

Amendment of the Environmental Assessment of WesternGeco's Southeastern Newfoundland Offshore Seismic Program, 2015-2024 (LGL Limited April 2017)

GENERAL COMMENTS

Environment and Climate Change Canada (ECCC)

Due to the recent change in name of Environment Canada to Environment and Climate Change Canada, references to the departmental name and associated acronyms (i.e. EC-CWS to ECCC- CWS) should be updated accordingly.

EC-SAS Database

ECCC-CWS has a mobile version of the Eastern Canada Seabirds at Sea (ECSAS) database that can be provided to the proponent, which will facilitate data entry. The MMO or delegated personnel can enter data into the database while undertaking observations, with little to no need for post-processing.

Please note that our previously submitted comments are still applicable to the project.

Department of National Defence (DND)

- Please identify a specific individual or office to serve as a Point of Contact (POC) for MARLANT queries and concerns;
- Please ensure the appropriate Notice to Mariners will be issued for all underwater activities and any significant surface ventures, such as use of flares, buoys, and unconventional lighting;
- Please ensure the appropriate Notice to Airmen will be issued for all activities that could affect air safety, such as use of balloons, Unmanned Aerial Vehicles (UAVs) or tethered airborne devices; and
- Please ensure engagement of CTF 84, through Director General Naval Strategic Readiness (DGNSR), to ensure de-confliction with possible Allied submarine activities.

Given their understanding of the survey activities to be conducted, the interaction with the sea bed appears to be low. Nonetheless, due to inherent dangers associated with UXO and the fact that the Atlantic Ocean was exposed to many naval engagements during WWII, should any suspected UXO be encountered during the course of operations, the UXO should not be disturbed or manipulated. The location should be marked and it should be immediately communicated to the Coast Guard. Additional information is available in the 2010 Annual Edition-Notice to Mariners, Section 37.

In the event activities which may have contact with the seabed (such as drilling or mooring), it is strongly advised that operational aids, such as remotely operated vehicles, be used to conduct seabed survey in order to prevent unintentional contact with harmful UXO items that may have gone unreported or undetected.

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Fisheries and Oceans Canada (DFO)

Although additional vessels and activities will be included, in general the activities are consistent with what was presented and assessed in the project EA. Concerns with respect to increase number of vessels have been described within the April 2017 Amendment and the proponent has noted (See Section 3.6 page 18) that in recognition of possible uncertainty associated with same they will be preparing a comprehensive marine mammal and sea turtle monitoring report. We look forward to this comprehensive monitoring / report.

With respect to "Table 1 Summary of Mitigation measures presented in WesternGeco EA (LGL 2015) and supplemented for multi-vessel operations" (Page 7 and 8) it appears to be missing information that is presented in the 2015 project EA (e.g. from Tables 5.2 and 5.20). It is not clear if this is an omission or a removal of the commitment to the following mitigations: from Table 5.20 plan transit routes to and between survey area to minimize/mitigate "Interference with fishing vessels / mobile and fixed gear fisheries" and minimize/mitigate "Fishing gear damage"; from Table 5.20 request input from fishing captains through the FFAW PIL regarding streamer deployment to minimize / mitigate "Interference with fishing vessels / mobile and fixed gear fisheries"; and from Table 5.2 and 5.20 Advisories and communications to minimize/mitigate "Fishing gear damage". This should be clarified and Table 1 amended if necessary.

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SPECIFIC COMMENTS

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

Sections 2.2.3 Multi-vessel Operations and 2.2.4 Concurrent Surveys, pgs 5-7 – The original EA (pg 8) assessed up to 16 streamers towed during a 3D or 4D seismic survey. Please confirm that the number of streamers that apply to the activities described in the EA Amendment do not exceed 16.

Section 2.2.5 Mitigation Measures, pg 8 – Please confirm that a qualified/experienced Seabird Observer will also be included as mitigation for Project activities.

Section 2.2.5 Mitigation Measures, pg 8 – Please provide details on the picket/chase vessels relating to the new activities. For example, will each seismic vessel in the two-vessel 1 x 2 seismic survey and concurrent seismic surveys have a picket/chase vessel.

Section 2.2.6 Consultations, pg 9 – Were face-to-face meetings held in 2017 and if so, what was the outcome of these sessions?

Section 3.5 Cumulative Effects, pg 18 – It is stated that other non-Project activities that should be considered in the assessment of cumulative effects include fisheries, marine transportation, and other offshore oil and gas activities. This section only discusses geophysical programs. A cumulative effects assessment for all activities should be included in the EA Amendment.

Fisheries and Oceans Canada (DFO)

Section 3.3.2 Simultaneous 2D, 3D and/or 4D Seismic Surveys, page 12 – it is not clear why the level of confidence associated with prediction for the effects of sound was medium in the Amendment and medium to high in the based on 2015 project EA (e.g. see Table 5.16 on page 215) or why the Level of confidence for accidental releases was medium to high in the Amendment, but medium in the 2015 project EA (e.g. see Tables 5.14 and 5.16 on page 220). This should be clarified.

