RENARD DIAMOND MINE PROJECT

CANADIAN ENVIRONMENTAL ASSESSMENT ACT
SCOPE OF THE FEDERAL ENVIRONMENTAL ASSESSMENT

FISHERIES AND OCEANS CANADA
NATURAL RESOURCES CANADA

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1.0 PURPOSE

Stornoway Diamond Corporation wants to develop a diamond mine on the Foxtrot property on Category III land within the territory covered by section 22 of the *James Bay and Northern Quebec Agreement (JBNQA).* According to the latest mineral resources estimate, the mine life could be 25 years, with a good possibility of extending the extraction period of this resource.

This document describes the federal environmental assessment process as it applies to this project under the *Canadian Environmental Assessment Act* (the Act) and presents the scope of that assessment, as well as the information required to carry it out.

2.0 BACKGROUND

2.1 Description of the proposed project

This project involves the development of the mine and local infrastructure, such as open pits, shafts, mine adits, processing plant, kimberlite tailing impoundments, a housing complex, a secondary road, an airstrip and associated facilities.

Given the nature of the deposit, two kimberlite extraction methods will be used: open-pit mining and underground mining. For the open-pit mining, the technique essentially consists of blasting and shovelling the ore. These open pits could be up to some 130 metres deep. For the underground mining, a vertical shaft or mine adit is first built underground, and then the extraction of the ore can be done by means of various techniques, depending on the size and shape of the kimberlite pipes and the properties of the rock. The anticipated extraction rate from this operation is between 5,000 and 7,000 tonnes per day.

The ore processing will be done by means of mechanical crushing, followed by gravity separation. Other steps will follow to extract all the fine fractions. No chemicals are needed for the processing. A final sort is done using x-rays and grease to isolate the diamonds from the other materials.

2.2 Application of the *Canadian Environmental Assessment Act*

The Act applies to projects for which the federal government holds decision-making authority in relation to section 5 of the Act, whether as proponent, land administrator, source of funding, or regulator.

In connection with this project, Fisheries and Oceans Canada (DFO) and Natural Resources Canada (NRCan) plan to exercise the following duties:

- in the case of DFO, issuing an authorization under subsection 35(2) of the *Fisheries Act* (FA); and
- in the case of NRCan, issuing a licence under paragraph 7(1)(*a*) of the *Explosives Act*.

According to the analysis of the project notice, the aspects of the proposed project which will result in the destruction, harmful alteration or disruption of fish habitat and for which there must be authorization under the FA are as follows:

- dewatering of an approximately 4-ha unnamed lake and realignment of a stream caused by the operation of open pits R-2 and R-3; and
- dewatering of an approximately 2-ha bay of Lac Lagopède caused by the operation of open pit R-4.

According to the project notice, mixer trucks will be used to prepare the blasting agents. This explosives factory and the related activities must be the subject of an authorization under the *Explosives Act*.

On the basis of the information that will be provided in the impact assessment, other project components causing loss of fish habitat might be added. Also, the review of the impact assessment by the proponent might reveal other components that must be the subject of other approvals or authorizations under the FA or the *Explosives Act*.

These regulatory duties are triggers for the federal environmental assessment process. Thus, DFO and NRCan, as "responsible authorities", must ensure that an environmental assessment in compliance with the Act is carried out.

The project will also require approval under subsections 5(1) and (3) of the *Navigable Waters Protection Act* (NWPA). However, that approval does not trigger the *Canadian Environmental Assessment Act*. Transport Canada will therefore participate in the environmental assessment as an expert department.

Following the filing of additional information by the proponent, other components might require approvals from Transport Canada under the *Navigable Waters Protection Act* (NWPA). The role of that department with regard to the environmental assessment might therefore change.

Environment Canada (EC), although it does not have a power to exercise or a duty or function to perform, will participate in the environmental assessment as an expert department in its areas of expertise.

Pursuant to subsection 18(1) of the Act, this project is subject to a screening-level environmental assessment.

Federal coordination will be provided by the Canadian Environmental Assessment Agency (the Agency). As such, the Agency will serve as primary contact for the proponent and ensure that requests for information are transmitted between it and the federal authorities involved. Since the project is also subject to the environmental and social impact assessment and review procedure under the *JBNQA*, the Agency will facilitate exchange of the relevant information with the Provincial Review Committee (COMEX) in connection with the latter's assessment and review of the environmental and social impacts.

