



***INDEPENDENT ENVIRONMENTAL MONITORING AGENCY***

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January 20, 2014

Violet Camsell-Blondin  
Chairperson  
Wek'eezhi Land and Water Board  
Box 32  
Wekweeti NT X0E 1W0

**Re: Intervention on Ekati Lynx Project Water Licence WL2013L2-0001 and  
Land Use Permit W2013D0006**

Dear Ms. Camsell-Blondin

The Agency is pleased to submit the attached intervention for the scheduled public hearing on Dominion Diamond Ekati Corporation's Ekati Lynx Project Water Licence application WL2013L2-0001 and Land Use Permit Application W2013D0006.

The Agency will be represented at the hearing by Laura Johnston, Tim Byers and Kevin O'Reilly. We anticipate that it will take approximately 30 minutes to make a presentation of our intervention and we would be pleased to answer any questions you or other parties may have. After we have reviewed the other interventions, the Agency will be in a position to provide an estimate of time required for questioning at the hearing.

Should you have any questions regarding our intervention, please feel free to contact our Executive Director, Kevin O'Reilly, at our office in Yellowknife.

Sincerely,

Bill Ross  
Chairperson

cc. Agency Society Members  
Veronique D'Amour-Gauthier, Fisheries and Oceans  
Sarah-Lacey McMillan, Environment Canada



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**Dominion Diamond Ekati Corp.**

**Ekati Lynx Project**

**Water Licence Application WL2013L2-0001 and  
Land Use Permit Application W2103D0006**

**Independent Environmental Monitoring Agency's**

**Submission to the**

**Wek'eezhii Land and Water Board**

**January 2014**



## **INTRODUCTION**

Thank you for the opportunity to present the Independent Environmental Monitoring Agency's views regarding Dominion Diamond Ekati Corporation's (DDEC) request for renewal of the Ekati Water Licence. The Agency would also like to thank DDEC for the additional information provided in written form, through the technical workshop hosted by the Wek'eezhii Land and Water Board (WLWB) staff on December 3-4, and in the responses to the Information Requests submitted following the workshop.

To begin, the Agency is not opposed to granting the licence and agrees with the approach of incorporating conditions for the Lynx project into the current water licence (W2012L2-0001).

The Agency has reviewed both the Water Licence and Land Use applications and the recently submitted additional information from the company. The Agency's presentation will focus on the Water Licence but also contains recommendations for inclusion in any Land Use Permit to protect wildlife habitat.

Our presentations will focus on two areas:

1. Proposed Terms and Conditions for an amalgamated Water Licence that incorporates the Lynx Development. This includes our comments on changes proposed by the WLWB staff and in DDEC's responses to the Information Requests following the December 2013 technical session. It also includes our views on the need for Effluent Quality Criteria (EQCs) for the dewatering of Lynx Lake and the management of water quality in Desperation and Carrie ponds and downstream watershed, and
2. Terms and conditions for the land use permit to protect wildlife habitat.

### **1. PROPOSED TERMS AND CONDITIONS FOR AN AMALGAMATED WATER LICENCE THAT INCORPORATES THE LYNX DEVELOPMENT**

#### **Part A. Scope and Definitions**

Scope: The proposed addition appears reasonable.

Definitions: The proposed additions appear reasonable. The definition of "Project" should include Lynx.

#### **Part C: Conditions Applying to Security Deposits**

DDEC provided an estimate of the "Incremental Increase in Ekati Mine Reclamation Security Resulting from the Lynx Project" (IR7). The Agency believes that the suggested costs appear reasonable with the exception of the \$2,000 allocated for revegetation which appears to be rather low. The Agency

agrees with the suggestion in Schedule 2 that any additional security as set by the Board be submitted 60 days prior to commencement of any construction activities.

