giving an accurate depth measure to geological features.
- 1.25 *Well* – means an exploratory well as defined in the *Regulations Designating Physical Activities* under the *Canadian Environmental Assessment Act, 2012*, and has the same meaning as in subsection 101(1) of the *Canada Petroleum Resources Act*, but does not include a delineation well or development well as those terms are defined in that subsection.

Conditions

These conditions are established for the sole purpose of the Decision Statement issued under the *Canadian Environmental Assessment Act, 2012*. They do not relieve the Proponent from any obligation to comply with other legislative or other legal requirements by the federal, provincial or local governments. Nothing in this Decision Statement should be construed as reducing, increasing, or otherwise affecting what may be required to comply with all applicable legislative or other legal requirements.

2 General conditions

- 2.1 The Proponent shall, throughout all phases of the Designated Project, ensure that its actions in meeting the conditions set out in this Decision Statement are informed by the best available information and knowledge, are based on validated methods and models, are undertaken by qualified individuals and apply the best available economically and technologically feasible mitigation strategies.
- 2.2 The Proponent shall, where consultation is a requirement of a condition set out in this Decision Statement:
 - 2.2.1 provide written notice of the opportunity for the party or parties to present their views on the subject of the consultation;
 - 2.2.2 provide sufficient information and a reasonable period of time to permit the party or parties to prepare their views; and
 - 2.2.3 provide a full and impartial consideration of any views presented.
- 2.3 The Proponent shall, where Aboriginal consultation is a requirement of a condition set out in this Decision Statement, first consult each Aboriginal group on the most appropriate manner in which to conduct the consultation.
- 2.4 The Proponent shall, within 90 days after each well is suspended and/or abandoned, submit to the Board a report, including an executive summary of the report in both official languages. The Proponent shall document in the report:
 - 2.4.1 implementation activities undertaken for each of the conditions;
 - 2.4.2 how it met condition 2.1 in the implementation of the conditions set out in this Decision Statement;
 - 2.4.3 for conditions set out in this Decision Statement for which consultation is a requirement, how it has considered any views and information received;
 - 2.4.4 the results of the follow-up program requirements identified in conditions 3.12, and 4.4; and
 - 2.4.5 any corrective actions taken by the Proponent, or proposed in relation to subsequent wells to be drilled as part of the Designated Project, should the predictions of

environmental effects prove to be inaccurate or the mitigation measures prove not to be effective.

- 2.5 The Proponent shall make the report, the executive summary referred to in conditions 2.4, as well as the implementation schedule referred to in condition 7, available on its website when the report or schedule is submitted to the Board. The Proponent shall keep these documents available on its website for a minimum of five years after completion of the Designated Project, unless otherwise specified by the Board.
- 2.6 The Proponent shall notify the Board as soon as possible if the Designated Project is expected to be undertaken by another party due to a sale, a transfer or other circumstances that arise and would result in a new proponent taking over the Designated Project in whole or in part.

3 Fish (including marine mammals and sea turtles) and fish habitat

- 3.1 The Proponent shall treat all discharges from the drilling unit into the marine environment in compliance with the *Offshore Waste Treatment Guidelines* issued jointly by the National Energy Board, the Canada-Newfoundland and Labrador Offshore Petroleum Board and the Canada-Nova Scotia Offshore Petroleum Board, and in accordance with the requirements of the *Fisheries Act*, the *Migratory Birds Convention Act, 1994* and any other applicable legislation.
- 3.2 The Proponent shall apply the *Offshore Chemical Selection Guidelines for Drilling & Production Activities on Frontier Lands* issued jointly by the National Energy Board, the Canada-Newfoundland and Labrador Offshore Petroleum Board and the Canada-Nova Scotia Offshore Petroleum Board to select lower toxicity chemicals that would be used and discharged into the marine environment, including drilling fluid constituents, and shall submit any necessary risk justification as per Step 10 of the Guidelines to the Board for acceptance prior to use.
- 3.3 The Proponent shall treat all discharges from support vessels into the marine environment in compliance with the *International Convention for the Prevention of Pollution from Ships*.
- 3.4 The Proponent shall conduct a pre-drill survey at each well site to determine the presence of any military unexploded ordnance. If any such ordnance is detected, the Proponent shall consult the Board to determine an appropriate course of action prior to commencing drilling.
- 3.5 The Proponent shall conduct a pre-drill survey to identify any aggregations of habitat-forming corals or sponges, or species at risk at each well site prior to drilling and report results to the Board within 48 hours of the completion of the survey.
- 3.6 If aggregations of habitat-forming corals or sponges, or species at risk are confirmed, the Proponent shall move the drilling unit to avoid affecting them, unless in doing so would not be technically feasible. If not technically feasible, the Proponent shall consult with the Board prior to commencing drilling to determine an appropriate course of action to the Board's satisfaction.
- 3.7 The Proponent shall apply the *Statement of Canadian Practice with Respect to the Mitigation of Seismic Sound in the Marine Environment* during vertical seismic profiling surveys.

