



Transport Canada Transports Canada

Environmental Affairs – Programs  
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Winnipeg, Manitoba  
R3C 0P6

Your File  
EIR0607-001

Votre référence

Our file  
7075-70-7-5

Notre référence

October 22, 2012

Chuck Hubert  
Environmental Assessment Officer  
Mackenzie Valley Environmental Impact Review Board  
P.O. Box 938  
Yellowknife NT X1A 2N6

Sent via e-mail to: [chubert@reviewboard.ca](mailto:chubert@reviewboard.ca)

**RE: De Beers Canada Inc. Gahcho Kué Project, Transport Canada's Technical Report**

Please find attached Transport Canada's Technical Report for the Environmental Assessment of De Beers Canada Inc.'s proposed Gahcho Kué Project.

Please note the government introduced Bill C-45, Jobs and Growth Act, 2012 (Budget Implementation Act No. 2) on October 18, 2012 that includes amendments to the Navigable Waters Protection Act (NWPA). Implementation will follow the coming-into-force of the new Act. While there isn't an exact date, it is anticipated that progressive implementation will be well underway by spring 2014.

Should you have any questions regarding this submission, please do not hesitate to contact Michael Molinski by email at [michael.molinski@tc.gc.ca](mailto:michael.molinski@tc.gc.ca) or by phone at (204) 984-0440.

Sincerely,

Harvey Nikkel  
Regional Director, Programs  
Prairie and Northern Region

Canada 

cc. Dale Kirkland, Regional Manager, Programs  
Meighan Andrews, Superintendent - EA North Program  
Greg Black, NWPP  
Margaret Zellis-Skiba, ACU - PNR

# **Technical Report**

## **De Beers Canada Inc. Gahcho Kué Diamond Project**

Submitted to:  
Mackenzie Valley Environmental Impact Review Board

Submitted by:  
Transport Canada  
October 22<sup>th</sup>, 2012

## Non-Technical, Plain Language Summary

Transport Canada is responsible for transportation policies and programs and seeks to promote an integrated transportation system that is safe, secure, efficient, sustainable and environmentally responsible. Transport Canada is a responsible minister for the environmental assessment of the De Beers Canada Inc. Gahcho Kué Project because the Minister may be required to approve project works that will be built in navigable waterways. Works built in navigable waterways are subject to the *Navigable Waters Protection Act (NWPA)*. Transport Canada regulates these works to make sure that the public's right to navigate is protected. The proposed Gahcho Kué Project has the potential to affect navigational use of waterways in the area surrounding and including the project. Proposed water management works include placement of dykes, installation of water intakes and outfalls for water diversion and withdrawal, and dewatering sections of Kennady Lake for mining and tailings containment within Kennady Lake. Transport Canada has requested that De Beers evaluate, in their project's Environmental Impact Review, potential effects to navigation posed by the Gahcho Kué Project.

De Beers Canada Inc. recently submitted two technical memorandums that detail the anticipated works for the proposed project and the potential effects to navigation associated with the proposed development. However, De Beers Inc. has not submitted final design plans for proposed works in navigable waterways and has not applied for approval of works under the *Navigable Waters Protection Act*. De Beers Canada Inc. has committed to providing Transport Canada with updated information as it becomes available and has shown a willingness to cooperate with Transport Canada's requirements to protect the public's right to navigate.



# 1 INTRODUCTION

## 1.1 The Gahcho Kué Project

Located at Kennady Lake, approximately 280 km northeast of Yellowknife and 80 km southeast of Snap Lake Mine in the Northwest Territories, exploration has determined that three kimberlite deposits currently have potential to be mined: 5034, Hearne and Tuzo. In order to mine the three kimberlite deposits, the water level in Kennady Lake will be lowered and some parts of the lake will be completely drained. This will be done by building a series of dykes, ditches, berms and ponds. As the lake is lowered, clean water will be pumped to the watershed north of Kennady Lake and also to the natural lake outflow to the east. All water pumped from Kennady Lake will reconnect with its natural watershed a few kilometres further downstream. Recovery of diamonds from ore bodies will generate mine rock, coarse processed kimberlite (PK), and fine PK that will require on-site disposal. The mine rock will be stored in mine rock piles in and adjacent to Area 5 (West Mine Rock Pile), Area 6 (South Mine Rock Pile), and mined-out 5034 pit. The coarse PK pile will be stored on land beside the process facility (Area 4) and the fine PK will be disposed of in the Fine PKC Facility (Area 2), and the mined-out 5034 and Hearne pits (see Appendix I for Site Plan).

