

February 7, 2013

EA0809-001 Giant Mine Remediation Project

To: Parties of the Giant Mine Remediation Project Environmental Assessment

Re: Re-opening the record for and Information Request

Following a review of the evidence on the record, the Review Board requires more information regarding the proposed diffuser and related alternatives in order to complete its deliberations. Please see the attached information request, which is directed to the developer.

The Review Board is issuing this pursuant to Rule 37 of its Rules of Procedure, which authorizes it to “seek information from any party at any time by way of a written Information Request”.

The response deadline for these Information Requests is Friday March 8th, 2013. Should the developer require additional time, it should contact the Executive Director. Following this, parties will have until Friday March 15th, 2013 to respond, if the new material from the developer affects the parties’ previous evidence and arguments.

For this purpose only, the Board is re-opening the public record from this time to March 16th, 2013.

As I will be unavailable until February 22nd, 2013, please contact Executive Director Vern Christensen (vchristensen@reviewboard.ca) with any questions or for further information.

(Original signed by)

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Review Board Information Request February 2013

Preamble

The Review Board included the following requirement in the Terms of Reference for the Developer's Assessment Report (DAR):

Terms of Reference

3.5.2 Fish and Aquatic Habitat

"Potential effects to fish and fish habitat were identified as issues of concern during the Review Board's scoping exercise. Public concern focused on the development's potential to contribute to the contamination of local fish stocks and aquatic habitat, including concerns about health impacts on traditional harvesters and other harvesters of fish"

ToR 3.4.2 Health and Human Safety

"During scoping, many participants raised concerns about potential adverse impacts to human health and safety linked to exposure to arsenic trioxide. Both real and perceived risks to human health and safety can have a significant impact on the populations that live in proximity to the Giant Mine site."

The DAR included the following information:

Reference

The DAR (PR#139 s8.10.1, s8.10.2, p8-93) recognizes that "certain types of remediation activities have the potential to generate concern which, in turn, may lead to adverse effects on community well-being" and identifies "community perceptions of environmental health" as an evaluation criteria for adverse effects on Aboriginal communities. This may occur "regardless of the positive effects of the remediation project" (s.8.10.2.1 p8-94). Table 8.10.2 states that "the discharge of treated mine water into North Yellowknife Bay may generate concern among traditional land users who fish there".

A previous information request about the diffuser asked (Round 1 Review Board IR#24, PR#178 p32):

1. For each diffuser location, please describe and illustrate the currents in the bay in the various seasons, at a scale that encompasses the local study area, to identify where effluent ultimately travels. Does this water go to N'Dilo, Latham Island, Back Bay,



Yellowknife Bay (houseboat community) or Dettah? Describe the potential, over the long term, for this to result in arsenic sediment loading in any of these areas.

2. Please provide the model, if any, that is the basis for conclusion that “thermal loading is not expected to be an issue”, considering currents during ice conditions. If there is no model, please provide a detailed analysis.

In the technical sessions of Oct. 2011 the developer indicated it would conduct further research on far-field currents in Great Slave Lake with respect to the diffuser. In June 2012, the Review Board reminded the developer of the importance of having at least preliminary results of the studies on currents and water quality in time for the public hearings. In the Sept. 2012 hearing, the developer indicated that this study had not been completed. The developer indicated that it had also not yet completed its diffuser design, among other things, and had not yet conducted its public engagement on the subject of the diffuser with potentially affected communities. Because of this, there are several outstanding uncertainties about the potential for the diffuser to contribute to arsenic loadings in Yellowknife Bay, and about other effects resulting from the release of arsenic in the water treatment plant effluent.

These matters were also canvassed at the Review Board’s public hearing and in response to a hearing undertaking #3, the developer submitted a document titled “Best Available Practical Technology for Water Treatment for the Giant Mine Remediation Project”. This includes technical criteria and evaluation matrices for the evaluation of water treatment alternatives for specific stages of water treatment, and recommends the proposed approach.

In the hearing, the developer was asked specifically what constraints, including financial constraints, were considered when the developer chose the level of contaminants it would release from the diffuser (PR# 576 p121). The developer’s response to this question did not provide sufficient information to fully address these concerns.

The analysis of alternative treatment options submitted by the developer as Hearing Undertaking #3 on Sept. 25, 2012, considered several technical criteria and cost, but did not include direct consideration of potential environmental impacts of the alternatives identified in the Undertaking.

The record indicates that several parties and members of the public have expressed concern with the proposal to deliberately release water containing arsenic and heat into Great Slave Lake, effectively relying on further dilution to deal with the arsenic in water treatment plant effluent. They do not agree with the developer’s view of the role that the lake should play in arsenic dilution.

The Board requires additional information on alternative methods of water treatment and management that do not rely on the diffuser or on Yellowknife Bay.



Request

1. Please describe in detail and graph the relationship between water treatment costs and arsenic concentrations in treatment plant effluent, ranging from the current proposal to concentrations as near zero as possible. Please indicate the treatment cost at which such treatment is no longer financially feasible, for the next 100 year period.
2. Please provide a detailed description of the best three alternative technologies for water treatment and management that do not directly or indirectly involve effluent disposal in Great Slave Lake, and do not rely on Baker Creek for dilution. For each one, please include:
 - a. a detailed description of the method
 - b. estimated costs for construction and ongoing maintenance for each alternative (that is, capital and operating expenses), with a discussion and graph of the relationship between water treatment costs and arsenic concentrations in treatment plant effluent. This analysis should include a graph of total arsenic released over a 100 year period as a function of capital and operating expenses.
 - c. its implications to the overall project, considering interrelated components
 - d. a description of the potential impacts on the environment, including an assessment of risks, and the developer's views of the significance of those impacts.
3. Please provide the following documents:
 - a. Golder Associates Ltd. 2012. *The 2011 Baker Creek Assessment, Giant Mine, Yellowknife NWT*. Submitted to the Department of Public Works, Yellowknife.
 - b. Golder Associates Ltd. 2008. *Giant Mine Environmental Effects Monitoring Phase 2. Final Interpretive Report*. Prepared for Indian and Northern Affairs Canada.