The proposed project is eligible as a natural resource project, as defined by the federal government's Initiative for Improving the Performance of the Regulatory System for Major Resource Projects. This process includes developing a project agreement between the interested federal departments, while committing to the timelines for the environmental assessment (EA) and regulatory processes. Once the project agreement has been signed by the deputy ministers, the Major Projects Management Office (MPMO) will provide follow-up and report on the progress of the environmental assessment and regulatory processes. The MPMO will work in collaboration with the Agency and responsible authorities throughout the federal regulatory process. For more information on the initiative and the MPMO process, the proponent is encouraged to consult the following site: http://www.mpmo-bggp.gc.ca.

2.3 Public consultation

The public will have opportunity to participate in the federal environmental assessment. It is anticipated that the public and the affected Aboriginal groups will be consulted at various stages in the environmental assessment of the project, with, for example, the opportunity to comment on the impact assessment and the screening report.

3.0 SCOPE OF THE ENVIRONMENTAL ASSESSMENT

The scope of the environmental assessment determines the project components that will be described and for which the environmental impacts will be analyzed, as well as the environmental components that must be taken into account and their scope.

3.1 Selected project components (scope of the project)

The scope of the project includes the activities and facilities that will be considered in the federal environmental assessment. For the purposes of application of the Act, the scope of the project includes all components of the project submitted by the proponent, as well as any other facility, temporary structure of activity directly related to the project (e.g. temporary access roads, clearing, cofferdams, filling and revegetation).

3.2 Factors to review

The environmental assessment will include the study of the following factors set out in paragraphs 16(1)(*a*) to (*e*) of the Act:

- the environmental effects of the project, including the environmental effects of accidents or malfunctions that may occur in connection with the project and any cumulative environmental effects that are likely to result from the project in combination with other projects or activities that have been or will be carried out;
- the significance of the effects referred to in the previous point;
- comments from the public that are received during the environmental assessment;
- measures that are technically and economically feasible and that would mitigate any significant adverse environmental effects of the project; and

- any other matter relevant to the screening.

An environmental effect, as defined in subsection 2(1) of the Act, is any change that the project may cause in the environment, including any change it may cause to a listed wildlife species, its critical habitat or the residences of individuals of that species, as those terms are defined in sub-section 2(1) of the *Species at Risk Act*, any effect of such changes on health and socio-economic conditions, physical and cultural heritage, the current use of lands and resources for traditional purposes by Aboriginal persons, or any structure, site or thing that is of historical, archaeological, paleontological or architectural significance, as well as any change to the project that may be caused by the environment.

3.3 Scope of the factors to be reviewed

In light of the information available, the environmental components likely to be affected by the project include, but are not limited to:

- water quality
- air quality
- soil quality
- water regime
- land and aquatic vegetation
- wetlands
- fish and their habitats,
- birds and their habitats
- terrestrial fauna and their habitats
- special-status floral and fauna species, including woodland caribou
- health of users of the territory, including through accumulation of metals in flora and fauna
- current use of lands and resources for traditional purposes by Aboriginal persons
- effects the environmental changes on socio-economic activities
- archaeological site

3.3.1 Study area

The study area includes all the project components and their entire area of influence, i.e. the area within which the direct and indirect environmental effects will be felt.

3.3.2 Temporal boundaries

The period covered by the environmental assessment includes the start-up, operation and closure of the project, with a view to review all the short-, medium- and long-term impacts.

4.0 PREPARATION OF THE IMPACT ASSESSMENT

The Evaluating Committee (COMEV) established pursuant to Section 22 of the **JBNQA** has produced a directive for the carrying out of the impact assessment by the proponent. The directive includes the components determined by COMEV with a view to meeting the requirements of the environmental protection regime provided for in the JBNQA. The components listed in the COMEV directive are reproduced herein, with the addition of components or requests specifically needed for the federal analysis.

Therefore, the purpose of this section is to help the proponent prepare its impact assessment, in order that the latter may meet the needs of the federal departments in their analysis of the project in accordance with the requirements under the Act referred to in Section 3. The proponent is encouraged to produce a single impact assessment that meets the requirements established by COMEV and the federal process. The proponent must provide the Agency with twelve (12) hard copies of the impact assessment, as well as an electronic version in a suitable format.