## 1.2 Transport Canada's Role

Transport Canada is responsible for transportation policies and programs that ensure air, marine, road and rail transportation are safe, secure, efficient and environmentally responsible. Transport Canada was granted party status in the environmental assessment of De Beers Canada Inc. (De Beers) Gahcho Kué Project because Transport Canada is a responsible minister with jurisdiction related to the Gahcho Kué Project under the *Navigable Waters Protection Act (NWP)*.

Transport Canada's involvement in the environmental assessment has focused on a review of the potential to affect navigational use of waterways in the area surrounding and including the project. Proposed water management works include watercourse



crossings (i.e. culverts), placement of dykes, installation of water intakes and outfalls for water diversion and withdrawal, and de-watering sections of Kennady Lake for mining and tailings containment. Transport Canada has a responsibility to manage the public's right to navigate and has requested that De Beers Canada Inc. evaluate, in their project's Environmental Impact Review, potential effects to navigation posed by the Gahcho Kué Project. Transport Canada is also able to provide specialist advice to the Mackenzie Valley Environmental Impact Review Board on potential impacts of the development to the public right to navigate. Transport Canada reviews proposed developments in and around Canadian waterways to ensure a balance between the public right of navigation and the need to build works — that is any structure, device, or other thing that may interfere with navigation, such as bridges, dams or docks — in navigable waters.

The *Navigable Waters Protection Act* is a federal law designed to protect the public right to navigate. Transport Canada's Navigable Waters Protection Program (NWPP) is responsible for administering the *NWPA* which ensures a balance between the public right of navigation and the need to build works - that is any structure, device or other thing that may interfere with navigation such as bridges, dams or docks, in navigable waters. Individuals must obtain approval from Transport Canada before constructing or placing any works in a waterway unless the works are described in the Minor Works and Waters Order. The Minor Works and Waters (*NWPA*) Order identifies certain classes of works and navigable waters that may be exempted from the application process under the Act because they are "minor" in nature.

De Beers Canada Inc. has not submitted applications for approval of works under the *Navigable Waters Protection Act* as final design plans are not yet complete. De Beers Canada Inc. has committed to providing Transport Canada with updated information as it becomes available and has demonstrated a willingness to cooperate with Transport Canada's requirements to protect the public right to navigate.



## **2 TECHNICAL COMMENTS – WATER INTAKES, AND ACCESS ROADWAYS WATERCOURSE CROSSINGS**

### **2.1 Background**

De Beers has identified several areas of the mine site plan where they will need to use water management works as part of the site development. These works include but are not limited to the encroachment on the Lake H1A outfall at the east end of the airstrip; freshwater intake located on the north western shore of Area 8; and access roadways with watercourse crossings.

### **2.2 Proponent's Conclusion**

The proponent has assessed the airstrip encroachment, and most of the access roadway watercourse crossings, and determined that they meet the provisions of the *Minor Works and Waters (NWPA) Order*. The freshwater intake and some access roadway water crossings require further analysis and may be subject to approval under the *NWPA*. De Beers has committed to submit applications when final design plans are complete.

### **2.3 Transport Canada's Conclusions and Recommendations**

Transport Canada will be able to assess potential impacts to navigation and potential navigational safety hazards after design plans have been finalized and applications have been submitted for approval under the *NWPA*.





### 3 TECHNICAL COMMENTS – DEPOSITING / INFILLING KENNADY LAKE

#### 3.1 Background

Transport Canada has identified that De Beers Canada Inc. is proposing to deposit tailings into Kennady Lake as part of its Gahcho Kué Project. Works associated with this proposal include the construction and operation of a series of dykes, berms, water intakes and outfalls used to divert and retain water in order to isolate the Project's controlled area from downstream waterbodies through the life of the mine.

