

## **GENERAL COMMENTS**

### **Environment Canada – CWS**

Please note that EC's previous comments on the scoping document and project description (submitted to you on 25 February 2014) are still applicable to the project as described in the EA report.

### **Department of National Defence**

The Department of National Defence (DND) acknowledges Section 2.7 of the report which states that “TGS will contact DND prior to start of the project to determine where naval exercises are being conducted; TGS will revise sampling area order if necessary to avoid interaction with naval vessels.”

DND’s initial response letter, dated 26 February 2014, stated that “there are two wrecks present within the immediate survey area; the U-520 Submarine (47.78N, 49.38W) and U-658 Submarine (50.00N, 46.53W). These vessels contained munitions at the time of sinking and may continue to pose an explosive hazard.” It is advised that this information be placed on mapping in the document for project participant awareness.

## **SPECIFIC COMMENTS**

### **Canada – Newfoundland and Labrador Offshore Petroleum Board**

**Figure 1-1 Multi-year Study/Project/Assessment Area (2014 to 2019), pg 2** –It should be made clear, both on Figures as well as in the text of the Environmental Assessment Report, that the “Project Area”, where all project activities between 2014 and 2019 are proposed, is the larger “Study/Project/Assessment Area” outlined in blue and not the smaller “2014 Project Area” outlined in green. The “2014 Project Area” could be referred to as the “Operating” or “Program” Area.

**Section 2.5 Schedule, pg 14** – The Temporal Scope should include the months that activities are proposed, not just “open/ice-free waters”.

**Section 4.0 Stakeholder Consultation, 4<sup>th</sup> para, last sentence, pg 37** – The Proponent should report on the meeting held with the Nunatsiavut Government in May 2014. This should be included in the “Addendum” to the EA Report not “Amendment”, as stated.

**Section 6.3 Cumulative Environmental Effects, pg 43** – Although overlap with other oil and gas exploratory programs or development project is not anticipated, it is expected that the Proponent commit to ongoing communications with other operators with active geophysical programs within the general vicinity of its program to minimize the potential for cumulative effects on the VECs.

### **Nunatsiavut Government**

Inuit depend on the marine environment for a subsistence lifestyle and for their economic livelihood, particularly in regards to the Inuit Fishery. The scope of this program could potentially have negative impacts on Labrador Inuit health and wellbeing. The Nunatsiavut Government is adamant that all activities associated with this program do not disrupt the fishery, irrespective of the survey plan of TGS-NOPEC.

The sub-bottom profiler described in the EA report by the Proponent primarily operates in a high frequency bandwidth of 90 to 115 kHz with an intensity level of ~228 dB measured 1m from the energy source. This intensity level is in excess of the recommended guidelines for impulse sounds by the National Marine Fisheries Service (NOAA, 2010) of 180 dB for marine mammals and 190 dB for pinnipeds. This same document also notes that recent workshops on acoustic disturbance recommend that a precautionary approach be taken with marine mammals and disturbance. Furthermore, section 19.1(d) of the *Canadian Environmental Assessment Act (2012)* states “mitigation measures that are technically and economically feasible and that would mitigate any significant adverse environmental effects of the designated project” should be considered. Therefore, the Department of Fisheries and Oceans *Statement of Canadian Practice with respect to the Mitigation of Seismic Sound in the Marine Environment* should apply, including the safety zone of 500m when the sub—bottom profiler is operating. As a result of this, having Marine Mammal Observers (MMO) onboard the vessel would be essential and necessary, and the Nunatsiavut Government recommends at least one of the MMOs be Inuit.

The Nunatsiavut Government recommends that adaptive management be required for Project-specific or cumulative effects, whether conducted by TGS-NOPEC, government bodies, or in combination. This would include the implementation of contingency plans and resources to enable responsive action, especially in areas where effect predictions are uncertain and where predictive errors may have serious consequences (e.g. disruption to traditional livelihoods or Inuit Fishery).

Hiring, training and ensuring meaningful employment for Labrador Inuit is essential. This could be established through an employment outreach program, with defined minimum targets for Labrador Inuit hiring. Such a program should include transportation assistance and measures to address social and cultural issues including any associated language barriers, if necessary. This would also include the establishment of paid trainee positions to be in place onboard the seismic vessel in order to build capacity. Furthermore, given that our Inuit fishers are not represented by the Fish, Food and Allied Workers Union, the Nunatsiavut Government is adamant that the Inuit Fisheries Liaison Officer be present on the seismic vessel at all times during the Project. We appreciate the proponent’s initial interest in ensuring NG has an FLO on board and look forward to working with them to ensure that this is implemented for the 2014 season. We also request that the Proponent support, through an on-going basis, Nunatsiavut government businesses and service providers for the duration of their activity on the north coast of Labrador.

The Nunatsiavut Government recommends that an annual report be submitted to the CNLOPB and the Nunatsiavut Government no later than January 31, detailing the progress and potential environmental impacts of the Project, including progress on the implementation of mitigation measures and Inuit-specific opportunities.