On receipt of the impact assessment, the federal authorities will analyze it to determine its compliance and, if necessary, may request further information from the proponent.

On the basis of the information provided by the proponent, their own expertise and the expertise of the experts consulted, where applicable, a screening report will be produced. The report will present the conclusions of the environmental assessment, i.e. whether there is a risk that the carrying out of the project will have significant adverse environmental effects, taking into account the appropriate mitigation measures.

4.1 Biological and physical components

The biological and physical components referred to in Section 3.3 and the environmental effects of the project on those components must be documented.[1] The information that the proponent must present includes, but is not limited to, the following:

- a list of all species likely to be present in the study area, as well as the priority areas and habitats that may be affected (identify the species which have legal status or are of special interest);
- a description of the inventories done or data used to determine the presence of species and their habitats (i.e. present and justify the methodology, results and conclusion);
- a description of the anticipated effects (direct and indirect) of the project on the species likely to be present and their habitats;
- the determination as to the applicable mitigation measures to minimize the impact and of the means put in place to ensure application of the mitigation measures. For species at risk, demonstrate that the project and the proposed mitigation measures are compatible with any applicable action plan and recovery program; and
- if necessary, a description of the proposed follow-up program for verifying the accuracy of the assessment of the effects.

1 For example, the proponent may refer if necessary to Environment Canada to obtain the guides and documents developed for inventorying or analysing impact on migratory birds, species at risk and wetlands.

It is strongly suggested that the proponent contact DFO during the preparation of its impact assessment and the carrying out of the plans, in order that a determination may be made as soon as possible as to acceptable harmful alteration, destruction or disruption (HADD) of fish habitat that may be authorized.

It is important to note that DFO prefers above all to avoid HADD of fish habitat or, if that is not possible, to reduce it to the maximum extent possible. The proponent must justify HADD of fish habitat by demonstrating that it is reduced to the maximum extent possible and that it is impossible to avoid it entirely. If these residual losses of fish habitat are acceptable, and do not threaten the resource or species at risk, DFO may issue an authorization to modify fish habitat under subsection 35(2) of the *Fisheries Act*. This authorization allows harmful alteration, destruction or disruption of fish habitat by the means or under the circumstances authorized by DFO.

4.2 Current use of lands and resources for traditional purposes by Aboriginal persons

The federal environmental assessment must assess the possibility of adverse environmental effects on the current use of lands and resources for traditional purposes by Aboriginal persons. For this purpose, the following must be done:

- describe the current uses for traditional purposes likely to be affected by the project;
- indicate how the current use by Aboriginal persons was verified, and provide the information sources;
- describe the effects of the project on the current use by Aboriginal persons, as well as any mitigation measures; and
- summarize the consultations or exchanges with the Cree using the territory, and identify the concerns expressed and the extent to which these elements were reflected in the project design and in the impact assessment.

4.3 Socio-economic activities

The socio-economic components mentioned in Section 3.3, including the archaeology and the impact of environmental changes on them must be documented. The proponent must provide, but not limited to, the following:

- a description of the current land use, such as outfitting operations and other recreational activities, tourism, vacation leases and others, potentially impacted by the project;
- the effects of the project on these uses and any appropriate mitigation measures;
- a summary of the consultations and exchanges with the users of the land. The concerns voiced must be identified and the extent to which this information was incorporated in the project design, as well as in the environmental impact statement; and
- the known sites and archaeological remains, and a description of the mitigation measures that will be implemented, if necessary.

4.4 Navigation

The proponent must describe the main navigation features in the project area (type of boats, areas of use, importance, etc.), as well as the disruptions, caused by the project, on the navigation activities.

With regards to applications for approval under the *Navigable Waters Protection Act* (NWPA), the proponent must present the following information and documents:

- Create a table of the undertakings (including backfilling and dewatering, if necessary) in the aquatic environment and indicate:
  a. The type of work;
  b. The main geographic coordinates, crossing mid-watercourse (Dms.d, nad 83);
  c. The addition of the geographic coordinates at either end (Dms.d, nad 83);
  d. The characteristics of the watercourse:
     i. Width,
     ii. Minimum and maximum depth during the summer,
     iii. Bottom type (ex. sediments, rocks),
     iv. Flow type (ex. lake, stream, river, calm, flowing, fast, etc.), and
     v. If possible, reference a photo taken of the watercourse in that area during the summer; and
- Present a plan for each one of these undertakings by indicating the main dimensions and characteristics:
  a. Plan views and elevation;
  b. Minimum and maximum watercourse levels during the summer, before and after the work period; and
  c. Indicate, if appropriate, the navigation protection measures during the work period and operations phase.

