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Lands and Natural Resources

May 31, 2011

Darren Hicks, MES  
Environmental Analyst  
Canada-Newfoundland and Labrador Offshore Petroleum Board  
140 Water St., 4th Floor  
St. John's, NL A1C 6H6  
709.778.1431 office  
709.778.1432 fax  
www.cnlopb.nl.ca

**Re: Comments on the Environmental Assessment for the proposed Multi Klient Invest Labrador Sea and Davis Strait seismic survey program (2011-2016)**

Dear Mr. Hicks,

Please find below our comments with respect to the environmental assessment of Multi Klient Invest's Labrador Labrador Sea and Davis Strait seismic Program, 2010-2017.

-Project area

- Figure 1 is unclear. Is the entire black box the maximum extents zone or is the white shaded area within the black box the maximum extents zone?
- Regardless, the boundaries in Figure 1 are arbitrarily drawn to show no overlap with the Labrador Inuit Settlement Zone. In particular, although it has been firmly committed that no survey lines will enter the Labrador Inuit Settlement Zone, the extent of impact as a result of multiple survey lines just outside the Zone has not been rigorously demonstrated.
- With respect to extent of impacts, the Canadian Environmental Assessment Act and associated regulations stipulate that the burden of proof rests on the proponent to demonstrate the extent of impacts (or lack thereof) with high certainty. The arbitrarily drawn boundary (white shaded area) along the coast of Labrador is a clear indication that the extent of impact boundary along the Labrador coast has not been established with high certainty. Rather, it has been subjectively drawn to avoid the Labrador Inuit Settlement Area.

17 Sandbanks Road, PO Box 70, Nain, NL, Canada A0P 1L0 ▶ Tel: 709.922.2942 Fax: 709.922.2931 ▶ Email: [nain\\_reception@nunatsiavut.com](mailto:nain_reception@nunatsiavut.com)

Makkovik  
PO Box 92  
Makkovik, NL A0P 1J0  
Tel: 709.923.2365  
Fax: 709.923.2366

Hopedale  
PO Box 91  
Hopedale, NL A0P 1G0  
Tel: 709.933.3777  
Fax: 709.933.3746

Rigolet  
PO Box 47  
Rigolet, NL A0P 1P0  
Tel: 709.947.3383  
Fax: 709.947.3371

Postville  
General Delivery  
Postville, NL A0P 1N0  
Tel: 709.479.9880  
Fax: 709.479.9891

Happy Valley - Goose Bay  
1A Hillcrest Road, PO Box 909, Stn. 'B'  
Happy Valley - Goose Bay, NL A0P 1E0  
Tel: 709.896.8582  
Fax: 709.896.2610

North West River  
7-13 River Road, PO Box 234  
North West River, NL A0P 1M0  
Tel: 709.497.8356  
Fax: 709.497.8311



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-Currently, there is no evidence provided by the proponent to explain the western boundary of impacts. Therefore, the exclusion of effects (with high certainty) on the Labrador Inuit Settlement Zone is not possible.

-We request that the proponent provide a clear scientific basis for the exact western boundaries of impact as a result of the survey (as indicated in Figure 1) along the entire coast of Labrador. We also request that the proponent quantitatively provide evidence for the degree of certainty associated with this predicted boundary. Finally, our understanding is that the survey lines, as drawn in Figure 2, do not include the turning radius of the seismic vessel, which can be substantial. Please include the turning radius of the ship in the above answers.

-Previous seismic survey operations took place along the coast of Labrador during the same time that the Aboriginal fishery was taking place (in our particular case, we are concerned about the Inuit fishery). There were several local observations (related to crab and shrimp) that catch per unit effort decreased sharply after the seismic survey vessel went through various areas that were being fished, therefore compromising the ability of certain fishing operators to maximize their catch. This was based on fishing taking place just prior to the seismic vessel entering the area and just subsequent to the vessel leaving the area. This indicates significant impacts of seismic survey operations on the Aboriginal fishery.

-The chief means of mitigating potential effects on fisheries activities is to avoid active fishing areas, including but not limited to, fixed gear zones when they are occupied by harvesters. To help mitigate significant impacts on the Aboriginal (Inuit) fishery, the seismic program along the Labrador coast should begin no earlier than October 1 each year. If this is not possible, it is clear that given the high likelihood of significant impacts on the fishery, other mitigation measures will need to be explored, agreed upon and implemented prior to the survey program beginning.

-We request that the proponent be required to commit to not beginning their seismic operations prior to October 1 of each year or be required to explore and agree upon other mitigation measures with the Nunatsiavut Government prior to the survey program beginning (ice formation over the past two years along the coast has been much later – mid-January this past winter). It is also our understanding that the statement “ensure that

17 Sandbanks Road, PO Box 70, Nain, NL, Canada A0P 1L0 ▶ Tel: 709.922.2942 Fax: 709.922.2931 ▶ Email: [nain\\_reception@nunatsiavut.com](mailto:nain_reception@nunatsiavut.com)

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Tel: 709.933.3777  
Fax: 709.933.3746

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seismic activity does not interfere with the fishermen” means that the seismic vessel will avoid any areas that are being actively fished and avoid any fixed gear that is in place. We request that the proponent confirm this is the case. As stated in 5.6.1, behavioural responses of marine fish may include avoidance behavior (i.e. displacement) and avoiding the zone of influence around the seismic vessel. Fish distributions have been shown to change for up to five days after shooting ended in one study (Engas et al. 1996). In areas that are being fished (or are about to be fished) this can cause decreases in catch per unit effort for the aboriginal fishery, which is a significant socio-economic impact. Therefore, these are extremely important mitigation measures to put in place. If these specific measures are not taken into account, other appropriate mitigation measures should be discussed and agreed upon by the proponent and the Nunatsiavut Government.