However, the Agency remains concerned that there may not be adequate security available through the Water Licence (and/or other instruments) to ensure that any necessary remediation can be carried out. At the public hearing for renewal of Licence W2012L2-0001 (held approximately one year ago) the Agency noted its concern about the length of time taken by the financial security review for the Ekati ICRP. The Agency understands that there are other financial security obligations under the Environmental Agreement and that a separate process has been established by Aboriginal Affairs and Northern Development Canada (AANDC) to deal with such matters. Unfortunately, there has been limited progress over the last few months. The Agency remains willing to work with other parties to prepare a consolidated reclamation liability estimate for the Board's consideration to ensure that there is full financial security to cover both the ICRP and the Environmental Agreement. However, this process appears to have stalled.

The **Agency urges** the Board to encourage all participants to move to ensure that adequate security is assessed and is made available to the responsible agencies.

#### **Part E: Dewatering and Drawdown**

Item 1: The proposed changes appear reasonable. It may be helpful to include a deadline (such as 60 days) for the submission of dewatering plans before dewatering activities are to take place to ensure adequate time for review and approval of the plan by the Board.

Item 4: This term should apply to both Dewatering and Drawdown.

Schedule 4: The **Agency strongly supports** the proposed addition of a requirement for a Dewatering Response Framework as described in Item 1 (m).

#### **Part F: Construction**

In their proposal, Dominion Diamond indicated that 'runoff deflection structures' might be used during construction and/or operation of the Lynx Pit. The potential use of these structures needs to be addressed in Part F.

The **Agency recommends** a new clause be added to require Board approval for the design and use of runoff deflection structures before construction commences.

## **Part H: Waste Disposal**

Item 1 to 3: The suggested changes appear reasonable.

Item 11 c): There appears to be general agreement that any discharge from Desperation Pond directly to Carrie Pond needs to be regulated, particularly in light of the potential addition of Lynx pit water.

In its response to Information Request # 5 f), DDEC suggested that the Annual Discharge Volume be limited to the upper 75<sup>th</sup> percentile value (135,000 m<sup>3</sup>/yr) and that no new EQC would be required. This approach is probably acceptable for the dewatering phase of operations.

If sump water is to be pumped from Lynx Pit directly to Desperation Pond, as noted in the response to IR #5 a), the Agency believes that a limit to volume alone may not be adequate post dewatering. The additional chemical information provided by DDEC (response to IR #4) appears to indicate that the water in Desperation Pond is currently higher in total suspended solids, alkalinity, sulphate, nitrate and possibly ammonia than water in Carrie Pond. In addition, Table IR5-2 indicates that Lynx pit water may be relatively high in ammonia, nitrate, sulphate, aluminum, and strontium. Given these considerations, the **Agency recommends** that EQCs be set for SNP Station 1616-47 for, at a minimum for ammonia, nitrate, total suspended solids and any other contaminants of potential concern as identified through application of the Board's 2011 Water and Effluent Quality Management Policy to the Desperation-Carrie-Mossing-Lac de Gras watershed.

The amount of information currently available for the downstream watershed (Carrie Pond-Mossing Lake-Lac de Gras) does not appear sufficient to allow calculation of EQCs. Unless suitable EQCs can be developed for SNP Station 1616-47, the **Agency recommends** that all Lynx sump water be pumped directly to the King Pond Settling Facility (KPSF).

## **Part J: Aquatic Effects Monitoring**

Schedule 8, Item 1k, In addition to an SNP station in Carrie Pond, the **Agency recommends** that stations be established in Mossing Lake and Lac de Gras, especially if sump water from Lynx pit is to be discharged into the Desperation-Carrie-Mossing-Lac de Gras watershed.

## **Part K: Closure and Reclamation**

Item 2: Rather than rely on this general updating requirement, the **Agency recommends** that a specific requirement be included for updating the Closure and Reclamation Plan to include the Lynx project. Given our ongoing concerns regarding the security deposit situation, we would prefer to see an explicit

requirement for an update to the Plan either within six months of the issuance of a new licence or with the next Annual Progress Report.