Key Components of Construction and Waste Management, as identified by Be Beers Canada Inc.:

- Construction of Dyke A at the narrows separating Areas 7 and 8
  - Isolates the main body of Kennady Lake (i.e., Areas 2 to 7) from Area 8
- Construction of dykes to divert upper watershed runoff water away from Kennady Lake
  - Temporary diversion dykes will be placed across outlets of D and E watersheds (Dykes F, G)
  - Permanent dyke for diversion of A watershed (Dyke A1)
  - Establishes the Controlled Area
- Dewatering of Kennady Lake (Areas 2 to 7)
  - Commences following completion of Dyke A
  - Water discharged to Lake N11 and Area 8
- As water levels decrease, sills will be exposed and internal water retention dyke construction will start (Year -2):
  - i.e., Dykes H and I (between Areas 5 and 6), M (on Tuzo Island), K (between Areas 6 and 7), and J (between Areas 4 and 6)
  - Internal water retention Dyke K (between Areas 6 and 7) will start
  - Construction of Filter Dyke L (between Areas 2 and 3)
- Dewatering of areas 2 to 7 and water retention dykes are required to access ore bodies.





- Recovery of diamonds from ore bodies will generate mine rock, coarse PK, and fine PK that will require on-site disposal
- Mine rock stored in mine rock piles in and adjacent to Area 5 (West Mine Rock Pile) and Area 6 (South Mine Rock Pile), and mined-out 5034 Pit
- Coarse PK Pile on land beside process facility (Area 4)
- Fine PK - disposed of in the Fine PKC Facility (Area 2) and mined-out 5034 and Hearne pit

Key Components of Reclamation, as identified by Be Beers Canada Inc.:

- Years 12 and 13 (interim closure)
  - Construction of in-lake compensation habitats and decommissioning of roads, diversion channels, and pipelines within Kennady Lake
  - Lowering of Dykes B, K and N to begin filling Tuzo pit and area of 5034
  - Lake refilling will be achieved by:
- Natural runoff from upper A, B, D, E watersheds
- Supplemental pumping from Lake N11 to speed refilling and recovery
- Years 14 to 19
  - Kennady Lake refilling continues

Once Areas 3 to 7 are refilled to same elevation as Area 8, and water quality within refilled lake is considered suitable for fish, Dyke A will be removed, and Areas 3 to 7 will be reconnected to Area 8

### 3.2 Proponent's Conclusion

The Proponent has identified the effects on navigation due to works associated with the Project are restricted to dewatering of Kennady Lake during construction, operation, and closure and limited to the Project's established controlled area. In post-closure, after Kennady Lake has been refilled and reconnected to downstream waters, navigation is expected to return to similar conditions as baseline. Effects to downstream lakes and channels are not expected to result in impacts to navigation during construction, operation or closure.



### 3.3 Transport Canada's Conclusions and Recommendations

Transport Canada has determined that Kennady Lake is navigable and considers the depositing of tailings in that lake to be subject to section 22 of the *NWPA*. Section 22 prohibits a person from depositing any material or rubbish (e.g. stone, gravel, earth, cinders, ashes) that is liable to sink to the bottom in any water, any part of which is navigable or that flows into any navigable water, where there are not at least 20 fathoms (approximately 36.6 meters) of water depth at all times. Section 23 of the *NWPA* provides that the Governor in Council, when it is shown to its satisfaction that the public interest would not be injuriously affected, may, by proclamation, declare any rivers, streams or waters in respect of which section 22 of the *NWPA* apply, or any parts thereof, exempt in whole or in part from the operation of section 22. Therefore, in order to deposit tailings into Kennady Lake, or to proceed with any undertaking that would allow the depositing of tailings such as dewatering Kennady Lake, it is necessary for De Beers to first obtain a Proclamation of exemption by the Governor in Council under section 23 of the *NWPA*. Undertakings may also include the structural components associated with the deposit of tailings into Kennady Lake, such as the dykes.

As with other *NWPA* approvals, an application needs to be submitted to Transport Canada if De Beers Canada Inc. wishes to seek a Proclamation of exemption under section 23 of the *NWPA*. De Beers Canada Inc. must inform Transport Canada in writing if it intends to apply for a Proclamation of exemption (see Appendix II).



