Impact Assessment Agency of Canada
Agence d'évaluation d'impact du Canada

St. John's Satellite Office
301-10 Barter's Hill
St. John's NL A1C 6M1

Bureau satellite de Terre-Neuve-et-Labrador
301-10 Barter's Hill
St. John's T. -N. -L. A1C 6M1

December 3, 2019

Sent by E-mail

Terry Forkheim
Senior Environmental and Regulatory Advisor
Equinor Canada Ltd.
3600, 308 4th Avenue SW, Calgary, Alberta, T2P 0H7
Tel (587) 233-0560
Email: tefor@equinor.com

Dear Terry Forkheim:

SUBJECT: Agency Review of the Central Ridge Exploration Drilling Project Environmental Impact Statement

On November 14, 2019, the Impact Assessment Agency of Canada (the Agency) received the Environmental Impact Statement (EIS) and EIS Summary for the Central Ridge Exploration Drilling Project (the Project) from Equinor Canada, Ltd. (the proponent). The Agency reviewed the EIS and EIS Summary in consideration of the requirements of the *Guidelines for the Preparation of an Environmental Impact Assessment for the Central Ridge Exploration Drilling Project* (EIS Guidelines), issued to the proponent on July 5, 2019.

Based on this review, the Agency has found that adjustments to a number of items are required in order to facilitate technical review and ensure that the documents can support meaningful consultation with Indigenous groups and the public. The Agency is prepared to begin a public comment period as early as January 2, 2019, provided that these items are addressed and a revised EIS and EIS Summary are submitted by December 17, 2019. If the revised EIS is not received by December 17, 2019, the federal timeline for the environmental assessment (EA) will be paused on that day.

Many of the items can be addressed by incorporating more information from the Flemish Pass EIS or information requirement (IR) responses to meet the "Information Required in Abridged EIS" as listed in the table in *Part 1, Section 3.1* of the EIS Guidelines (p. 4-6).

The revisions required are as follows:

1. The Canada – Newfoundland Offshore Petroleum Board (the Board) has indicated that the model results for EL 1142 are not representative of the fate and effects of a deep water blowout for ELs 1159 and 1160. The proponent should use the result of the trajectory modeling for EL 1134, which is on an adjacent licence, or shift the model

results from EL 1142 to ELs 1159 and 1160. The comments received from the Board on the applicability of EL 1142 as a deep-water model are attached.

2. Include a discussion on the use, availability (including nearest location), timing (testing and mobilizing) and feasibility of a capping stack to stop a blowout and resultant spills, incorporating information from the responses to Flemish Pass IR-59-2 and IR-76, if applicable.

3. Add information to meet the following requirements of the EIS Guidelines:
    - *Part 2, Section 2.2 Alternative means of carrying out the project: With the objective of minimizing potential environmental impacts to the discharges to the marine environment, the proponent should identify the quantity and type of chemicals (or constituents) that may be used in support of the proposed project. Alternatives to the use of the above-listed chemicals (e.g. through alternative means of operating or use of less-toxic alternatives) should be discussed in the EIS.*

    - *Part 2, Section 3.1 Project components: The EIS will describe:*
        - *navigation activities (number and frequency of trips), size and types of vessels, anticipated vessel routes and anchorages, predicted percentage increase in vessel traffic of similar size vessels resulting from the project, icebreaking activities (time of year, frequency, duration, expected start and end dates), and ballast water management;*
        - *helicopters, including routes, number and frequency of trips;*
        - *transfers of bulk materials (e.g. mud) and fuel;*
        - *drinking and industrial water requirements (source, quantity required, need for water treatment), and*
        - *energy supply (source, quantity).*

4. There are no specifics in the EIS Summary or in Section 3 about new/different information related to Indigenous consultation or engagement for ELs 1159 and 1160. Summarize whether there was specific engagement related to Central Ridge, including the issues raised and the proponent's response. If there was no specific engagement related to Central Ridge, clearly explain why the engagement conducted for the Flemish Pass project is applicable.

