



TEKOIL & GAS CORPORATION PORT AU PORT SEISMIC PROGRAM SCREENING – REVIEW OF THE EA REPORT

Context

On 20 February 2006, Tekoil & Gas Corporation submitted to the Canada-Newfoundland and Labrador Offshore Petroleum Board (C-NLOPB), an environmental assessment (EA) report on their proposed 3D seismic program over part of, and adjacent to the Port au Port Peninsula, western NL. The project is for a six-week period with offshore activities occurring between October 2008 and April 2009 (originally proposed for 2007). Maximum water depth in the offshore survey area is 50 metres. The Department of Fisheries and Oceans (DFO) responded in April 2006 with a review of this EA report, which incorporated comments offered by the Quebec Region.

On 20 April 2007, Tekoil & Gas Corporation re-submitted the EA report, titled “Tekoil & Gas Corporation Port au Port Seismic Program Screening” as an addendum to the previous report on their seismic program. This report addresses comments provided by DFO and other regulators on the last submission. Of particular note, is that the proponent has added an acoustic modelling component in response to DFO Quebec Region comments on the appropriateness of their sound predictions in light of proximity to land and as a result of work in shallow water. In order to make sure the previous comments made by the Quebec Region were well addressed, the Fish Habitat Management Branch (FHMB) solicited the DFO Science Branch at the MLI to review the last version of the EA report, particularly Section 2.0 and Appendix B. The request was sent to the science advice, information and support branch (SAISB) on April 26, 2007, and a response was required by May 11, 2007.

Analysis and responses

The Marine Mammals Biology and Conservation section did provide comments on an earlier version of the report in April 2006. The main concern in 2006 was the lack of a proper sound propagation model to evaluate and predict the size of areas corresponding to different levels of sound pressure exposures. The present report has been improved and presents a proper propagation model and interpretations on sound exposures. The general conclusions that the project will not have significant impacts on marine mammal and turtle populations seem adequate given the proposed mitigation measures and some validations as proposed below.

The proposed mitigations measures will follow the CNLOPB guidelines, *i.e.* observations prior to the activation of the array, a ramp-up procedure and a shut-down when animals are detected within a safety zone with a proposed radius of 1000 m (section 2.3.5). This radius could vary from 500 m to 1000 m according to the CNLOPB guidelines. Although not expressed in the guidelines, this is based on the usual radius of the area around a seismic array that is exposed or predicted to be exposed to sound pressure levels exceeding the damage risk criteria of 180 dB re 1 μ Pa rms [see reference to NMFS (2000) on page 92 of the present report]. Although a 1000 m safety radius is proposed for the project (section 2.3.5), the swept area figure in appendix B (B-19) shows that sound pressure levels of 180 dB re 1 μ Pa rms could reach a 1.5 km radius within the 0-100 m depth range. As mentioned in the report, there will be

differences between the predictions of the sound propagation model and the real situation given the complexity of factors (bathymetry, bottom substrate, water stratification, etc. described in section 2.3) that influence sound propagation. A far-field validation of the safety radius could be conducted prior to or at the beginning of the offshore project. The safety radius could then be adjusted following documented results of that far-field validation. As the proposed 1000 m radius is considered to be conservative (see page B-1), results from the far-field validation could result in a shorter safety radius. A smaller area to monitor visually by observers would improve the efficiency of that mitigation measure and could reduce the constraints on the project (*re.* shorter ramp-up delays and shorter shut-down periods). This would also confirm that a proper safety zone is used to reduce the risk of harming endangered species [Subsection 32(1) of Species at Risk Act].

There has been a change in the season proposed for the offshore project since the initial proposal. Offshore seismic is now planned to be conducted from October 2008 to April 2009. If the abundance of cetacean species may be reduced in the Gulf of St Lawrence during winter months, it is worth mentioning the occasional problem of ice entrapment of large whales in the area of the proposed project in early spring. Whales moving in the Gulf in early spring occasionally get trapped by the drifting pack ice along the southwest coast of Newfoundland. Although seismic operations are also likely to be limited by ice, the ramp-up and shut-down procedures should be conducted while keeping in mind that movement away from the array could also be limited by the presence of pack ice.

Conclusions

The review of the report was done by the Marine Mammals Biology and Conservation section and considers the impact on seals, cetaceans and sea turtles. The present report has been improved significantly and presents a proper propagation model and interpretations on sound exposures. The general conclusions that the project will not have significant impacts on marine mammal and turtle populations seem adequate given the proposed mitigation measures. However, it is worth reminding that the main concerns are for endangered species, such as blue whales and northern right whales for which estimated populations only numbers a few hundred individuals. Therefore, a detrimental effect on a limited number of individuals may translate into a significant effect at the population level. Therefore, mitigation measures should be applied properly and special care should be taken even when only a few individuals of an endangered species are encountered.

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Sources of information

Whitford, Jacques, 2007. Tekoil and Gas Corporation - Port au Port Seismic Program Screening. Report No. 1022133.

This Report is Available from the

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Correct Citation for this Publication:

DFO, 2007. Tekoil & Gas Corporation Port au Port Seismic Program Screening – Review of the EA report. DFO Can. Sci. Advis. Sec. Sci. Resp. 2007/011.