



December 20, 2012

Our File #: NWT-080

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Sent via email: chubert@reviewboard.ca

Re: De Beers' Gahcho Kué Diamond Mine Project (EIR0607-001) – Final Submission from Natural Resources Canada

This letter is in response to the Mackenzie Valley Environmental Impact Review Board's (MVEIRB) Gahcho Kué Panel hearing directive of December 10, 2012, requesting final written submissions from parties prior to the closure of the public record for the environmental assessment of the proposed Gahcho Kué Project.

Natural Resources Canada (NRCan) involvement in the review of De Beers' Gahcho Kué project is both within the context of our regulatory role under the *Explosives Act*, and in our capacity as a source of science and technology expertise in the fields of minerals and metals and the earth sciences.

De Beers' proposal for the Gahcho Kué project requires explosives manufacturing and storage at the mine site during the operational phase of the project. NRCan's regulatory and statutory responsibilities under the *Explosives Act* create specific obligations for the department as a regulatory authority and responsible minister under the *Mackenzie Valley Resource Management Act*.

The Proponent's explosives supplier will apply for a licence from NRCan's Explosives Regulatory Division for the explosives factory and magazine and will be required to follow NRCan guidelines and standards. This includes ensuring that the locations for the explosives facilities are in keeping with the Quantity-Distance Principles Manual which gives the minimum permissible distance between a site containing a quantity of explosives and a susceptible site requiring protection. Other licence conditions include a spill contingency plan, an emergency response plan and operating and maintenance procedures.

Specific areas of NRCan expertise that have been engaged in the proposed project include:

- Mine Waste Management;
- Permafrost, Terrain Sensitivity and Geotechnical Science; and
- Bedrock Geology.

NRCan's reviewers in the field of minerals and metals sciences focussed on issues related to mine waste management, including acid rock/mine drainage and metal leaching, environmental hydro-geochemistry and mine reclamation, decommissioning and closure. NRCan geoscience reviewers focussed on issues in the physical environment including characterization of permafrost and terrain conditions, geotechnics and geology, impacts of the project on permafrost and terrain, and impacts of the physical environment on the project.

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Through these roles, NRCan has participated in:

- Review of the Draft and Final Terms of Reference, July – Oct. 2007;
- Participation in De Beers' EIS Workshop, Yellowknife, Oct. 26-27, 2011;
- Review of the EIS and Supplemental Information, Jan. - Dec. 2011;
- Submission of Information Requests (IRs), Dec. 2011 and July 2012;
- Review of Proponent's IR Responses (April and Aug. 2012);
- Participation in Technical Meeting, Yellowknife, May 22-24, 2012;
- Submission of Technical Report, Oct. 22, 2012;
- Review of Proponent's responses to NRCan technical report, Nov., 2012.
- Participation in the Panel's pre-hearing conference, Nov. 1, 2012;
- Submission of NRCan presentation, Nov. 20, 2012;
- Participation in Panel hearings in Yellowknife (Dec. 5-7, 2012); and
- Review of Proponent's Commitment Table, Dec. 17, 2012.

NRCan's Technical Report

NRCan's October 22, 2012 Technical Report made five recommendations, all of which provide guidance on factors that should be considered in the detailed/final project design or subsequent monitoring and follow-up plans, to ensure that certain possible environmental impacts are minimized.

Attachment 1 identifies those recommendations from NRCan's Technical Report. These recommendations are presented under the Technical Report's corresponding topic headings and recommendation numbers. Please refer to NRCan's Technical Report for supporting rationale.

NRCan has reviewed the Proponent's November 8, 2012 response to NRCan's Technical Report and is satisfied with their responses and commitments for all of our five recommendations. This is consistent with NRCan's December 6, 2012 presentation at the Panel's public hearings in Yellowknife.

Proponent's Consolidated Commitment Table (Undertaking #2), December 14, 2012

NRCan has reviewed the Proponent's table, entitled "Summary of Commitments Made by De Beers Canada Inc. in the Gahcho Kué Project Environmental Impact Review Process", to ensure it is consistent with the Proponent's November 8, 2012 response to NRCan's October 22, 2012 Technical Report recommendations. We offer the following comments on the table as it pertains to all five of our recommendations:

- Recommendations 1 and 2 - the table does not appear to identify the Proponent's commitments as stated in their November 8 responses.
- Recommendations 3 and 4 - the table does not fully reflect or capture the Proponent's commitments as articulated in their November 8 responses;
- Recommendation No. 5 - the Proponent's table adequately reflects the Proponent's November 8, 2012 response and commitment.

Consequently, we would suggest that the Panel refer to the Proponent's November 8, 2012 response to NRCan's Technical Report, to ensure that the Proponent's comprehensive commitments to NRCan's recommendations are fully considered in the Panel's report.

Ni Hadi Yati Proposal

NRCan representatives took note of the presentation on the "Ni Hadi Yati" proposal by De Beers, Lutsel K'e Dene First Nation, Yellowknives Dene First Nation, Deninu Kue First Nation and the Tlicho Government, during the public hearing. We understand that this collaborative initiative is intended to replace De Beers' earlier proposal for an adaptive management advisory council, and that De Beers has committed to support all of the Aboriginal parties. It is also understood that Ni Hadi Yati would involve the support of government departments in the provision of technical review and advice. NRCan is interested in learning more about the Ni Hadi Yati proposal as it is further developed.

Conclusion

NRCan trusts that the Panel will carefully consider all the information on the public record, and clearly recommend programs for follow-up environmental monitoring, analysis and management as may be necessary to support sustainable development, and safeguard the environment and well-being of the people and communities of the North Slave Region.

Should the Panel require any clarification on NRCan's comments, I can be contacted at (613) 995-7686 or johnking@nrcan.gc.ca.

Sincerely,

Original signed by

John King
Senior Policy Analyst
Environmental Assessment Division
Natural Resources Canada

Attachment: (1)

cc: A. Blais-Stevens, J. Clarke, I. Gagné, C. Hogan, R. Johnstone (NRCan); K. Witherly (NPMO)

Attachment 1

Recommendations from “Natural Resources Canada’s Technical Submission for the Gahcho Kue Project” (October 22, 2012), to be considered during detailed/final design

Permafrost and Terrain Conditions and Stability of Project Components: Mine Waste Management Facilities, Dams and Dykes

With respect to dykes, in particular those that will remain at closure such as Dyke A1 and D, NRCan recommends:

- 1. The Proponent conduct the identified further geotechnical investigations including collection of information on ground thermal conditions along dyke alignments to better characterize foundation materials;**
- 2. The Proponent conduct the identified thermal analysis to evaluate the long-term thermal behaviour of permafrost foundations. The analysis should incorporate the site specific geotechnical data and consider the effect of increases in water level (such as that that will occur on the upstream side of Dyke A1) and potential effects of a changing climate; and**
- 3. Monitoring plans be developed to monitor thermal performance and stability of dyke foundations to determine if mitigation is required.**

With respect to mine waste management facilities, NRCan recommends that:

- 4. The Proponent develop a monitoring plan for the processed kimberlite facility to assess the condition and stability of the pile and to determine the need for mitigation should there be instability or deformation of the cover affecting the performance.**

Mine Waste Management (Metal Leaching and Acid Rock Drainage): Groundwater from Open Pit Developments

NRCan agrees with the Proponent’s commitment to confirm that radionuclides are not leachable in the groundwater, and to include these parameters in the parameter suite as part of ongoing groundwater quality monitoring programs:

- 5. As part of the Proponent’s ongoing groundwater quality monitoring programs, NRCan recommends that the proponent include U, Th and possibly Ra-226 as screening parameters.**