**Section 2.7 Key Mitigation Measures, 3<sup>rd</sup> bullet, pg 16** - Quote: "*As the data collection will occur over a 24-hour period, lighting is required at night for safety purposes; there is potential for marine and migratory birds to be attracted to the vessel at night.*"

In Atlantic Canada, nocturnal migrants and night-flying seabirds (e.g. storm-petrels) are the migratory birds most at risk of attraction to lights and flares. Attraction to lights at night or in poor visibility conditions during the day may result in collision with lit structures or their support structures, or with other migratory birds. Disoriented migratory birds are prone to circling light sources and may deplete their energy reserves and either die of exhaustion or be forced to land where they are at risk of depredation.

To minimize risk of incidental take of migratory birds due to human-induced light, Environment Canada recommends at minimum the following beneficial management practices:

- The minimum amount of pilot warning and obstruction avoidance lighting should be used on tall structures.
- The use of only strobe lights at night, at the minimum intensity and minimum number of flashes per minute (longest duration between flashes) allowable by Transport Canada, is recommended.
- Using the minimum number of lights possible is recommended.

**Section 2.7 Key Mitigation Measures, 3<sup>rd</sup> bullet, pg 16** - Quote: "*The vessel crew will conduct routine checks for stranded birds and release of stranded birds per the protocol of Williams and Chardine (1999). A Live Seabird Salvage permit may be required.*"

The permit should be obtained and in place prior to operations. Please contact Environment Canada's permits office at [permi.atl@ec.gc.ca](mailto:permi.atl@ec.gc.ca) for further information concerning permits.

**Section 2.7 Key Mitigation Measures, 4<sup>th</sup> bullet, pg 16** - Quote: "*The research vessel will avoid seabird colonies.*"

A minimum setback distance concerning seabird colonies should be stated here. Additionally, a map of important seabird colonies should be added to the document.

**Section 3.2 Species at Risk, pg 18** - Though Ivory Gull, Barrow's Goldeneye and Harlequin Duck are mentioned in this section, there has been no effects assessment, nor mitigations provided. Effects assessments and mitigations should be added to this section.

The Ivory Gull recovery strategy has been finalized and is currently available at the Species at Risk Registry (see [http://www.sararegistry.gc.ca/species/speciesDetails\\_e.cfm?sid=50](http://www.sararegistry.gc.ca/species/speciesDetails_e.cfm?sid=50) ).

**Section 3.5 Marine and Migratory Birds, pg 35** - This section should be augmented with additional information concerning pelagic migratory seabirds. These data can be obtained from EC-CWS, primary literature, strategic environmental assessments, and previous environmental assessments, among other sources.

As stated in Environment Canada's comments concerning the project description, the proponent should be aware of Environment Canada's Eastern Canadian Seabirds at Sea (ECSAS) program. This program has conducted over 4000 surveys covering 7800 km of ocean track in the Newfoundland and Labrador offshore area since 2006. The most up-to-date data for the study area must be included in the EA. This information is available by contacting Carina Gjerdrum (EC-CWS) at [carina.gjerdrum@ec.gc.ca](mailto:carina.gjerdrum@ec.gc.ca). It should be noted that the ECSAS program is ongoing, and a current focus on ECSAS monitoring is the Labrador Sea. Please see the attached report (Tranquilla et al. in press) for updated information in the region.

- Tranquilla, L. M., Duffy, S. J., Avery-Gomm, S., Roul, S., Gjerdrum, C., Bolduc, F., and G. J. Robertson (in press), Baseline Surveys for Seabirds on the Labrador Sea (2010-08S): Interim Report. Environmental Studies Research Funds.

The ECSAS program can be cited as follows:

- Gjerdrum, C., D.A. Fifield, and S.I. Wilhelm. 2011. Eastern Canada Seabirds at Sea (ECSAS) standardized protocol for pelagic seabird surveys from moving and stationary platforms. Canadian Wildlife Service Technical Report Series No. 515. Atlantic Region. vi + 36 pp.

**Section 3.5 Marine and Migratory Birds, pg 35** - This section should be augmented with additional information concerning colonial migratory seabirds. These data can be obtained from EC-CWS, primary literature, strategic environmental assessments, and previous environmental assessments, among other sources.

Population numbers for seabird colonies should be reported through the use of the most recent information available. Seabird colony numbers are routinely assessed and updated by EC-CWS and its partners, and data are compiled and stored in the CWS Atlantic Region Colonial Waterbird Database. These data can be obtained by contacting Sabina Wilhelm, EC-CWS colonial seabird biologist, at [Sabina.wilhelm@ec.gc.ca](mailto:Sabina.wilhelm@ec.gc.ca).

Attached are two EC-CWS technical reports that can provide updated trend information on seabirds breeding in Groswater Bay and on one of the Wadham Islands. Additional more recent data for these and other colonies within the study area exist and are available upon request from EC-CWS.

