Ms. Violet Camsell-Blondin  
Chair  
Wek’èezhíi Land and Water Board  
Box 32  
Wekweeti, NT X0E 1W0

25 July 2012

Re: Request for Clarification Regarding the Intended Scope of Closure and Reclamation Cost Estimates using RECLAIM

The Wek’èezhíi Land and Water Board (WLWB) letter of January 25, 2012 has established that the total closure and reclamation security required for the Diavik site is $131,360,000. This is the expected total cost that would be incurred by the Crown in the event that Diavik Diamond Mines Inc. (DDMI) defaulted and the Crown was required to remediate and close the Diavik site. The security cost estimate was derived using the RECLAIM model, as adjusted by the WLWB, and based on the closure and reclamation activities (land and water) recently approved in the Interim Closure and Reclamation Plan (ICRP) Version 3.2. The cost estimate includes $8,014,077 for engineering and project management as well as a $16,028,155 contingency.

On July 24, 2012 Diavik Diamond Mines Inc. (DDMI) met with WLWB and Aboriginal Affairs and Northern Development Canada (AANDC) staff in an attempt to understand, for future cost estimates, limitations and exclusions raised by AANDC with regard to the scope of the RECLAIM estimate they submitted to the WLWB on October 24, 2011.

Table 2 attached is an AANDC summary of six areas recently identified as being limited in the RECLAIM estimate. AANDC has estimated that in total an addition of approximately $30M of financial security is required to address these limitations. The rough distribution of costs for each of the six areas in Table 2 are understood from AANDC to be about:

1. $10M
2. No additional costs
3. $15M
4. $5M
5. $0.5M
6. No additional costs

DDMI does not agree with the AANDC analysis nor the conclusion that not all closure and reclamation cost were not included in the scope of the WLWB RECLAIM estimate. DDMI understood when preparing the DDMI RECLAIM cost estimate that the estimate was for the total cost of closure and reclamation. DDMI continues to believe this to be the case. Attached are some DDMI comments provided previously to AANDC on this subject. These were also discussed with WLWB and AANDC staff at the July 24, 2012 meeting.
DDMI is now seeking clarification from the WLWB on the scope of the RECLAIM closure cost estimates required under Part L Item 2 of Diavik’s Water License. Specifically:

1. Is the WLWB required RECLAIM cost estimate scope intended to represent the total cost of closure and reclamation?
2. What, if any, scope limitations or exclusions are to be assumed for RECLAIM cost estimates?
3. For greater certainty what costs are assumed to be included in each of the “Engineering”, “Project Management”, and “Contingency” line items of RECLAIM that are added as percentages?

We appreciate the WLWB’s assistance in clarifying these important issues.

Regards,

\[Signature\]

Gord Macdonald

cc  Mark Cliff-Philips (WLWB)
Patty Ewaschuk (WLWB)
Marc Lange (AANDC)
Zoe Raemer (AANDC)
Robert Jenkins (AANDC)
Alasdair Martin (DDMI)
Eric Denholm (BHPB)

Attachments:
Table 2 – AANDC Summary of Costs not covered in RECLAIM
DDMI Comments on AANDC Analysis of RECLAIM
**Intro to Table 2**

An analysis of potential duplication between the SD and ASD needs to examine the basis for the water license and land lease security amounts (which are credited against the SD and ASD) and the potential uses of the ASD described in the EA. AANDC uses the RECLAIM model to develop an estimate for water license and land leases security which it submits to the WLWB as a recommendation. The WLWB considers this recommendation, among other factors, to make its decision on the security amount. Notwithstanding the differences between the WLWB final decision on the security and the RECLAIM estimate, it is assumed that the RECLAIM model provides a reasonable estimate of the scope (inclusions, exclusions) and assumptions on which the WLWB security is based.

Table 2 provides commentary on the potential uses of the ASD and describes where these uses are or are not duplicative with the SD (as represented by the RECLAIM estimate). Further commentary is provided on the nature of the ASD by potential use identified in the table. For each use, the conclusions of the analysis state whether there are grounds for holding additional security under the ASD (beyond the scope of what is covered in the RECLAIM estimate). Table 2 does not address in-kind costs for AANDC in terms of human resources, IT, and other internal costs that it incurs to manage the closure and reclamation of mine sites where the proponent has gone bankrupt.