## 4 SUMMARY OF RECOMMENDATIONS

Based on the information provided to date, Transport Canada does foresee potential significant impacts to navigation or navigational safety as a result of the proposal to deposit tailings into Kennady Lake as part of its Gahcho Kué Project. Moving forward, Transport Canada recommends that De Beers Canada Inc. does the following:

- Consult with members of the public and aboriginal people who may have concerns related to works requiring *NWPA* approval, if they have not already done so.
- Submit applications for approval under the *NWPA* when final design details for project components such as the dykes, water intakes and outfalls are ready. Transport Canada will be able to assess potential impacts to navigation and potential navigational safety hazards after design plans have been finalized and applications have been submitted for approval under the *NWPA*. Conditions outlined in *NWPA* approvals will aim to mitigate potential effects specific to project works.
- Submit an application to Transport Canada if De Beers Canada Inc. wishes to seek a Proclamation of exemption under section 23 of the *NWPA*. De Beers Canada Inc. must inform Transport Canada in writing that it wishes to apply for a Proclamation of exemption (see Appendix II).
- Submit applications to:  
Navigable Waters Protection Program  
Transport Canada  
Canada Place  
1100-9700 Jasper Avenue  
Edmonton, AB T5J 4E6  
Phone: 780-495-8215  
Fax: 780-495-8607  
E-mail: [nwp-pen.pn@TransportCanada.gc.ca](mailto:nwp-pen.pn@TransportCanada.gc.ca)  
<http://www.TransportCanada.gc.ca/eng/marinesafety/oep-nwpp-menu-1978.htm>



## **APPENDIX I: GENERAL LAYOUT OF SITE PLAN DURING MINE OPERATION**







## **APPENDIX II: LETTER FROM TRANSPORT CANADA TO DE BEERS CANADA INC. REGARDING NWPA SECTION 22 AND 23 REQUIREMENTS**



Transport Canada Transports Canada

Programs Branch  
Pacific and Northern Region  
3-344 Edmonton Street  
Winnipeg, MB R3C 3P6

Groupe des programmes  
Région des Prairies et du Nord  
3-344 rue Edmonton  
Winnipeg, MB R3C 3P6

July 16, 2012

De Beers Canada Mining Corp.

Dear Ms Chisholm:

**Subject: Governor in Council Proclamation of Exemption process pursuant to  
Section 23 of the *Navigable Waters Protection Act*  
Gahcho Kué Diamond Mine Project**

We understand that De Beers Canada Mining Corp. (De Beers) is proposing to deposit tailings into Kennady Lake as part of its Gahcho Kué Project. Transport Canada (TC) has determined that Kennady Lake is navigable and considers the depositing of tailings in that lake to be subject to section 22 of the *Navigable Waters Protection Act* (NWPA). As you may be aware, section 22 prohibits a person from throwing or depositing any material or rubbish (e.g. stone, gravel, earth, cinders, ashes) that is liable to sink to the bottom in any water, any part of which is navigable or that flows into any navigable water, where there are not at least 20 fathoms (approximately 36.6 meters) of water depth at all times.

Section 23 of the NWPA provides that the Governor in Council, when it is shown to its satisfaction that the public interest would not be injuriously affected, may, by proclamation, declare any rivers, streams or waters in respect of which section 22 of the NWPA apply, or any parts thereof, exempt in whole or in part from the operation of section 22. Therefore, in order to deposit tailings into Kennady Lake, or to proceed with any undertaking that would allow the depositing of tailings such as dewatering Kennady Lake, it is necessary for De Beers to first obtain a Proclamation of exemption by the Governor in Council under section 23 of the NWPA.

As with other NWPA approvals, an application needs to be submitted to TC if De Beers wishes to seek a Proclamation of exemption under section 23 of the NWPA. To this end, De Beers must inform TC in writing that it wishes to apply for a Proclamation of exemption. The regional contact for this project is:

 Canada



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Greg Black  
Navigable Waters Protection Officer  
1100 9700 Jasper Avenue  
Edmonton, AB T5J 4E6

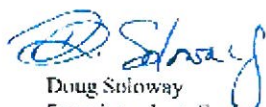
(780) 495-6353  
[gregory.black@tc.gc.ca](mailto:gregory.black@tc.gc.ca)

De Beers must also submit an application to TC with all the necessary information in support of a Proclamation of exemption. The information requirements are described in the attached document: "Proclamation of exemption process pursuant to section 23 of the *Navigable Waters Protection Act* for the Gahcho Kué Project". We anticipate that a majority of the information required will be contained in the work you are completing for the Environmental Impact Review.

Finally, the Government of Canada must be satisfied that its legal duty to consult Aboriginal groups in relation to the project is met before a Proclamation of exemption can be granted by the Governor in Council. Transport Canada supports the whole of government approach to Aboriginal consultation and intends to rely on the environmental impact review process of the Gahcho Kué Project to fulfill its duty to consult obligations to the extent possible.

