

## Draft Potential Conditions

The following potential conditions in relation to the Shelburne Basin Venture Exploration Drilling Project (the Designated Project) are being considered by the Canadian Environmental Assessment Agency (the Agency) for recommendation to the Minister of the Environment for inclusion in a Decision Statement under the *Canadian Environmental Assessment Act, 2012*. Such conditions would become legally binding on the Proponent if the Minister of the Environment ultimately issues a Decision Statement that would allow the Project to proceed. The Agency is considering having the Canada-Nova Scotia Offshore Petroleum Board (the Board) verify that the Proponent is compliant with CEAA 2012, which includes a requirement to comply with the conditions in the Decision Statement. In accordance with existing Memoranda of Understanding, the Board would consult Environment Canada and Fisheries and Oceans Canada as appropriate when verifying compliance.

### **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 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.
- 1.3 *Board* – Canada-Nova Scotia Offshore Petroleum Board.
- 1.4 *Days* – calendar days.
- 1.5 *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).
- 1.6 *Drilling installation* – a drilling unit and its associated drilling base, and includes any associated dependent diving system.
- 1.7 *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.
- 1.8 *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.
- 1.9 *Flaring* – the open-air burning of hydrocarbons, such as may be produced during the testing of oil and gas wells.

- 1.10 *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.
- 1.11 *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.
- 1.12 *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.
- 1.13 *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.
- 1.14 *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.
- 1.15 *Proponent* – Shell Canada Limited.
- 1.16 *Safety zone* – the area around the drilling installation up to a distance of 500 m from the outer edge of the installation.
- 1.17 *Species at risk* – as defined in the *Species at Risk Act*, means an extirpated, endangered or threatened species or a species of special concern.
- 1.18 *Testing* – means an operation to induce the flow of formation fluids to the surface of a well to procure reservoir fluid samples and determine reservoir flow characteristics.
- 1.19 *Vertical seismic profiling survey* – survey used to calibrate well data to seismic data, giving an accurate depth measure to geological features.
- 1.20 *Well* – means an exploratory well as defined in the *Regulations Designating Physical Activities* under the *Canadian Environmental Assessment Act, 2012*.

## **Conditions**

These conditions do not relieve the Proponent from any obligation to comply with other legislative or other legal requirements.

### **2 General conditions**

- 2.1 The Proponent shall, throughout all phases of the Designated Project, ensure its actions to mitigate adverse environmental effects are informed by the best available information and knowledge, based on validated methods and models, undertaken by qualified individuals and apply the best available economically and technologically feasible strategies.
- 2.2 Where Aboriginal consultation is a requirement of a condition, the Proponent shall first consult Aboriginal groups on the most appropriate manner in which to carry out that consultation.
- 2.3 The Proponent shall, within 90 days after each well is abandoned, submit to the Board a report summarizing the implementation of the conditions. The Proponent shall document in the report:
  - 2.3.1 how it has considered and incorporated the factors set out in condition 2.1 in the implementation of the conditions;
  - 2.3.2 for conditions for which consultation with Aboriginal groups is a requirement, how it has considered the views of Aboriginal groups and any information received from Aboriginal groups;
  - 2.3.3 the results of the follow-up program requirements identified in conditions 3.12, and 4.4, including whether the predictions of environmental effects made during the environmental assessment were accurate and whether the mitigation measures have proven effective; and
  - 2.3.4 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.
- 2.4 The Proponent shall make the report and documentation referred to in conditions 2.3 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.