- 3.8 The Proponent shall submit a Marine Mammal Observer Program to the Board for acceptance at least 30 days prior to the commencement of any vertical seismic profiling activity that:
- 3.8.1 demonstrates that Marine Mammal Observers are trained to identify different species of marine mammals and sea turtles that may be present in the safety zone through either visual observation or cetacean detection technology, such as Passive Acoustic Monitoring, if used;
 - 3.8.2 demonstrates that Marine Mammal Observers have the ability to view the entire safety zone; and
 - 3.8.3 provides, if used during vertical seismic profiling, the specific Passive Acoustic Monitoring configuration.
- 3.9 The Proponent shall record and report the results of the Marine Mammal Observer Program to the Board within 30 days of the completion of the vertical seismic profiling survey.
- 3.10 The Proponent shall implement measures to prevent or reduce the risks of collisions between support vessels and marine mammals and sea turtles, including:
- 3.10.1 establishing a speed limit of 10 knots for support vessels when operating outside existing shipping lanes in the project area, as well as when marine mammals or sea turtles are observed or reported in the vicinity of the vessel; and
 - 3.10.2 requiring support vessels to use established shipping lanes, where they exist.
- 3.11 The Proponent shall promptly report any collisions with marine mammals or sea turtles to the Board, and to the Canadian Coast Guard Environmental Emergency Reporting Number.
- 3.12 The Proponent shall monitor effects on fish and fish habitat, including marine mammals and sea turtles, to verify the accuracy of the predictions made during the environmental assessment and to evaluate the effectiveness of mitigation measures identified under conditions 3.1 to 3.11, including:
- 3.12.1 measuring and reporting to the Board the concentration of synthetic-based drilling fluids retained on discharged drilling cuttings as described in the *Offshore Waste Treatment Guidelines* to verify that the discharge meets the limits set out in the Guidelines. Concentrations in excess of the limits shall be reported within 24 hours to the Board and treatment adjusted as necessary to prevent further exceedances;
 - 3.12.2 collecting sediment deposition information during and after drilling activities to verify modeling predictions and reporting to the Board, within 90 days after a well is suspended and/or abandoned; and
 - 3.12.3 verifying predicted underwater noise levels with field measurements during the first phase of the drilling program. The Proponent shall provide to the Board a plan on how this will be conducted at least 30 days in advance of drilling, and the monitoring results within 90 days after a well is suspended and/or abandoned.

4 Migratory birds

- 4.1 The Proponent shall carry out all phases of the Designated Project in a manner that protects and avoids harming, killing or disturbing migratory birds or destroying or taking their nests or eggs. In this regard, the Proponent shall take into account Environment Canada's *Avoidance Guidelines*. The Proponent's actions in applying the *Avoidance Guidelines* shall be in compliance with the *Migratory Birds Convention Act, 1994* and with the *Species at Risk Act*.
- 4.2 The Proponent shall notify the Board at least 30 days in advance of flaring to determine whether the flaring would occur during a period of migratory bird vulnerability and how it plans to prevent harm to migratory birds.
- 4.3 The Proponent shall implement measures to prevent harm to, or killing of migratory birds such as:
 - 4.3.1 restricting flaring to the minimum required to characterize the well's hydrocarbon potential and as necessary for the safety of the operation;
 - 4.3.2 minimizing flaring during night time and during periods of bird vulnerability; and
 - 4.3.3 operating a water-curtain barrier during flaring.
- 4.4 The Proponent shall monitor effects on migratory birds to verify the accuracy of the predictions made during the environmental assessment and to determine the effectiveness of the mitigation measures. The Proponent shall document and submit to the Board the results of any monitoring carried out under conditions 4.1, 4.2, and 4.3. The documentation shall demonstrate whether the mitigation measures have proven effective and if additional measures are required to comply with condition 4.1.

5 Aboriginal and commercial fishing

- 5.1 The Proponent shall consult with Aboriginal and commercial fishers to minimize the potential for conflicts between the Designated Project and fishing activities, including by developing and implementing a Fisheries Communications Plan to address communications prior to and during drilling, testing and abandonment of each well. The plan shall include procedures to notify fishers a minimum of two weeks prior to starting each well and to communicate with fishers in the event of an accident or malfunction that may result in adverse environmental effects and requires measures to be taken in relation to conditions 6.9 or 6.10.
- 5.2 The Proponent shall prepare a well abandonment plan and consult with Aboriginal and commercial fishers on the plan if it is proposed that a wellhead be abandoned on the seafloor. The Proponent shall submit the plan, including the result of any consultation, to the Board for acceptance at least 30 days prior to each well being abandoned.
- 5.3 The Proponent shall provide the details of its operation, including the safety zone during drilling and testing, to the Marine Communications and Traffic Services for broadcasting and publishing in the *Notices to Shipping*, and the location of the abandoned wellheads if left on the seafloor.