5. Section 5.4: Describe all sources of air emissions, including other exploration projects. Use the most recent data for emissions from production platforms in Table 5.1, or explain why data from 2015 are appropriate.

6. Section 8.3.3, p. 337 lists invasive species as one of the effects of the presence and operation of the drilling installation, but the effects are not described. Add a description of the effects of invasive species.

7. Section 8.3.3, Section 10.3.8: Add values for typical sound levels at a drilling installation and values for recoverable thresholds. Provide distances to auditory injury and

behavioural thresholds as described in the response to Flemish Pass CL-10.

- P. 384 says the EIS relied on literature, acoustic modelling for other projects and field measurements during comparable drilling operations. Provide references for these sources.

8. Section 11.2, p. 412 states that "special areas are inherently discussed and considered (either directly or indirectly) in various other effects assessment chapters". Specific information is required on the direct and indirect effects to the special areas for corals and sponges that overlap with the Central Ridge ELs and transit route.

9. Section 15.1: Include information on dispersants, in situ burning, and any other relevant response measures that are considered in the environmental effects analysis. In situ burning was the topic of Flemish Pass IR-63, which required a general discussion of its environmental effects. Information from the response to IR-63 should be inserted, unless there have been changes to this information.

10. Section 15.4.1, p. 484: The statement "less than 0.001% of oil reaching shorelines from EL 1142" is not consistent with Equinor's agreed to use of 0.01% in order to represent the worst-case scenario in the Flemish Pass EA Report. The Agency requests this be changed to 0.01% or indicate the rationale for using 0.001%.

11. Section 15.5.4 references NPA results, which are not applicable to this Project as that site is 2700 m depth. Page 495 lists potential shoreline contact areas on the island of Newfoundland, but this is not shown in the figures earlier in the chapter. Provide a more detailed discussion of the results and select more representative figures to ensure that the modelling rationale provides enough information to understand the effects analysis.

12. Section 16: Provide information on the potential effects of natural hazards such as icebergs, severe weather (e.g. fog, waves), tsunamis and tectonic stability on the project and how this in turn could result in effects to the environment.

The Agency also requests the following clarifications:

1. Well count for the Central Ridge project is unclear. The number of wells approved for the Flemish Pass project is 24. The Central Ridge EIS states there could be up to 6 wells in any one EL. If the well count will not exceed 24 with the inclusion of Central Ridge, the Agency recommends removing reference to 30 wells.

2. Section 3.3.2.4: In Table 3.5, p. 88, the entry for August 1, 2019 incoming email, "Miawpukek responded to Equinor (et al) letter of December 7, 2018." Add information about the content of the outgoing letter sent on December 7, 2018, and about Miawpukek's response.

3. Section 4.3.2: The last sentence of the second paragraph on p. 117 indicates that each VC will include a table that summarizes potential interactions and associated parameters for effects. Related tables do not appear in the VC chapters. Delete or revise the sentence, or add the related tables.

4. Section 6: DFO noted in Flemish Pass IR-36 that lumpfish (threatened, COSEWIC) and white hake (Atlantic and Northern Gulf of St. Lawrence population, threatened, COSEWIC) are known to occur in the Project area, but these species are not included in Table 6.6. The number and descriptions of fish species at risk provided in Section 8.4 should also be updated and consistent with Table 6.6.

5. Section 9.3.3: The zone of influence for lighting is not clear. Section 9.3.3 states it may be up to 14 km, but Section 11.4.3.1 says 16 km. Use consistent numbers or clarify the difference.

The Agency has also identified the following technical information requirements that the proponent could address to avoid these questions later:

1. Section 4.5.1: DFO comments provided to the proponent on June 19, 2019 on the Project Description have not been addressed (comments attached). DFO requested project-specific cuttings dispersion modelling or sufficient rationale for how the modelling inputs (e.g. oceanographic datasets) for drill cuttings modelling conducted for the Flemish Pass EIS are applicable to the Central Ridge project.