- Robertson, G. J. and R. D. Elliot. 2002. Changes in seabird populations breeding on Small Island, Wadham Islands, Newfoundland. Canadian Wildlife Service Technical Report Series No. 381. Atlantic Region. iii + 26 pp.

- Robertson, G. J., R. D. Elliot, and K. G. Chaulk. 2002. Breeding seabird populations in Groswater Bay, Labrador, 1978 and 2002. Canadian Wildlife Service Technical Report Series No. 394. Atlantic Region. iv + 31 pp.

**Section 3.5 Marine and Migratory Birds, pg 35** - As mentioned in our comments regarding the project description, EC-CWS has developed a pelagic seabird monitoring protocol (attached) that is recommended for use by experienced observers on all offshore projects. A guide for pelagic seabirds of Atlantic Canada has also been attached, for assistance in identifying pelagic seabirds in the area.

A report of the seabird monitoring program, together with any recommended changes, is to be submitted to EC-CWS on a yearly basis. In an effort to expedite the process of data exchange, EC-CWS recommends that the data (as it relate to migratory birds or Species at Risk) collected from the monitoring program be forwarded in digital format to the EC-CWS office following completion of the study. These data will be centralized for EC-CWS's internal use to help ensure that the best possible natural resource management decisions are made for these species in Newfoundland and Labrador. Metadata will be retained to identify source of data and will not be used for the purpose of publication. EC-CWS will not copy, distribute, loan, lease, sell, or use of this data as part of a value added product or otherwise make the data available to any other party without the prior express written consent.

**Section 3.7 Sensitive Areas, pg 36** - A discussion of and a map of Important Bird Areas in the region should be added to this section. In the event of an oil spill, these areas may be affected and should thus be added to the report. See <http://www.ibacanada.com/> for further details.

**Section 6.1 Project Activities, pg 42** - A permit will be needed to collect dead migratory birds. The permit should be obtained and in place prior to operations. Please contact Environment Canada's permits office at [permi.atl@ec.gc.ca](mailto:permi.atl@ec.gc.ca) for further information concerning permits.

**Section 6.2 Accidental Events, 2<sup>nd</sup> para, pg 43** - Quote: "*Species at risk and other not at risk species would be able to avoid any film that might form.*"

EC recommend removing this sentence. Please consult O'Hara and Morandin (2010; attached) for information regarding the negative effects that even very small quantities of oil can have on thermoregulatory ability in migratory birds.

- O'Hara, P. D., and L. A. Morandin (2010) Effects of sheens associated with offshore oil and gas development on the feather microstructure of pelagic seabirds. *Marine Pollution Bulletin* 60: 672-678.

**Section 6.2 Accidental Events, 2<sup>nd</sup> para, pg 43** - Quote: "*The Canadian Wildlife Service Response Plan Guidance (2012) will be followed in the event of an oil spill.*"

The above guidance document is to help proponents formulate their own response plans, and is specific to migratory birds. The guidance document is not a response plan in and of itself, but information provided within it should inform the shipboard response plan.

**Section 6.2 Accidental Events, pg 43** - Strategies to minimize or prevent accidental or chronic releases must be emphasized in a mitigation program. Proponents are required to demonstrate response preparedness and to identify provisions for ensuring measures are implemented to eliminate or minimize resulting sheens or slicks in the event of accidents and malfunctions involving the release of oil. The following considerations are requested to be factored into the development of a response plan that would help reduce impacts on seabirds:

- measures for containing and cleaning up spills (of various sizes) either at the drill site or during transport;
- equipment that would be available to contain spills;
- specific measures for the management of large and small spills (e.g., breaking up sheens);
- mitigation measures to deter migratory birds from coming into contact with the oil;
- mitigation measures to be undertaken if migratory birds and/or sensitive habitat becomes contaminated with the oil; and
- the type and extent of monitoring that would be conducted in relation to various spill events.

**Fisheries and Oceans Canada (DFO)**

DFO has determined that the project as described will not cause a “serious harm” to fish and/or fish habitat. The activities described would have very minimal impacts (if indeed any) and are of a very short duration.

**Fish, Food and Allied Workers (FFAW)**

**Table 5.1 Project-Valued Environmental Component Interaction, page 40** - it is presented that the collection of sediment cores and rock samples could interact with fish habitat and fisheries and other ocean users. Please provide reasoning why the operation of the research vessel would interact with fish habitat but not fisheries and other ocean users.

**Section 5.5 Environmental Management, page 41** - please provide clarification on the statement “...and a fishing gear damage compensation program (as per C-NLOPB and C-NSOPB 2002)..., in the event of an oil spill.”

**Figure B-1 2013 DFO Research vessel Survey and DFO-Industry Post-season Crab Survey Locations in the Study/Project/Assessment Area** - the crab survey information that is presented in is misleading. The Industry-DFO Post Season Trap Survey takes place from specified survey stations as depicted in Figure 3-10. The end point for gear that is set from these survey stations is not recorded. Therefore, displaying the information as transect data (in Figure B-1) is incorrect.