



P.O. Box 5667
St. John's, NL A1C 5X1

AUG 31 2018

Our file

Notre référence
16-HNFL-00560

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 Environmental Assessment of Multiklient Invest Labrador Offshore Seismic Program, 2018-2023

I am writing further to your July 31, 2018 letter requesting review of the July 2018 Environmental Assessment (EA) report prepared in relation to the above noted offshore program. Based on our review of the EA, we offer the following comments for your review and consideration.

- Figure 2.3 (page 14) – The location of the Seitel Canada East Coast Study Area is not clear; the figure should be revised accordingly.
- Section 4.2.1.2 Benthic Invertebrates (pages 44-45) – Very few references are provided in this section. If additional references are available, they should be noted.
- Figure 4.21 (page 84) – Catch locations outside the community of Cartwright (as indicated on page 51) are not evident; the figure should be revised accordingly.
- Section 4.2.1 Principal Macro-invertebrates and Fishes Commercially Harvested (Macroinvertebrates, pages 48-50) – Information on pink shrimp should also be provided given its commercial harvest within the Study Area (see 4.3.2 Regional NAFO Fisheries, sentence 2, paragraph 1, page 57).
- Section 4.2.2.2 Other Fishes of Note (Anadromous Fishes, page 53) – Updated references should be provided in this section.
- Section 4.3.3.1 Historical Fisheries (sentence 1, page 58) – Pink shrimp should also be noted based on Figure 4.2 (page 58).
- Section 4.3.3.2 Study Area Catch Analysis, 2010-2015 (Fishing Gear Used in the Study Area, paragraph 1, page 67) – There are some inconsistencies regarding the



description of gears in the text and the list of gear types provided in Table 4.10 (page 69). Revision to text is recommended.

- Section 4.3.8 Industry and DFO Science Surveys (sentence 2, paragraph 2, page 101) – Based on Table 4.13 (page 102), it appears that surveys within the Study Area are scheduled to commence on October 5. Text should be revised accordingly.
- Section 4.5.1.2 Baleen Whales (Mysticetes) (Humpback Whale (Western North Atlantic Population); sentence 3, paragraph 1, page 117) – Information on the timing of sightings does not match Table 4.17 (pages 116-117). Reference to Table 4.17 could be removed here as well as other similar instances throughout the text.
- Section 4.5.1.4 Pinnipeds (True Seals (Phocids); sentence 1, paragraph 1 & sentence 1, paragraph 2, page 124) – Timing of occurrence is inconsistent with Table 4.16 (page 115). Text should be revised accordingly.
- When describing Species at Risk, the appropriate population name should be referenced:
 - Atlantic population for Leatherback Sea Turtle - Section 4.5.2 Sea Turtles (paragraph 1, page 125); Section 4.6.2.3 Marine Mammals and Sea Turtles (sentence 1, paragraph 1, page 130);
 - Atlantic population for Blue Whale – Section 4.6.1 Species at Risk within the Study Area (paragraph 1, page 127);
 - Atlantic population for Fin Whale – Section 4.6.1 Species at Risk within the Study Area (paragraph 1, page 127);
 - Northwest Atlantic/Eastern Arctic population for Killer Whale – Section 5.7.7.1 Sound (Toothed Whales, sentence 3, page 179); and
 - Northwest Atlantic population for Harbour Porpoise – Section 5.7.7.1 Sound (Toothed Whales, sentence 3, page 179).
- Table 4.19 (page 129) – Bowhead Whale (Eastern Canada – West Greenland population) should be included.
- Section 5.3.2.4 Regional Area (page 141) – The spatial limits of the “Regional Area” should be clarified.
- Section 5.5 Mitigation Measures (bullet iv, page 146) – Whale species described are inconsistent with Table 4.19 (page 129). Text should be revised accordingly. This comment also applies to Section 5.7.7.1 Sound (Toothed Whales, sentence 2, page 179) and Section 5.7.7.1 Sound (Baleen Whales, sentence 2, page 182).
- Section 5.7.4.1 Sound (Sound Exposure Effects Assessment, page 152) – It is not clear why only Snow Crab and Atlantic Cod are noted in this section when other species are referenced in subsequent paragraphs (e.g., Behavioural Effects, pages 153-154). This section should be revised to clearly describe which information is incorporated in the effects assessment.



- Section 5.7.4.1 Sound (Physical and Physiological Effects, pages 152-153) – Examples of physical effects would be useful for clarity.
- Section 5.7.4.1 Sound (Behavioural Effects, pages 153-154) – Information pertaining to the behavioural effects for fish with different acoustic sensitivity would be useful.
- Table 5.3 (page 157) – Magnitude for Airgun Array should be 1-2 based on Assessment of Effects of Exposure to Sound (sentence 1, paragraph 1, page 156). Table should be modified accordingly.
- Table 5.4 (page 158) – Level of Confidence for Vessel Lights should be 2-3 based on Vessel Lights (last sentence, paragraph 1, page 156). Table should be modified accordingly. This comment also applies to Table 5.20 (page 201).
- Section 5.7.7.1 Sound (Masking, 2nd last sentence, paragraph 1, page 173) – References are recommended to justify the statement that the potential for masking is considered low.
- Section 5.7.7.1 Sound (Toothed Whales, last sentence, page 179) – A reference should be provided for the use of 170 dB re 1 $\mu\text{PA}_{\text{rms}}$ as a more realistic indicator of the isopleth within which disturbance is possible.
- Table 5.12 (page 180) – Duration for Helicopter should be 1-2 based on section 5.7.7.2 Helicopter Sound (sentence 2, page 187). Table should be modified accordingly. This comment also applies to Table 5.14 (page 185).
- Section 5.9 Mitigation Measures and Follow-up (paragraph 3, page 199) – Sentence 1 should specify 'marine mammal' instead of 'whale'.

If you have any questions or comments with respect to the above, please do not hesitate to contact me by phone at (709) 772-2583 or by email at Kimberley.Keats@dfo-mpo.gc.ca.

Sincerely,



Kimberley Keats
A/Senior Biologist – Coastal, Marine, Oil & Gas Development
Fisheries Protection Program – Regulatory Reviews
Ecosystems Management Branch, NL Region