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Our file *Notre référence*
14-HNFL-00051

June 20, 2018

Darren Hicks
Canada-Newfoundland and Labrador Offshore Petroleum Board
5th Floor, TD Place – 140 Water Street
St. John's NL A1C 6H6

Dear Mr. Hicks:

Re: Review of Seafloor and Seep Sampling Program – Labrador Offshore to Jeanne d’Arc Basin (2014 to 2019) – Environmental Assessment Amendment

I am writing further to your June 1, 2018 letter requesting review of the above noted TGS Canada Ltd. EA Amendment. Please be advised that Fisheries and Oceans Canada (DFO) has completed our review and offers the following comments for your review and consideration.

- Section 2.2 Planned Activities for 2018 (sentence 1, page 3) – the mention of four Program Areas is inconsistent with Figure 2-1 (page 4), which shows three areas. Text should be updated accordingly. This comment also applies to Section 2.5 Consultation (3rd last bullet, page 13).
- Section 2.3.2 Multibeam Echosounder Survey Modification (page 8) – It is not clear how the proposed MBES survey differs from the survey described in the original EA. A comparison of the two surveys should be provided. This comment also applies to Section 4.2.2 Multibeam Echosounder Survey Modifications (page 35).
- Section 2.3.3 Core Sample Number Modification (page 8) – Information on the footprint of additional cores and their distribution (e.g., how close samples will be taken) should be provided.
- Section 2.3.4 Coring Equipment Modification (page 8) – It is not clear whether the modification to coring equipment will alter benthic impacts. A comparison of the benthic footprint (i.e., core size and adjacent disturbance) and other potential impacts of piston and gravity corers should be provided (e.g., sample volume, underwater noise).
- Table 2.3 (row 1, page 10) Commitment/Mitigation Column – should be revised to clarify whether “restricted or protected areas” refers only to the Nunatsiavut Zone or whether it refers to other protected areas as well.
- Table 2.3 (final row, page 12) –
 - Based on Figure 3-7 (page 29), the Southeast Shoal and Tail of the Banks EBSA should also be described as overlapping the 2018 Project Areas.



- Clarification should be provided regarding which habitats will be avoided and how (what information) will be used by Geoscientists to identify such habitats.
- The statement that “*particular emphasis will be given to identifying core locations based on geological and geochemical merit, but in particular on avoidance of habitats identified in the MBES and backscatter datasets*” suggests that sampling could occur in sensitive areas. This is inconsistent with the statement (Section 4.2.4 page 35) that “*Core collection will avoid coral closure areas and other identified sensitive areas*”. It should be clarified whether coring could potentially occur in sensitive areas including NAFO Coral Closure Areas located in the southern most study area block.
- As documented in the recent DFO CSAS Science Response (March 2018) on the Review of the Environmental Impact Statements for the Flemish Pass Exploration Drilling Project and the Eastern Newfoundland Offshore Exploration Drilling Project:
 - Some habitat forming communities found in this region cannot be detected using MBES. These include *Geodia* sponge grounds, certain species of glass sponges, and bamboo coral. For instance, *Acanella* is a bamboo coral distributed within the Flemish Pass that only inhabits soft substrates; such species would not be detected based on MBES alone. DFO has used MBES and side scan sonar (SSS) to assess sites prior to ROV dives. Both can be used to determine abiotic seabed features and also some biotic features (i.e. *Lophelia* and reef forming glass sponges); however, coral structures down to 1 m² may not be detectable with MBES or modern SSS. Based on this, if coring is planned to occur in sensitive areas (including NAFO Coral and Sponge closure areas) it is recommended that the sampling sites be ground-truthed using ROV.
- Section 2.5 Consultation (final bullet, page 13) – The proponent should clarify whether core contacts with smaller aggregations of corals/sponges will cause coring to cease in that location if it is not a sensitive area.
- Section 3.2.1 Commercial Fisheries (sentence 1, paragraph 3, page 14) –The description of Northern Shrimp harvesting locations is inconsistent with Figure A.1. Text and/or figure should be revised accordingly.
- Section 3.2.1 Commercial Fisheries (pages 14-15) – With respect to Northern Shrimp, SFA 7 also falls within the Study / Project / Assessment Area and should be included in the discussion. Regarding reference DFO 2017a, a more recent Northern Shrimp assessment has been completed (http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2018/2018_018-eng.html) and should be incorporated.
- Section 3.2.1 Commercial Fisheries (paragraph 3, page 14) – DFO 2017c is not the most recent Snow Crab assessment. The most recent document (http://www.dfo-mpo.gc.ca/csas-sccs/Publications/SAR-AS/2018/2018_024-eng.html) should be incorporated.