It is noted that during a more complete analysis of the project, it could be determined that other components require further approvals from Transport Canada under the NWPA.

For more information on the specific requirement of the application of approval under the *Navigable Waters Protection Act*, the proponent is encouraged to consult the following guide:

www.tc.gc.ca/eng/quebec/nwp-menu-1424.htm

4.5 Accidents and malfunctions

The federal environmental assessment must assess the potential of adverse environmental effects due to accidents or malfunctions associated with the construction and operations of the components in the environmental assessment. Above all, specific attention will be given to accidents and malfunctions that are reasonably plausible.

The probability of accidents or malfunctions associated with the construction and operations of the components included in the environmental assessment, as well as the potential of adverse environmental effects that may result from these events, must be identified and described

Other than the mitigation measures implemented for the accidents and malfunctions that could occur, it is preferable to indicate the measures that will reduce the risk of possible accidents and malfunctions from occurring.

4.6 Any change to the project that may be caused by the environment

Any environmental risks that may affect the project must be described and the anticipated impacts of these environmental risks documented.

4.7 Cumulative effects study of the project

Cumulative effects are defined as changes to the environment caused by the project in combination with other present and future human actions. The cumulative effects assessment should be based on the valued environmental components (VECs) for which cumulative effects are likely to occur. This should be components for which the project has an adverse residual effect.

For each VEC, the spatial and temporal boundaries must be defined. These boundaries may be different depending on the components reviewed. The spatial boundaries must be established based on the VEC considered and the geographic area that it occupies, which often extend beyond the impact area of the project under study.

4.8 Public consultations

Under the Act, the proponent is encouraged to provide details of the consultations and the information sessions that it will hold or that it has already held within the context of the project at the local and regional levels. The expected information should include the identification of Aboriginals groups met and the extent to which this information was incorporated in the project design, as well as in the environmental impact statement.

5.0 PUBLIC REGISTRY

With the implementation of the Act, the Government of Canada is committed to facilitating public participation in the environmental assessment of projects, and providing access to the information on which those environmental assessments are based. It is pursuant to this commitment that section 55 of the Act requires the maintenance of a public registry by the responsible authority in relation to each project for which an environmental assessment is conducted.

Any relevant document in relation to the evaluation of the project submitted by the proponent will be recorded in the Canadian Environmental Assessment Registry (CEAR) and made available to the public on request. Certain confidential or sensitive documents that should be protected and not made public may be excluded from the CEAR. In such cases, the proponent must provide the authority responsible for the CEAR with arguments demonstrating a likely risk of probable harm.

The Canadian Environmental Assessment Agency is responsible for maintaining the Canadian Environmental Assessment Registry.

The Canadian Environmental Assessment Registry can be accessed at: http://www.acee-ceaa.gc.ca/050/index_e.cfm , reference number: 10-01-55169

The project will also be posted on the Major Projects Management Office's Web site under the Project List section.

http://www.mpmo-bggp.gc.ca

6.0 CONTACTS

With regard to the current project, the contact information for the federal assessment is the following:

Federal Coordinator, Canadian Environmental Assessment Agency

Alain Bourgeois
Environmental Assessment Manager
alain.bourgeois@ceaa-acee.gc.ca
Telephone: 418-648-2561

Responsible Authorities

Fisheries and Oceans Canada

Judy Doré
Senior Analyst, Environmental Assessment
judy.dore@dfo-mpo.gc.ca
Telephone: 418-648-4683

Natural Resources Canada

Andrew McIsaac
Environmental Assessment Agent
andrew.mcisaac@nrcan-rncan.gc.ca
Telephone: 613-995-4434

7.0 DOCUMENT CONSULTED

Stantec, 2010. Avis de projet – projet de la mine de diamant Renard. 29 pages + annexe.