The **Agency recommends** that further work be required to determine the potential impacts of leaving the Lynx Pit and littoral zone open (exposed to air and precipitation) from 2016 to flooding in 2023. Depending on the results of this work, it may be preferable to begin flooding of Lynx pit shortly after mining operations cease.

## 2. LAND USE PERMIT CONDITIONS TO PROTECT WILDLIFE HABITAT

The 2013 Wildlife Baseline Surveys (Appendix 2 to the IR Response) provided little useful information to ensure adequate protection of wildlife habitat. We were disappointed to see that the company did not prepare a compilation of data from existing monitoring programs to show abundance, distribution and migration patterns in response to IR # 9. We had understood that this would be done.

The Agency remains concerned about potential impacts on wildlife habitat which may best be addressed through the Land Use Permit. Some of these concerns were addressed through the responses to the Information Requests following the technical session but some were not.

In order to ensure the maximum protection for wildlife, the **Agency recommends** that three areas be addressed in the Land Use Permit:

### 2.1 Caribou Crossings on New Roads

Evidence indicates that road bed construction can affect the ease and likelihood at which caribou can cross a particular section of road. “Caribou-friendly” roads generally have low slope angles, minimal berms, and finer rock and crush on the top surface to facilitate movement. Elders have indicated that these crossing structures help caribou cross roads (BHP Billiton 2007<sup>1</sup>); indeed, based on remote camera monitoring, areas where caribou cross the Misery Road have generally aligned with existing caribou crossings (H. O’Keefe, presentation to the December 2013 IEMA wildlife workshop).

The **Agency recommends** a condition requiring the submission of a plan showing the location and design of caribou crossings for all new roads to be constructed as part of the Lynx development. The plan should be submitted for Board approval at least 60 days before construction begins.

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<sup>1</sup> Rescan. 2007. Caribou and roads: Implementing Traditional Knowledge in wildlife monitoring at the EKATI Diamond Mine. 2006 annual report. Rescan™ Environmental Services Ltd. Yellowknife, Northwest Territories and Vancouver, B.C.

We understand that DDEC has committed to consult with affected Aboriginal communities to better design such caribou crossings to ensure that Traditional Knowledge is used in the design and location of such features prior to finalizing road construction plans (IR #9 response).

## 2.2 Road Closures and Traffic Limits

Many factors can affect the likelihood that caribou will cross a road during daily movements or migration, including herd size and composition, traffic frequency, and road design. Mitigation measures to reduce the partial barrier effect of roads on caribou movement are required to adequately protect the use and function of wildlife habitat in the area of the proposed Lynx development.

In this regard, DDEC has committed to provide an updated Wildlife Management Plan to GNWT-ENR by March 2014, followed by further consultation. Greater clarity regarding road closures when caribou are present would be useful, particularly the meaning of terms like “temporarily” and “in the vicinity of”.

We note that in Land Use Permit MV2008D0007 for the operation of the proposed Sable pit, there is condition 28 that restricts road traffic to less than 200 vehicle trips per 24 hour period during periods of caribou migration. DDEC’s response to IR #9 from the Lynx Technical Session indicates that there will be slightly more than 200 vehicle trips by haul trucks alone (excluding other vehicles) over every 24 hour period.

The **Agency recommends** a condition requiring submission of a detailed road closure protocol which also specifies road traffic limits. The road closure protocol should be for submitted to the Board for approval within 90 days of the issuance of the permit.

## 2.3 Dust Impacts on Wildlife Habitat

In its response to the Information Requests, DDEC indicated its intent to “prepare a Lynx update to the AQMP in 2014, likely in conjunction with other updates or amendments to the AQMP”. The **Agency urges DDEC** to provide the update in a timely fashion so that there is adequate lead time to allow for review of the plan and the installation of any sampling stations which might be required before Lynx project construction takes place. The Agency is particularly concerned with the generation of dust during construction (blasting, deposition of rock for roads and pads) and operation (blasting during mining and use of haul roads). Any updates to the AQMP should ensure that monitoring of these new dust sources is considered and managed as part of site-wide programs.