- Figure 3-1 (page 17) – A label should be provided for Sea Pens.
- Section 3.5 Species at Risk (page 24) –
 - Loggerhead Sea Turtle, Beluga Whale (St. Lawrence Estuary population) and Atlantic salmon (Inner Bay of Fundy population) should also be described.
 - A reference should be provided for the second sentence describing Atlantic Wolffish.
 - Atlantic population should be specified for Leatherback Sea Turtle.
- Table 3.2 (pages 25-26) –
 - Loggerhead Sea Turtle, Beluga Whale (St. Lawrence Estuary population) and Atlantic salmon (Inner Bay of Fundy population) should be included.
 - It should be noted that the marine mammals are also listed under Schedule 1 of SARA.
 - Atlantic population should be specified for Leatherback Sea Turtle.
 - Superscripts associated with the Common Name column are often incorrect or outdated. For example, for the Fin Whale (Atlantic population), a management plan is available.
- Section 3.5 Species at Risk (final sentence, page 27) – A reference should be provided and “Gully” should be replaced with “Scotian Shelf”.
- Table 3.3 (pages 27-28) –
 - Lumpfish, Narwhal and Atlantic Walrus (Central/Low Arctic population) should be included.
 - Blue Shark, which is not at risk, and Loggerhead Sea Turtle, which is listed under Schedule 1 of SARA, should be removed.
 - Populations should be listed for Atlantic salmon and Beluga Whale, and appropriate COSEWIC designations provided.
 - COSEWIC designation for Shortfin Mako (Atlantic population) should be changed to Special Concern.
 - For note A, the Hopedale Channel population was also assessed as Data Deficient.
- Section 3.6 Sensitive Areas (page 28) –
 - As of June 2018, there are no *Oceans Act* Areas of Interest identified in the Study / Project / Assessment Area. The Laurentian Channel Proposed MPA is located outside the area as described in Figure 3-7. This sentence should be clarified.
 - Marine Refuges should be listed.
 - Preliminary Representative Marine Areas are listed but not shown in Figure 3-7 (page 29) as indicated. There are Candidate National Marine Conservation Areas (NMCAs) and Representative Marine Areas identified in the NL Shelves Bioregion, however, Parks Canada Agency should be contacted for confirmation.
- Section 3.6.1 Ecologically and Biologically Significant Areas (pages 30-31) - There are several additional EBSA’s identified by the Conference of the Parties to the Convention



on Biological Diversity located outside Canada's EEZ in the Northwest Atlantic which overlap the Study / Project / Assessment Area. <https://www.cbd.int/ebsa/>

- Section 3.6.5 Marine Protected Areas (paragraph 2, page 32) - Leading Ticks is no longer an *Oceans Act* Area of Interest. Any reference to Leading Ticks AOI should be removed.
- Section 4.2.1 Spatial Scope Extension (page 35) – Provide a comparison of the spatial extension and original Study / Project / Assessment Area to justify the conclusion that potential environmental effects will be the same as those assessed in the original EA.
- Section 4.2.4 Coring Equipment Modification (page 35) –the last sentence of the first paragraph indicates that “*Core collection will avoid coral closure areas and other identified sensitive areas*” further to comments provided earlier on Table 2.3 this commitment is not reflected within Table 2.3 and requires clarification and inclusion in Table 2.3 accordingly.

If you have any questions or require clarification on the above, please do not hesitate to contact me by phone (709.772.3521) or by email (darrin.sooley@dfo-mpo.gc.ca).

Sincerely,

Original signed by

Darrin R. Sooley
Senior Biologist – Coastal, Marine Oil & Gas Development
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