GENERAL COMMENTS

Environment and Climate Change Canada (ECCC)

The following updated ECCC-CWS documents should be used in place of the older Chardine protocol documents. These represent more effective and detailed guidance for dealing with stranded birds in the offshore environment.

Department of Fisheries and Land Resources

The FFAW or GEAC are not identified in the consultation list. Both would have members carrying out fishing in the identify area, therefore we suggest they be included in stakeholder consultations.

Nunatsiavut Government (NG)

Despite the change in geographical scope, timeline, and number of assessed seismic activities per season, the Nunatsiavut Government notes that the majority of the assessment, including the exact wording of many of the sections, remains unchanged from the original EA. The lack of change is disconcerting considering the change in scope of the project, and therefore our concerns regarding cumulative effects and monitoring plans remain.

The NG has previously requested an end to the practice of referencing previous EA studies, particularly of other areas (e.g. page 153 of Revised EA). It is understandable to want to minimize the length of an EA, however these sections could be included as an appendix, especially when being used to assess the effects of the project activities on the environment.

The NG recommends an improved review of the use of Passive Acoustic Monitoring (PAM) for mitigation; currently there is no review of the performance of PAM in seismic mitigation in the Revised EA. If PAM is to be used, the NG recommends minimizing the amount of noise during times of high visibility for MMOs when turning the vessel, thereby allowing for better detection. Please show how the PAM results would be incorporated into the overall monitoring reports and to the larger EA initiatives such as the Labrador Shelf Offshore Area Strategic Environmental Assessment (Labrador Shelf SEA).

The NG notes that the proponent has not included its own separate project (Multiklient Invest AS Newfoundland Offshore Seismic Program, 2018-2023) in the cumulative effects assessment. The NG suggests that the cumulative effects assessment be reviewed again, as the text has not been changed from the original EA, despite changes to the temporal and spatial scope and the project activities. The NG notes that despite the change in their own project to up to four seismic operations per season, there is

little to no change to the impact assessment or the mitigations. For example, Table 5.17 regarding disturbance to marine animals, including species at risk, has not been altered to incorporate these changes. It is expected that increased communications would be a required mitigation. In addition, any impacts of multiple seismic operations in sensitive areas would warrant further impact assessment and mitigations such as spatial or temporal avoidance. With a low to medium level of certainty regarding the effects prediction of "not significant," the NG recommends the proponent make further efforts to reassess the effects assessment and to mitigate impacts by using best practices. Our original comments suggested that the spatial and temporal scope should be limited to the point where the proponent was able to properly assess cumulative effects. This remains our comment. The NG's concerns remain centred on the proponent's stated inability to properly assess cumulative effects. In addition, the proponent continues to repeat one statement from an academic paper (Duinker et al. 2012) to justify their current perspective that cumulative effects assessment is flawed and therefore could not be done.

The text in the Revised EA remains almost exactly the same as in the original EA, leading us to question the quality of the re-assessment. The NG's letter from Sept. 15,2016 (General Comment 3) provided key references to assist with the proper assessment of cumulative effects. This remains our comment.

The proponent continues to rely on the annual EA Update process to assess cumulative effects, which is not an appropriate practice within cumulative effects assessment. As we have stated in our previous letters on this project, the cumulative effects assessment should be completed prior to the start of the larger project, and adapted as necessary in the EA Updates. The 10-page 2018 EA Update for MKI's Newfoundland seismic project does not contain any details of monitoring as well as how that monitoring fits into any project-level monitoring program or strategic environmental assessment.

The proponent reviews the sound exposure criteria for marine fish, mammals and sea turtles to determine the effects and significance of seismic noise. Therefore, if sound exposure levels are being used to assess effects and significance, it is logical that they should be used for mitigation. The NG suggests that the proponent model the soundscape in the project area to ensure that their proposed 500m radius for marine mammals and sea turtles is covering the latest sound exposure criteria that they use in their assessment to determine the effects of seismic noise. This is an example of an opportunity to contribute to the adoption of best practices, as the proponent has stated its desire to do so in the revised EA. This information will also improve our understanding of the Labrador offshore environment.

