CGG Services (Canada) Inc. Newfoundland Offshore Seismic Program, 2016 to 2025 (LGL June 2016)

GENERAL COMMENTS

Fisheries and Oceans Canada (DFO)

The CGG seismic program area overlaps with a recently initiated Environmental Studies Research Funds (ESRF) Study on potential interactions of seismic sound in the marine environment and marine invertebrates, namely crab. This study is being led by Dr. Corey Morris with DFO Science NL Region. The coordinates of the Study Site and Control Site (Sites 1 and 2 respectively on attached maps and spreadsheet) are provided. The research experiment is scheduled to commence August 15, 2016. The area is to be avoided two weeks prior to this date and to be avoided after the date until notified by the C-NLOPB.

As such the ESRF Study Areas and related restrictions and/or avoidance should be reflected within any response relative to review of the EA Amendment and any subsequent EA Updates for seismic activities planned by CGG.

SPECIFIC COMMENTS

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

§ 2.2 Project Overview, page 5 –The maximum amount of 2D, 3D and/or 4D to be collected annually between 2017 and 2025 should be identified and included in the effects assessment.

CGG Reply:
The maximum annual amounts of 2D, 3D and 4D seismic surveying that would be conducted by CGG between 2017 and 2015 are 40,000 km, 15,000 km^2, and 5,000 km^2, respectively.

C-NLOPB Comment: The temporal scope of the program is 2016 to 2025. The reply to annual amount of seismic acquisition should reflect the same temporal scope.

Fisheries and Oceans Canada (DFO)

§ 5.7.7.1 Sound (Marine Mammals and Sea Turtle VEC), pages 159-163 – with respect to the discussion of Masking while it is safe to say (see 4th sentence on page 160) that "*Based on past and current reviewed research, the potential for masking of marine mammal calls and/or important environmental cues is considered low…*." it is felt that this section should provide a short summary (similar to that provided on pages 161 and 162 for Disturbance, Hearing Impairment and Non Auditory Physical Effects) of some of the potential effects on masking that are provided within among others Erbe *et al* 2015 and Guan *et al* 2015.

CGG Reply:
Erbe et al. (2015) is a review paper and therefore does not present any new relevant information that would not have been covered in previous SEAs and EAs. The final Scoping Document indicated that only new information should be included in the current EA. Guan et al. (2015) was only briefly summarized in the EA as it was specific to a study in very shallow water (<15 m) and has little relevance to the Project Area due to the differences in sound propagation and the impact of reverberation in such shallow environments.

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DFO Comment:

It is felt that the response offered to DFO does not provide the short summary of potential effects of masking that are provided for within Erbe et.al. (2015). It is felt that the project specific EA should / could still benefit from a short summary of the potential effects of masking rather than referring readers back to SEAs completed in 2010 and 2014.