6 Accidents and malfunctions

- 6.1 The Proponent shall take all reasonable measures to prevent accidents and malfunctions that may result in adverse environmental effects and shall implement emergency response procedures and contingency plans developed in relation to the Designated Project.
- 6.2 The Proponent shall prepare an Oil Spill Response Plan and a Well Containment Plan in accordance with the Board's requirements and submit the Plan to the Board for acceptance at least 90 days prior to drilling.
- 6.3 The Oil Spill Response Plan shall include:
 - 6.3.1 procedures to respond to an oil spill (e.g. oil spill containment, oil recovery);
 - 6.3.2 measures for wildlife response, protection, and rehabilitation (e.g., collection and cleaning of marine mammals, birds, and sea turtles) and measures for shoreline protection and clean-up; and
 - 6.3.3 procedures to notify the Board and other relevant regulatory agencies of the occurrence of any oil spill to water in accordance with applicable reporting requirements.
- 6.4 The Proponent shall conduct an exercise of the Oil Spill Response Plan prior to the commencement of drilling and adjust the plan to the satisfaction of the Board to address any deficiencies identified during the exercise.
- 6.5 The Proponent shall review the Oil Spill Response Plan and update it as required following completion of each well.
- 6.6 The Well Containment Plan shall include:
 - 6.6.1 A Relief Well Contingency Plan; and
 - 6.6.2 Well Capping Plan describing the plan to mobilize and deploy a capping stack, if required.
- 6.7 The Proponent shall undertake a Net Environmental Benefit Analysis to consider all available spill response options and identify those techniques, including the possible use of dispersants, that will provide for the best opportunities to minimize environmental consequences, and provide it to the Board for review 90 days prior to drilling.
- 6.8 The Proponent shall consult with Aboriginal groups during the development of the Oil Spill Response Plan, the Well Containment Plan and Net Environmental Benefit Analysis and provide the approved versions to Aboriginal groups before the start of drilling.
- 6.9 In the event of an accident or malfunction having the potential to cause adverse environmental effects, the Proponent shall implement its Oil Spill Response Plan, including:
 - 6.9.1 monitoring the environmental effects of oiling on components of the marine environment to be accepted by the Board until specific endpoints identified in consultation with expert government departments are achieved. As applicable, monitoring may include:

- 6.9.1.1 sensory testing of seafood for taint, and chemical analysis for oil concentrations and any other substances, as applicable;
- 6.9.1.2 measuring levels of contamination in recreational and commercial fish species with results integrated into a human health risk assessment to determine the fishing area closure status; and
- 6.9.1.3 monitoring for marine mammals, sea turtles, and birds with visible oiling and reporting results to the Board.

- 6.10 In the event of a sub-sea well blowout, the Proponent shall, in addition to condition 6.9, implement its Well Containment Plan and begin the immediate mobilization of primary and back-up capping stacks and associated equipment to the project area to stop the spill.
- 6.11 In the event of accidents and malfunctions, the Proponent shall comply with the *Compensation Guidelines with Respect to Damages Relating to Offshore Petroleum Activity* issued jointly by the Canada-Newfoundland and Labrador Offshore Petroleum Board and the Canada-Nova Scotia Offshore Petroleum Board.

7 Implementation schedule

- 7.1 The Proponent shall submit an implementation schedule for conditions contained in this Decision Statement to the Board at least 30 days prior to the start of drilling. The implementation schedule shall indicate the commencement and completion dates for each activity relating to conditions set out in this Decision Statement with sufficient detail to allow the Board to plan compliance verification activities.
- 7.2 The Proponent shall notify the Board of any changes to the implementation schedule required under condition 7.1 at least 30 days prior to implementation of the changes, if feasible, and shall not implement the changes unless accepted by the Board.

8 Record keeping

- 8.1 The Proponent shall record, retain and make available to the Board, upon request, at a facility in Nova Scotia, information related to the implementation of the conditions set out in this Decision Statement including:
 - 8.1.1 the place, date and time of any sampling that was conducted;
 - 8.1.2 the dates any analyses were performed;
 - 8.1.3 the sampling and analytical techniques, methods or procedures used;
 - 8.1.4 the names and professional certifications of the persons who collected or analyzed each sample; and
 - 8.1.5 the results of the sampling and analyses.
- 8.2 The Proponent shall retain and make available upon request to the Board the information contained in condition 8.1 for a minimum of five years after completion of the Designated Project,

unless otherwise specified by the Board, at a facility in Nova Scotia (or at a location within Canada and agreed upon by the Board, should the local facility no longer be maintained).

Issuance

This Decision Statement is issued on June 15, 2015 at Ottawa, Ontario by:

<Original signed by>

The Honourable Leona Aglukkaq
Minister of the Environment