### **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.
- 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 to identify any aggregations of habitat-forming corals or sponges, or species at risk at each well site prior to drilling and immediately report results to the Board.
- 3.5 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 the Board's opinion, 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.
- 3.6 The Proponent shall submit a final report on the results of the pre-drill survey to the Board as soon as practicable after completion of the survey, but no later than 30 days after the survey is conducted.
- 3.7 The Proponent shall apply Fisheries and Oceans Canada's *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 drilling that:
  - 3.8.1 demonstrates that Marine Mammal Observers are trained to identify different species of marine mammals and sea turtles that may reasonably be expected to be present in the safety zone through either visual observation or cetacean detection technology, if used, such as Passive Acoustic Monitoring;
  - 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 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 or less for support vessels operating in the project area, as well as when marine mammals or sea turtles are observed or reported to be 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 through Canadian Coast Guard Radio.
- 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 the concentration of synthetic-based drilling fluids retained on discharged drilling cuttings to verify that the discharge meets the limits set out in the *Offshore Waste Treatment Guidelines*, reporting test results within 24 hours to the Board and adjusting treatment, if necessary;
  - 3.12.2 validating sediment (drill waste) deposition modeling predictions during and after drilling activities to verify modeling predictions of areal extent of the cuttings and reporting to the Board, within 90 days after a well is abandoned; and
  - 3.12.3 modeling underwater noise levels from the drilling unit and verifying the model results during drilling operations. The Proponent shall provide the modeling results to the Board at least 30 days in advance of drilling, and the monitoring results within 90 days after a well is abandoned.

#### **4 Migratory birds and migratory bird habitat**

- 4.1 The Proponent shall carry out all phases of the Designated Project in a manner that prevents harming or killing migratory birds.
- 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, such as fledging or foraging, and the need for measures to prevent harm to migratory birds.
- 4.3 The Proponent shall implement the following measures to prevent harm to migratory birds from flaring:
- 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 such as fledging or foraging; and
  - 4.3.3 implementing a water-curtain barrier during flaring.
- 4.4 The Proponent shall monitor effects on migratory birds, including species at risk, to verify the accuracy of the predictions made during the environmental assessment and to evaluate the effectiveness of mitigation measures under conditions 4.1 to 4.3, including:
- 4.4.1 conducting daily searches on the drilling unit while on location to identify and record any stranded or dead birds found onboard or near the drilling unit and by providing these records to the Board. Birds shall be handled according to the procedures described in the

Environment Canada document *Best practices for stranded birds encountered offshore Atlantic Canada*;

- 4.4.2 retaining qualified observers on support vessels during transit and when on stand-by near the drilling unit to verify, once per month, impact predictions including potential bird attraction to the drilling unit, bird behavior around the drilling unit and the types of species present (i.e., seabird versus migratory species);
- 4.4.3 developing a protocol in consultation with the Board to gather data on the abundance and distribution of birds near the flare and data on the effectiveness of the water curtain as a mitigation measure to prevent birds from flying into the flare and implementing the protocol, as applicable; and
- 4.4.4 reporting final monitoring results to the Board no later than 90 days after each well is abandoned.

## **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 while the drilling unit is transiting to the location of the well and while on location. 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.
- 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 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 the Board's satisfaction to prevent accidents and malfunctions that may result in adverse environmental effects and shall implement appropriate 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 approval 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, developed in consultation with the Board; and
  - 6.3.3 procedures to notify the Board and other relevant regulatory agencies of the occurrence of any oil spill to water as soon as possible.
- 6.4 The Proponent shall conduct an exercise of the Oil Spill Response Plan prior to the commencement of project activities 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 understand the potential risks and consequences of using dispersants as a possible primary response tool 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 effects of oiling on components of the marine environment to be identified by the Board until residual hydrocarbons reach background levels. 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 (e.g. dispersants);
    - 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 indicative signs of 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*.

## **7 Implementation schedule**

- 7.1 The Proponent shall submit an implementation schedule for conditions to the Board at least 30 days prior to the start of drilling. The implementation schedule shall indicate when activities relating to conditions are expected to take place with sufficient detail to allow the Board to plan compliance verification activities.
- 7.2 The Proponent shall notify the Board of any schedule changes at least 30 days prior to implementation of the changes, if feasible, and shall not implement any 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 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 any results of the follow-up program, including monitoring data, results of sampling conducted and analyses performed, 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).