The EA mitigation and monitoring report submitted to the C-NLOPB within 6 months of each's season should contain methods that will enable data to feed into longer term EA planning, such as the EA Updates and that of the Labrador SEA.

Canada-Newfoundland and Labrador Offshore Petroleum Board (C-NLOPB)

The C-NLOPB concurs with the NG on the issue of cumulative effects. A more robust assessment of possible cumulative effects is required which includes MKI's Newfoundland Offshore Seismic Program.

Fish, Food and Allied Workers (FFAW)

From information presented in this EA it does not appear as the proponent has a true understanding of the current fishing industry off the Labrador coast. This is concerning if the proponent is to work with the fishing industry in the coming years to avoid potential conflicts between the two industries.

While the EA provides notes on consultations with the fishing industry it references a fleet meeting with crab harvesters in 3L. These harvesters do not fish crab in 2J where the work is being proposed. Site specific consultations in Labrador were conducted two years prior to the proposed work. It should be noted that there are harvesters from other areas of the province who can fish for shrimp and turbot in the study area. Additional consultation is recommended.

The catch data (2010-2015) presented in this document is very outdated. While it is understood that this data can be challenging to acquire there is room in the commentary for updates from industry players to ensure the information is relevant. For example, there is indeed a commercial cod fishery in 2J which uses various gear types including hand lines and gillnets. The "inshore fleet" generally comprises fishing vessels up to 65 feet in length. Generally, vessels greater than 35 feet fish for crab (not less than 35 feet as the document states). Turbot is fished using both trawls (primarily the offshore fleet of vessels greater than 100 feet) and gillnets (inshore fleet). There is no current directed fishery for grenadier or witch flounder in the Labrador offshore. These species would be incidental by-catch from one of the three main fisheries (crab, turbot and shrimp). The shrimp fishery is indeed the most valuable fishery in the region but there is more potential conflict with fixed gear crab pots and turbot gillnets from an operational side. (It is recommended that the Shrimp Fishing Areas be mapped along with NAFO divisions when portraying shrimp catch data).

The collaborative DFO-industry post season crab survey has undergone changes in terms of the location and number of survey stations in recent years. The survey footprint has been increased with stations shifting from densely sampled regions to cover a broader Snow Crab habitat range. Fixed stations will remain the same for five years while

random stations will change every year. A review of the data will be conducted every year by DFO, FFAW/Unifor and fish harvesters. The changes to the post-season crab survey are not accurately reflected in the document.

FFAW/Unifor continues to raise objection to the presented "7 day/30 km temporal/ spatial avoidance protocol" mitigation measure presented for the post-season crab survey. It continues to be FFAW/Unifor's position that seismic work should NOT be conducted in the vicinity of survey stations until they have been sampled for the year. This post-season crab survey continues to be vital to the fishing industry as it informs decision making with regards to quotas for coming years. Our members rely on this survey to be completed each year, without interruption or potential effects from outside variables. It is understood that seismic planning around the survey stations is challenging.

The area being proposed is large in scope. It is difficult to comment on the impacts to the fishing industry without knowing more spatial and temporal specific plans of proposed survey programs. It is imperative that there is a effective flow of information between the fishing and seismic industries several months prior to the start of the seismic season such that early engagement can occur and plans can be adapted, if necessary.

It is critical that effective and regular communication ensue with the fishing industry throughout the EA lifespan so that the seismic company is kept apprised of ongoing developments within our dynamic fishing industry.

SPECIFIC COMMENTS

Fisheries and Oceans Canada (DFO)

- **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, 1st sentence, 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, 2nd sentence, 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), 3rd sentence, 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 (1st sentence 1, paragraph 1, page 156). Table 5.3 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 5.4 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 μPA_{rms} 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 5.12 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'.