The Agency is of the view that it would also be helpful to formalize a requirement for dust monitoring and mitigation related to the Lynx Project as shown below. To this end, the **Agency recommends** that DDEC submit a plan for the

monitoring and mitigation of dust from construction activities, road use, blasting and other activities associated with the Lynx Project. The plan should be submitted for Board approval at least 60 days before construction begins.

#### **4. SUMMARY OF RECOMMENDATIONS**

The Agency supports a number of the changes and approaches suggested by DDEC and WLWB staff. The instances of agreement have been noted throughout our presentation. There remain some areas where the Agency does not agree with the suggestions made.

Where agreement was not reached, the Agency has made a number of recommendations which are summarized in Appendix A.

The two main areas of concern are:

Water Licence:

The need to set EQCs for Station 1616-47 (Point of Compliance for releases from Desperation Pond to Carrie Stream), if sump water from the Lynx pit is to be pumped directly to Desperations Pond.

Land Use Permit:

The need to protect wildlife habitat by addressing three areas of concern:

- A plan for the location and design of caribou crossings for all new roads to be constructed as part of the Lynx development;
- A plan including a detailed road closure protocol and the setting of road traffic limits; and
- A plan for monitoring and mitigation of dust from construction, road operations, blasting and other activities.

In closing, the Agency wishes to encourage all parties involved to press forward with the timely development of a global Security Deposit based on the approved Interim Closure and Reclamation Plan.

Thank you for the opportunity to make this presentation.

## **APPENDIX A – SUMMARY OF RECOMMENDATIONS**

### **Water Licence**

#### **Part F: Construction**

1. The Agency recommends a new clause be added to require Board approval for the design and use of runoff deflection structures before construction commences.

#### **Part H; Waste Disposal**

2. The Agency recommends that EQCs be set for SNP Station 1616-47 for, at a minimum for ammonia, nitrate, total suspended solids and any other contaminants of potential concern as identified through application of the Board's 2011 Water and Effluent Quality Management Policy to the Desperation-Carrie-Mossing-Lac de Gras watershed.
3. Unless suitable EQCs can be developed for SNP Station 1616-47, the Agency recommends that all Lynx sump water be pumped directly to the King Pond Settling Facility (KPSF).

#### **Part J: Aquatic Effects Monitoring**

4. In addition to an SNP station in Carrie Pond, the Agency recommends that stations be established in Mossing Lake and Lac de Gras, especially if sump water from Lynx pit is to be discharged into the Desperation-Carrie-Mossing-Lac de Gras watershed.

#### **Part K: Closure and Reclamation**

5. The Agency recommends an explicit requirement for an update to the ICRP to include the Lynx project either within six months of the issuance of a new licence or with the next Annual Progress Report.
6. The Agency recommends that further work be required to determine the potential impacts of leaving the Lynx Pit and littoral zone open (exposed to air and precipitation) from 2016 to flooding in 2023. Depending on the results of this work, it may be preferable to begin flooding of Lynx shortly after mining operations cease.

### **Land Use Permit**

7. The Agency recommends a condition requiring the submission of a plan showing the location and design of caribou crossings for all new roads to be constructed as part of the Lynx development. The plan should be submitted for Board approval at least 60 days before construction begins.

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8. The Agency recommends a condition requiring submission of a detailed road closure protocol which also specifies road traffic limits. The road closure protocol should be submitted to the Board for approval within 90 days of the issuance of the permit.
9. The Agency recommends that DDEC submit a plan for the monitoring and mitigation of dust from construction activities, road use, blasting and other activities associated with the Lynx Project. The plan should be submitted for Board approval at least 60 days before construction