

FAX TRANSMISSION SHEET

Northwest Territories Resources, Wildlife and Economic Development

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Date: June 25, 2002

To: Vern Christensen / Joe Acorn
Mackenzie Valley Environmental Impact Review Board

Fax: 766-7074

This fax contains 8 page(s), including the cover sheet.

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Comments:

Please see attached. RWED is providing additional comments regarding the WesternGeco 2D Seismic Projects.

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Northwest Territories Resources, Wildlife and Economic Development

June 25, 2002

By fax: 403-292-5503

Mr. John Korec
For/ Ms. Laura Van Ham
Environmental Specialist
National Energy Board
444 Seventh Avenue
Calgary, Alberta T2P 0X8

Dear Ms. Van Ham:

**9180-W730-1 & 9180-W730-2 WesternGeco
Mackenzie River Valley and Delta 2-D Seismic Program**

The Department of Resources, Wildlife, and Economic Development (RWED) has reviewed the responses to information requests, and has the following comments to offer for consideration by the National Energy Board.

RWED understands that the proposed projects will use technology that is untested in northern river environments. The studies provided in support of these projects do not reflect impacts to northern species, Mackenzie River ecosystems including cultural and heritage components, or contain actual Mackenzie River baseline information. Upon reviewing the responses to information requests submitted on June 10, 2002, and considering the comments and questions raised at the meeting held on June 13, 2002, RWED recommends that the proponent not be permitted to conduct the 2D seismic program until the results from a necessary test program are assessed for significance.

The proponent should develop a test program incorporating comments provided in this letter. RWED staff are available to discuss and review the proposed test program. Given sufficient notice, RWED staff are available to act as observers during the test.

Following regulatory review of the 2D seismic program as modified, including the test results, the proposed 2D seismic project could be permitted to proceed.



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It should also be noted that research permits would be required to conduct a test program. A Wildlife Research Permit is obtained from Resources, Wildlife and Economic Development, Wildlife and Fisheries Division in Yellowknife. A more general licence for research is obtained from the Aurora Research Institute located in Inuvik (www.auresint.nt.ca). The Department of Fisheries and Oceans (DFO) also issues a research permit for studies on fish. A complete description of the test program will allow the appropriate permits to be issued efficiently.

In addition, RWED promotes the use of northern personnel and businesses at every opportunity, including any expediting or logistical needs. RWED's Sahtu office has reported that WesternGeco has advertised for monitors on the local cable station. We support this effort and hope that cable and other means are used throughout the regions where the project will take place. This affords local people opportunities to build capacity for future operations.

The following information notes specific concerns and raises specific questions in regards to WesternGeco's proposed undertaking.

General

1. RWED questions the ambient noise level calculations. The proponent assumes that the ambient noise levels of the Mackenzie and Liard Rivers will be the same as the levels measured in the Wadden Sea survey; therefore the proposed mitigation is based on these high ambient noise levels. For comparison purposes, RWED points out that the Northwest Territories' occupational exposure limit to noise in air is 80dBA, for a maximum permitted duration of 16 hours per day. The proposed ambient noise level (140dB in water), if converted to the air equivalent, is 78dB, which is very close to the occupational exposure limit.
2. Figure 7 (IMG Golder Corporation Environmental Impact Assessment for the WesternGeco Mackenzie River 2D Seismic Program) displays noise attenuation for 185dB. However, the proponent is proposing to operate at a higher level. This means that the distances of sound attenuation would increase in concurrence with the increased amplitude levels. A portion of the program is to be run on the Liard River, which has a mean width of 657m. The higher noise level could reach from shore to shore.
3. The proposal refers to the Westworth 1977 paper as supporting documentation to indicate that the proposed seismic program will have little effect on muskrat populations. This information is later extrapolated to include all related mammals that are of concern to RWED. However, given the logistical differences between the Westworth experiments and the proposed project, RWED is concerned that data findings in the paper are not

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transferable to the program's projected impacts to aquatic fur-bearers along the Mackenzie and Liard Rivers.

In the test program, it is important to obtain accurate and well-documented information on actual species and the effects of the proposed activities on their behaviour. RWED promotes the use of local monitors in the test programs and throughout the undertaking. In addition, as previously noted, RWED officials are available to observe test programs provided that sufficient time is given to both review the test program and make arrangements to be in the field.