Table 1, page 8 and Section 3.3.2 Simultaneous 2D, 3D and/or 4D Seismic Surveys, page 13, Marine Mammals and Sea Turtles – it is not clear what if any measures will be employed to monitor for SARA listed endangered and/or threatened mammals (e.g. Scotian Shelf population northern bottlenose whales) and sea turtles during periods of darkness and/or low visibility. Based on information presented in recent Seismic EAs planned for the same general area the frequency of poor visibility (<500 m) in July ranges from 26%, 40% and 33% for the Flemish Cap, Grand Banks and Laurentian Basin

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respectively. Given this likelihood and the precautionary possibility of encountering northern bottlenose whale it is not clear why there is no acknowledgement that other more precautionary mitigation measures may be needed / used during periods of low visibility / darkness within the study/project area. It is felt that this should be clarified.

Section 3.3.2 Simultaneous 2D, 3D and/or 4D Seismic Surveys, page 13, Marine Mammals and Sea Turtles – Part of the project area is located near the Flemish Pass / Flemish Cap area and within the southern Grand Banks. Based on information coming out of surveys completed by Dalhousie University and that have been reported in various media (e.g. CBC News Online and VOXM) it would appear that that northern bottlenose whale from both the North Atlantic and Scotian Shelf populations frequented the Flemish Pass /Flemish Pass and Southern Grand Banks areas in 2016. It is felt that this section of the EA Amendment should note that there may be a reasonable or increased likelihood of occurrence of northern bottlenose whales from the Scotian Shelf population within the project area during the planned surveys.

Fish, Food and Allied Workers (FFAW-Unifor)

Section 2.2.5 Mitigation Measures, page 7 – It is important for the proponent to understand that the VMS data, available through One Ocean, captures domestic fishing vessel movement. It should not be relied upon heavily for information pertaining to the location of fixed gear (e.g. fleets of snow crab pots). The VMS information available to users through One Ocean also does not display information regarding the location of foreign fishing vessels.

Section 2.2.5 Mitigation Measures, page 7 – The Fisheries Liaison Officer's (FLO) primary responsibility on the seismic vessel is to communicate with fishing interests on the water. FLOs are experienced in initiating and maintaining communication with fish harvesters at-sea to gain insight on fishing activity and share details of the survey program. This at-sea communication enables the FLO to collaborate with the onboard Client Representative and senior vessel crew to ensure effective planning and mitigate potential conflict on the water. On-water communication with non-fishing entities (i.e. shipping industry) should not be the responsibility of the FLO.

Section 2.2.5 Mitigation Measures, page 8 – As VMS data provides information on fishing vessel movements it is unclear how the use of VMS data would be a mitigation for interference with shipping. The Automatic Identification System (AIS) would provide information on ships in the area.

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Section 2.2.5 Mitigation Measures, page 9 – Depending on the nature and location of the activity the use of a FLO on both vessels for the Sound Velocity Profiling may be warranted.

Section 3.0 Effects of the Proposed Additional Project Activities on the

Environment, pages 10-13 – The dynamic nature of the fishing industry in the region does not appear to have been factored into the assessment of the Fisheries VEC in this document. While the overall study area for this EA is quite large there are key fisheries that could be impacted depending on the timing, and specific location, of proposed exploratory work. The document notes “with mitigation measures in place, residual effects...are predicted to range from negligible to medium in magnitude for a duration of *<1 month to 1–12 months over an area of <1 km² to 1001–10,000 km²*”. For an individual snow crab harvester that fishes for four months in the area of interest for seismic activity this is a large predicted range of uncertainty.

Overall, our concern is not with respect to the amendment's additional components and vessel activity but rather the timing, location and cumulative activity of the work proposed in any given year.

Section 3.3.2 Simultaneous 2-D, 3-D and/or 4-D Seismic Surveys, pages 12-15 - With respect to simultaneous surveys, the document discusses the presence of additional vessels, gear and other project activities (e.g. lights, waste) but does not give due consideration to added effects of additional sound sources other than to indicate that “the potential residual effects on fisheries related to sound from three simultaneous 3-D seismic surveys, would occur over a larger area (i.e., maximum geographic extent of *1001–10,000 km² vs. 101–1000 km²*). Depending on the timing, location and number of seismic vessels conducting work in an area this could have a significant impact on fishing success for the various fleets.

Furthermore, there are also multiple companies proposing work within the same timeframe and spatial area as WesternGeco. The document does not adequately address cumulative effects of seismic activity over time. There is too much uncertainty to predict that the “cumulative effects of seismic sound on... fisheries” for several “seismic vessels (nominally 30 km) operating concurrently in and near the Project Area” are “not significant.” This prediction is very concerning to our membership.

Our ocean environment is undergoing a regime shift. As this shift continues we will be harvesting different species which will likely result in changes to fishing activity and fishing grounds. The levels of confidence related to the predicted effects on the Fisheries VEC for this project, which is large in both spatial and temporal scope, is

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perplexing in a changing environment. It is therefore 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 with fisheries in the vast project area.