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BAB 3990-10

Ms. Kimberly A. Coady
Environmental Assessment Officer
Canada-Newfoundland and Labrador Offshore Petroleum Board
5th Floor, TD Place
140 Water Street
St. John's, NL A1C 6H6

Dear Ms. Coady:

Subject: Environmental Assessment of StatoilHydro's Jeanne d'Arc Basin Area, Seismic and Geohazard Program, 2008-2016.

As requested, DFO has reviewed the document entitled, *'Environmental Assessment of StatoilHydro's Jeanne d'Arc Basin Area, Seismic and Geohazard Program, 2008-2016',* dated January, 2008. Based upon the project description, it is understood that StatoilHydro Canada Ltd. proposes to conduct an initial 3-D (and potential 4-D extension in cooperation with Petro-Canada) seismic survey in 2008 and subsequent surveys (3-D and potentially 2-D and/or 4-D), as well as geohazard surveys over the remaining eight years. The attached comments are provided for your review and consideration.

General Comments

There is a significant level of uncertainty with regards to the project description, including timing, equipment/methods to be used (2-D vs. 3-D vs. 4-D) and the geographic location to be surveyed (annually and overall). The proposed timing window for the surveys (April 1- October 31) is very broad making it difficult to determine potential impacts on fisheries resources, including conflict with fisheries, overlap between projects in time and space, and cumulative effects. Clarity and certainty regarding the above elements are critically important for DFO staff to appreciate the scope and nature of work to be performed. The lack of detailed information in the document also makes it difficult to determine the potential impacts on marine fisheries resources. In order to be able to fully assess cumulative effects in the offshore, DFO requests to be advised in advance of any changes in project information, particularly with respect to timing of seismic survey work. To this end, the Department requests that an annual project update outlining survey locations, timing of activities, survey type, airgun array, etc. be submitted each year within a reasonable timeframe to allow review and provision of appropriate advice. Further, DFO requests that it be notified once a project commences.

Geohazard surveys will acquire high resolution seismic, side scan sonar, sub bottom profiler, and multi-beam bathymetric data as needed over the proposed area. This

variety of sound sources could output sound energy at frequencies and amplitudes that might impact numerous marine species. For instance, higher frequency sources are a potential concern for beaked whales, while airgun sounds are more of a concern for baleen whales. Ideally, the same types of mitigation protocols for marine mammals and sea turtles should be employed for these operations (*e.g*., trained Marine Mammal Observers, ramp-up and shut down, provision of sightings data to regulatory agencies, etc.).

The current recommended safety zone is 500m. As previously stated by DFO, there have been no regional acoustic measures to verify the received sound levels at this distance and research shows considerable variability in the effectiveness of current safety radii in different circumstances. Past field validations have translated into practical changes in proposed mitigative measures, as the safety radius around seismic vessels has increased in other jurisdictions from 500m to 700m after validation of general propagation models. Therefore, the Department emphasizes a need for sound propagation modeling to provide more accurate estimates of safety radii in this region.

Cumulative effects estimations are fraught with uncertainty due to the relative lack of knowledge about effects of offshore developments on marine mammal distribution and abundance. Given this uncertainty, large-scale baseline surveys need to be carried out in order to assess the abundance and distribution of marine megafauna over larger areas of the region. To address this data gap, albeit with limited resources, DFO has carried out a large-scale aerial survey for marine megafauna in Newfoundland and Labrador (NL) waters during the summer of 2007. It is recommended that, perhaps through the Environmental Studies Research Fund, this survey be enhanced in scope, and other surveys during other seasons and years be conducted to assess seasonal, annual, and geographic variation in distribution and abundance of marine megafauna. This type of baseline information is critical prior to starting significant offshore developments, and to track effects of current operations on ecosystem components.

The report should include a better overview of offshore petroleum exploration activity that has occurred in the past, and is occurring presently, on the Grand Banks. This would then offer an objective and regional context for offshore oil and gas activities and may help frame the discussion of the potential for cumulative effects. A map depicting other projects in the NL offshore, and specifically the Jeanne d'Arc Basin, would also be helpful in assessing cumulative impacts.

Specific Comments

Page 98. There have been sightings of northern bottlenose whales at depths less than 500 m (including within meters of shore), so depth should not be the sole criteria used to exclude the possibility that this species might be seen within the project area.

Page 160. Previous coordination between offshore oil and gas operators and DFO has proved to successfully mitigate the potential for overlap between offshore oil and gas activities and DFO/Industry research surveys. It is requested that the Department be notified of survey locations and project timing as soon as they are known.

Page 160. Ramp-up procedures are only mentioned for the onset of the seismic survey. If for any reason airguns are shut down, ramp-up procedures should be followed prior to recommencing survey operations.

Page 160. Ramp-up should not recommence until the animal has moved beyond the 500m safety zone or 30 (not 20) minutes have elapsed since the last sighting.

Page 160. DFO requests that it be notified, in addition to C-NLOPB, if dead or distressed marine mammals or sea turtles are spotted and particularly in the event that sea turtles or mammals are injured or killed by project activities.

Page 160. The list of mitigations should involve continuous firing of one gun during vessel turning for line change. This is a common mitigation for marine mammals, sea turtles and fish and should be listed here.

Page 160. As previously stated in other reviews by DFO, risk to marine animals will be the same at night and in poor visibility conditions as they are in the daytime or with clear visibility. The mitigations presented (observers, delays, ramp-up and shut-down) will only work during times of good visibility. Passive acoustic monitoring (PAM) is the only available mitigation technique that will increase the detection of marine mammals prior to ramp-up, while having no adverse effect of its own on marine mammals. DFO encourages the use of PAM as it will increase the detection of marine mammals.

Page 161. DFO requests that the Marine Mammal monitoring report be submitted to Jack Lawson (772-2285) upon completion of the program.

Thank you for providing DFO the opportunity to comment on this document. Should you have any questions or comments regarding the above, please contact James Meade by phone at 772-3521 or by e-mail (meadej@dfo-mpo.gc.ca).

Yours truly,

Carole Grant
A/Section Head – Habitat Evaluation
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