2. Section 7.3: p. 260 indicates Equinor has collected baseline data such as corals, bathymetry, and geotechnical for the Bay du Nord project. Bay du Nord is in a different area than Central Ridge so it is not clear how the baseline data for Bay du Nord applies. Explain the applicability of the Bay du Nord baseline data to the EA for Central Ridge.

3. Section 8.3.3: The third paragraph on p. 337 lists potential effects of discharges on plankton, with no qualifiers (e.g. short-term, localized) or reasoning for why later text concludes that these effects are not significant. Provide evidence to support the conclusion that the effects are not significant.

4. Section 8.3.3, p. 338 includes a statement that presence of subsea infrastructure may support faster recovery of the benthic environment. Add qualifiers around this statement, as was done in the proponent's response to Flemish Pass IR-19.

5. Section 10.3.6, p. 386 presents information for well abandonment in water depths greater than 1500 m; however, the EIS states that ELs 1159 and 1160 have a maximum water depth of 1020 m. Add a rationale for the applicability of well abandonment in water depths greater than ELs 1159 and 1160, or present information specific to those ELs.

6. Section 13.3.3.3 indicates wellheads could be left in place for longer than 2 years. State how long wellheads could be left in place and if some could be left permanently. Incorporate information from IR-42, or update the effects assessment, if required.

7. Section 15.4: DFO comments provided to the proponent on Oct. 30, 2019 on oil spill modelling rationale have not been addressed (comments are attached). It is not clear how data collected for the White Rose spill supports the modelling results for the Project area. Page 474 states that modelling for the Project indicated that surface oil would move eastward due to prevailing westerly winds, but the description of the White Rose spill on p. 475 states that the slick moved in a southerly direction. Clarify the applicability of the White Rose data to the Project.

8. Section 15.4: The figures in this section do not show that spills would move predominantly south, as stated on p. 475. Either revise the figures, or explain what they represent. For example add text to explain that the figures show probability and are not representative of a surface slick. Stochastic results are only represented as figures and are not discussed in the text (other than a sentence about model inputs and one sentence about low probability of shoreline contact). Add a description of stochastic model results to provide context for the figures.

If the revised EIS and associated summary are received by December 17, 2019, the Agency will confirm that the submission is complete before commencing the comment period. Please note that proceeding to a technical review and public comment period does not imply that the information provided is adequate to support the completion of the EA. The Agency may issue IRs based on the results of the technical review conducted by federal experts, and on input received from public and Indigenous participants during the comment period. In accordance with subsections 27(6) and 23(2) of the *Canadian Environmental Assessment Act, 2012*, the period that is taken by a proponent to respond to IRs when there is not sufficient information available for the purposes of conducting the EA is not included in the calculation of the time limit within which the Minister's decision must be made.

This letter may be shared with Indigenous groups and posted on the Impact Assessment Agency of Canada Registry Internet site: https://iaac-aeic.gc.ca/050/evaluations/proj/80175.

The Agency is available to further discuss the questions outlined in this letter. Please contact Leslie Kieley at 709-725-2740 or via email at iaac.CentralRidge.aeic@canada.ca.

When submitting the revised EIS and EIS Summary, the Agency also requests one paper copy of the EIS and EIS Summary each for the St. John's and Halifax offices:

Impact Assessment Agency of Canada
Suite 301
10 Barter's Hill
St. John's, NL A1C 6M1

Impact Assessment Agency of Canada
Suite 200
1801 Hollis Street
Halifax, NS B3J 3N4

Sincerely,

<original signed by>

Jill Adams
Head, NL Satellite Office

Cc: Elizabeth Young, Canada – Newfoundland Labrador Offshore Petroleum Board
Melissa Moss, Canada – Newfoundland Labrador Offshore Petroleum Board
Darren Hicks, Canada – Newfoundland Labrador Offshore Petroleum Board
Ian Murphy, Canada – Newfoundland Offshore Petroleum Board
Catherine Andrews, Fisheries and Oceans Canada
Michael Hingston, Environment and Climate Change Canada
Sara Rumbolt, Health Canada
Jason Flanagan, Transport Canada
Maximilien Genest, Natural Resources Canada
Carla Stevens, Major Projects Management Office