If you have any questions, please don't hesitate to contact Laura Jones, Environmental Officer or Greg Black, Navigable Waters Protection Officer.

Sincerely,



Doug Soloway  
Superintendent, Environmental Affairs North

cc: TC: NWPP, AbC, AHFB  
Mackenzie Valley Review Panel, EC, DFO, NPMO

attach: "Proclamation of exemption process pursuant to section 23 of the *Navigable Waters Protection Act* for the Gahcho Kué Project"





## Proclamation of exemption process pursuant to section 23 of the *Navigable Waters Protection Act*

In order to obtain a Proclamation of exemption under section 23 of the *Navigable Waters Protection Act* (NWPA) from the Governor in Council, the proponent must submit an application to Transport Canada. The process requires that the proponent provide all the necessary information in support of a Proclamation of exemption (referred to as Rationale Evidence) addressing all factors affecting the public interest. The Rationale Evidence must also include the proponents' rationale, which demonstrates that the public interest would not be injuriously affected by exempting Kennady Lake from the application of section 22 of the NWPA with the granting of a Proclamation of exemption under s. 23 of the NWPA. The Proclamation of exemption timeline is approximately 9-12 months - which includes the Order in Council process.

The following describes the necessary information that should be part of the Rationale Evidence. The Navigable Waters Protection Program Officer is available to provide further guidance, if needed.

### **a) Project Description**

Include the project description which may be contained in the environmental impact statement (EIS) for this project and describe further the depositing of tailings and any other related activities, such as dewatering (the depositing activities).

### **b) Impacts to Navigation and Discussion of Alternatives**

Include a description of the waterways that may be impacted by the depositing activities, including the impacts to navigation that may result from these activities. This section should cover the impacts to navigation at all phases of the project, including post-closure. Remediation and restoration plans should be included.

It is the applicant's responsibility to explore the feasibility of all potential alternatives to contravening section 22 of the NWPA and to report the results of this investigation. The applicant must clearly explain why potential alternatives are not feasible.

### **c) Environmental Impacts**

Describe the environmental effects of the activity, including the significance of any potential adverse environmental effects. The material required for this section of the Proclamation of Exemption Evidence may be extracted from existing documentation produced during the environmental assessment process.

### **d) Key Public Interest Impacts**

Discuss other relevant key public interest impact areas, for example:



- Health and public safety: any potential impacts on human, animal or plant health or safety.
- Social and cultural: any potential social impacts or implication for people's way of life, culture, community, political systems, well-being, personal and property rights.
- Public security: any potential impacts on public security.
- Economy: any potential impact or implications for business, consumers and jobs including impacts on affected sectors of the local and regional economies.
- Other relevant public interest impacts.

#### **c) Stakeholder Consultations**

Describe stakeholder consultations, which are critical for demonstrating that the public interest would not be injuriously affected by the depositing activities. Stakeholder consultations for the purpose of the EIS are a starting point, but the Proponent is encouraged to add any significant information regarding subsequent consultation, particularly concerning the depositing activities. Communications indicating support or opposition to the depositing activities should be included and may be accompanied by the Proponent's responses.

In cases where there has been controversy, significant media attention, or the project is not universally supported by all major stakeholder groups, the applicant should describe the nature or source of the controversy, the main stakeholders and their anticipated positions. The applicant may also wish to include an analysis and/or position statement.

#### **d) Aboriginal Consultations**

In the form of a report, describe your Aboriginal consultation activities with Aboriginal groups that may be adversely affected by the depositing activities.

More specifically, include in this report information regarding: (1) which Aboriginal groups were consulted; (2) what concerns were raised (including, any information with respect to the potential adverse impacts to potential or established Aboriginal rights of the section 23 Proclamation of exemption, and any measures proposed to avoid or mitigate these impacts) and; (3) how these concerns were addressed by you.

#### **g) Cost Benefit Analysis**

Provide a cost-benefit analysis incorporating the relevant considerations, including but not limited to navigational, environmental, health and public safety, social and cultural, public security and economic impacts.

#### **h) Rationale**

Utilize the above information to provide your rationale for demonstrating that the public interest would not be injuriously affected by exempting Kennedy Lake from the application of section 22 of the NWPA with the granting of a Proclamation of exemption.