4. Information regarding the disposal of sewage and grey water has not been supplied. Reviewers should be provided the opportunity to adequately assess the wastewater management plans prior to the commencement of the proposed project.
5. The proponent should provide estimates of NWT employment in person years as a percentage of total employment. In addition, the value of goods and services purchased through NWT businesses as a percentage of total purchases for the proposed project is important data and should be provided. This information assists in the assessment of socio-economic impacts and benefits to the Northwest Territories and provides information to northern communities to build their capacity to supply goods and services in the future.
6. RWED promotes hiring employees first from local communities near to the project and next from elsewhere in the NWT.
7. The proponent should outline its proposed work plan to notify NWT residents and businesses of employment and business opportunities.
8. The proponent should describe what training they are prepared to provide to NWT residents and for which positions.
9. In the interest of RWED's mandate to enhance economic opportunity and benefits for the people of the NWT, RWED would like the proponent to provide copies of draft Canada Oil and Gas Operations Act Benefit Plans. Additionally, RWED would appreciate receiving copies of the final Benefit Plans once approved by the Minister of DIAND.

Test Programs

10. Test programs are extremely valuable for determining baseline information, accurate predictions regarding potential impacts, and effective mitigation measures and monitoring programs.

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RWED does not believe that a direct observation program will be adequate to determine the potential impacts to aquatic fur-bearing mammals. RWED suggests that a test program, similar to the proposed test program for fish, be developed to assess impacts such as behaviour, and injury and mortality rates for wildlife. RWED personnel wish to review the test program once it has been developed.

Given the Liard River dimensions noted above, a test program in this location is also recommended.

11. Shoreline features and river width will affect the attenuation of the sound energy. These need to be considered given that the proponent has made assumptions that fish will seek shorelines to avoid the array blasts. The behaviour of aquatic furbearers will also need to be observed carefully, especially since many create their homes along the shoreline and will need access to these. Therefore information on attenuation-over-distances in directions other than downstream will be crucial for the effective assessment of potential impacts to aquatic fur-bearers and fish alike.
12. The noise levels should be measured at various distances from the center of the array while the seismic air guns pass.
13. Information on the background noise levels is crucial to this project. In order to predict behaviour of aquatic furbearers and other wildlife species along the river, it is important to have a sense of the differences between normal ambient levels, and the ambient noise levels recorded during the test program when boat traffic is limited to what is proposed. In discussion with IMG Golder Corporation, it was clarified that background noise would be measured at four sites at each test location (Norman Wells and Delta). RWED is concerned that ambient noise levels measured at Norman Wells could be higher than at most locations along the Mackenzie and Liard Rivers. Thus, rather than running at the lowest possible level throughout most of the project, the resultant noise levels could be higher than necessary. Additionally, the proponent should clarify whether the ambient and background noise will be recorded continuously over a period of time or only at the same time as the noise level monitoring.
14. The test program does not detail whether the testing of the 3, 10km sections will be done consecutively in a manner that simulates the actual array blasts for each of the 3 configurations of the array that are to be tested. The proponent should consider the amount of time between the sections and ensure that there will be no effect from one section to the next. Presumably, when the fish disperse they will require some time to redistribute themselves.

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15. The proponent describes how fish avoidance will be documented, but not how the results will be recorded. The stationary transducer should be employed during the test phase to monitor and record the count and size of fish over a period of time. This information would provide a baseline to compare the results of recorded behavioural changes when the program is tested.
16. Given the uncertainty that exists regarding the attenuation of noise, and fish/mammal behaviour, use of the transducer in the river environment should be adequately tested to ensure that it is effective in recording the location of fish throughout the river environment.
17. The proponent has provided very little discussion on impacts to migratory birds. It is suggested that a provision for migratory birds be included in the test program to ensure potential impacts are adequately predicted.

Monitoring Program

18. The test program should enable the proponent to develop appropriate and effective mitigation measures that are based on observed behaviours and scientific data. The technical feasibility of the revised monitoring program should be reviewed and approved by DFO and RWED.
19. The proponent should commit to stopping the seismic program should the monitoring program show that fish are being herded or that aquatic fur-bearing species and/or dams are within a designated distance from the point source (to be determined through the test program). Discussions with DFO and RWED are encouraged to determine an appropriate point to stop the program and when to start up again.
20. The monitors and community liaisons employed for the proposed project should be hired from each affected Region. This will provide region specific information that will be invaluable towards the overall project success, as well as socio-economic benefits to each affected Region.
21. The proponent should commit to providing a public report, with a copy to the GNWT, that details:
 - a) Total person years of employment by the proposed project, by job level;
 - b) Total value of goods and services purchased, broken into broad categories of type of goods or services;
 - c) For NWT residents, total person years of employment by community, Project and job level, for Aboriginal and non-Aboriginal employees; and

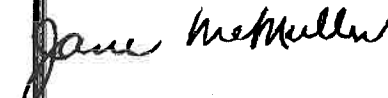
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- d) Total value of goods and services purchased from NWT businesses by community, and by type of goods or services.

If you have any questions or require any clarification regarding these comments, please do not hesitate to contact Zoë Posynick, Environmental Assessment Technician at (867) 920-6392, or myself at (867) 920-8069.

Sincerely,



Jane McMullen
Policy and
Environmental Assessment Analyst

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