-As another mitigation measure, we request that the proponent be required to hire Inuit marine mammal observers and fishery liaison officers (or, at the very least, Inuit marine mammal observer trainees and fishery liaison officer trainees) and Inuit for other positions related to the seismic survey vessel operations.

-3.5. Offshore seismic survey. Based on the written statement provided, we assume the the seismic survey lines will always be 120 km apart. Please confirm. Regardless, the sentence should be re-written to clarify.

-Pinnipeds – The injury criteria for pinnipeds exposed to multiple pulse noise events is 186 dB in water and 144 dB in air. Pinnipeds often have their heads above the surface of the water, therefore a 144dB criteria is the most conservative and should be used, following the precautionary principle.

-Behavioural disturbance criteria is complex and not easily quantifiable. The proponent states that “extrapolation of behavioural data is inappropriate.” Please provide a quantitative analysis of the behavioural impacts of this specific proposed seismic program rather than a simple literature review that is broad and does not necessarily apply to the Labrador coast ecosystem.



-Please provide quantitative information supported by references on the cumulative impacts of anthropogenic noise due to the proposed seismic survey, other vessel traffic and natural ambient noise on marine mammals and turtles.

-Although the proponent indicates that there is no published evidence that seismic survey methods do not affect corals, the absence of evidence is not evidence of absence. Figure 10 indicates a significant number of coral species off the coast of Labrador and Figure 11 indicates a high density of corals in some areas off the Labrador coast. The burden of proof lies on the proponent and, as such, the proponent should provide a detailed analysis of the potential affects on corals (with literature references), including the degree of certainty in their conclusions.

-The report states that there is “evidence of damage to the hearing system of exposed fishes in the form of ablated or damaged hair-cells although an exposure regime required to produce this damage was not established and it is believed such damage would require exposure to high level airgun signals at short range from the source.” Please provide the literature reference that supports this speculation (i.e. belief).

-The Fay (1988) paper on thresholds of hearing sensitivity is over 20 years old. This should be supported with up to date references. Regardless, it is indicated that sensitive fish have a threshold of below 80 dB (with no lower limit provided). The statement “these sensitivity thresholds were derived under quiet laboratory conditions, so thresholds to seismic sound pressure in the ocean are thought to be 40 dB higher due to ambient noise and the start and stop nature of the seismic signal” needs to be supported by a literature reference, and otherwise should be considered invalid.

-As a mitigation measure, we are indicating that the seismic survey should not begin until after the aboriginal fishery has (for the most part) concluded. Please indicate the specific mitigation measures that could be put in place for thick-billed murres, given this mitigation measure proposal. Please also indicate mitigation measures for ivory gull.

-Section 5.7.1.3 – please indicate the specific mitigation measures to be put in place for black-legged kittiwakes.



-The report states that “immature ringed seals may move offshore during open water season, but the adults will stay around the islands and within the bays and fjords (MacLaren, 1958).” This is no longer the case. It is known that adults transit and may also move offshore during the open water season.

-Figure 21 is misleading and inaccurate. Seal distribution along the coast is much more extensive than indicated (for all species of seal indicated in the figure).

-Likewise, Figure 24 is misleading and inaccurate, completely under-representing actual observations of polar bears along the coast.

-In the marine mammals section, many references were absent.

-Section 8.3 – Inuit are represented by the Nunatsiavut Government, not the Labrador Inuit Association.

-Table 18 – do not agree with the assessment of limits of confidence and significance post-mitigation as is currently proposed in the report (especially for fish and the fishery).

-Section 9.5 – cumulative environmental impacts assessment is not quantitative or objective. It is speculative and subjective. Please provide a quantitative and scientific assessment.

-In addition, given the high degree of uncertainty and unknowns with respect to the determination of the possibility of significant effects, an important measure will be a monitoring program guided by appropriate stakeholder groups. We are therefore requesting a follow-up monitoring program to make informed and up to date decisions with respect to the seismic program. Although the EA is for a period of 2011-2016, it is important that the conclusions and uncertainties of the EA be re-visited several times during this period. With the high amount of uncertainty and unknowns with respect to the impacts of seismic surveys, new information will undoubtedly emerge that will be critical to decision-making going forward. It is perhaps more important that this decision-making is guided by an appropriate stakeholder group, including representation from the Nunatsiavut Government, and the opportunities to conduct research and collect valuable



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knowledge is maximized. We request that this stakeholder group be formed by the end of August 2012.

Although it is stated that there are no viable alternatives that can be considered from an environmental viewpoint, in our response, we have put forward several mitigation measures that will significantly improve the sustainability of the proposed project and ensure that the benefits of the project outweigh the risks associated with it.

Best regards,

Tom

Tom Sheldon  
Director, Environment Division  
Department of Lands and Natural Resources  
Nunatsiavut Government  
P.O. Box 70  
Nain, Labrador  
A0P 1L0  
Phone: (709) 922-2942 x249  
Fax: (709) 922-2931  
Cell: (709) 899-0690  
tom\_sheldon@nunatsiavut.com  
www.nunatsiavut.com

17 Sandbanks Road, PO Box 70, Nain, NL, Canada A0P 1L0 ▶ Tel: 709.922.2942 Fax: 709.922.2931 ▶ Email: nain\_reception@nunatsiavut.com

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