**Table 2: Additional Security Deposit: Potential Uses, Commentary and Nature of Use**

<table>
<thead>
<tr>
<th>Potential use defined by Environmental Agreement</th>
<th>What is covered by RECLAIM estimate (and in water license security)</th>
<th>What is not covered in RECLAIM estimate, and rationale for ASD</th>
</tr>
</thead>
</table>
| 1. Incremental costs which Canada will incur if it has to conduct reclamation and abandonment (Section 15.1(d)) | • The RECLAIM estimate is based on independent contractor rates, so there is no need to hold additional security in ASD (beyond the water license amount) to cover the difference between DDMI and third-party contractor cost.  
• The RECLAIM estimate includes engineering costs at a level of 5% of the total cost of all other items. The engineering costs are for contract tendering (statement of work), QA/QC during work, and assessment/re-design of changes. If the closure plan is not at the stage of “issued for construction” drawings and specifications, then additional detailed engineering (beyond what is assumed in RECLAIM) is | • If Canada was required to conduct the reclamation, it would incur incremental costs associated with engaging third parties to complete the following tasks, which are necessary to finalize the plan and award the reclamation contract:  
  o Site assessment to obtain an accurate picture of current site conditions to inform the final reclamation plan.  
  o Develop or modify aspects of the ICRP that remain uncertain or the subject of disagreement at the time of bankruptcy.  
  o Augment the ICRP in general to a level of detail that is sufficient for the development of tender documents.  
  o Consult with Aboriginal Peoples and stakeholders.  
• The rationale for these additional work items include:  
  o The ICRP is an interim plan |
| 2. Contingencies (Section 15.1(d)) | required. based on certain assumptions about site conditions that would need to be tested following bankruptcy.  
| | o The ICRP includes innovative or untested approaches envisioned by DDMI that are not fully scoped and described in the ICRP.  
| | o Canada, as the proponent of a closure and reclamation project, is subject to different and additional consultation requirements.  
| | N.B. These work items do not assume that there are significant deficiencies in the reclamation design.  
| | • The RECLAIM estimate includes a contingency of 20% of the total cost. The contingency is for uncertainty associated with the tasks described in the closure and reclamation plan (e.g., variations in unit costs, volumes, and other line items). It does not cover other commitments in the EA, significant changes in the remediation approach or scope (i.e. new activities), or catastrophic events.  
| | • In the opinion of the RECLAIM author, 20% is the lowest justifiable level of contingency for a plan at the level of detail and development of the ICRP (i.e. pre-feasibility or conceptual), and that a higher contingency (e.g. 25%) is recommended.  
| | • However, 20% is consistent with general practice.  
| | Considerations:  
| | The SD (as represented by the RECLAIM estimate) includes a contingency (20%) to address uncertainty associated with the tasks in the current plan. There should be no need for the Minister to draw on or hold additional security in the ASD to cover these costs. |
| 3. Potential for increases in environmental liabilities related to Project configuration (Section 15.1(d)) | • Significant changes to the mine development plan require regulatory approval and a revised ICRP. A review of the water license security would likely follow at the discretion of the WLWB.  
• The RECLAIM estimate is reviewed and revised periodically to reflect the most recent ICRP.  
• The RECLAIM model assumes that no progressive reclamation has occurred.  
• Therefore, notwithstanding any delays in the water license security review process, the RECLAIM estimate should generally reflect the most current project configuration (or conservative estimate thereof) and corresponding ICRP. | • The ICRP is an interim plan and based on assumptions regarding site conditions at the time of closure. The RECLAIM estimate is based on successful implementation of the ICRP.  
• The process for (and frequency of) water license renewals, water license security reviews, and ICRP reviews is such that questions about assumed site conditions and the adequacy of the proposed reclamation approach may remain unresolved.  
• It is possible that site conditions at the time of bankruptcy are different from those assumed in the ICRP and the RECLAIM estimate, and/or that the proposed reclamation design is not appropriate or sufficient.  
• Canada could incur significant additional costs to implement alternative solutions to address increases in environmental liabilities and that represent major departures from the ICRP. Indicative examples include:  
  o The North Inlet Dam can not be removed as planned and a diffusive cover is required to cover problem sediments.  
  o Significant works to manage disruptions to tailings cover due to frost and freezing processes.  
  o Water treatment to address water quality issues with waste rock piles.  
  o Water treatment to address pit water quality. |

**Considerations:**

The SD (as represented by the RECLAIM estimate) is reviewed periodically to reflect a best estimate of future site conditions based on the current development plan. There remains a significant likelihood that site conditions at the time of bankruptcy are different from those assumed in the ICRP and the RECLAIM estimate, and/or that the proposed reclamation design is not appropriate or sufficient. Canada could incur significant additional costs to implement alternative solutions that represent
major departures from the ICRP. There remains a need for the Minister to hold additional security in the ASD to cover potential increases in environmental liability related to Project configuration.

<table>
<thead>
<tr>
<th>4. Non-reclamation related commitments under the EA (Section 15.1(d))</th>
<th>The RECLAIM estimate includes post-closure monitoring/inspection costs for the following:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Environmental Monitoring Advisory Board (Article IV)</td>
<td>o surface and groundwater monitoring for 10 years</td>
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<td>• Environmental Management Plans (Article VI)</td>
<td>o associated reporting for 10 years</td>
</tr>
<tr>
<td>• Environmental Monitoring Programs (Article VII)</td>
<td>o annual geotechnical and survey inspections for 7 years</td>
</tr>
<tr>
<td>• Annual Report (Article XII)</td>
<td>o associated labour and equipment costs</td>
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<tr>
<td></td>
<td>In the event of a bankruptcy, there would remain an expectation among the remaining parties to the Environmental Agreement for Canada to fulfill certain EA commitments, including:</td>
</tr>
<tr>
<td></td>
<td>o Environmental Monitoring Advisory Board (EMAB)</td>
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<td></td>
<td>o Environmental Management Plans pertaining to activities and issues that are still relevant post closure</td>
</tr>
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<td></td>
<td>o Annual reporting</td>
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<td></td>
<td>AANDC’s experience with other abandoned mine sites indicates that there is a high level of public scrutiny of such sites and associated demands for monitoring and reporting.</td>
</tr>
<tr>
<td></td>
<td>There would be an expectation for these commitments to be met during the interim care and maintenance period (2-3 years), during the completion of reclamation work (2-3 years), and possibly for some period thereafter, as suggested by the 10 year period assumed in the RECLAIM estimate.</td>
</tr>
<tr>
<td></td>
<td>Maintaining the EMAB for 5 years following closure at the current cost level ($600,000/year) would on its own use the entire EASD of $3M.</td>
</tr>
<tr>
<td></td>
<td>AANDC staff may take responsibility for some of the commitments above (in-kind costs), but many tasks would be contracted out and therefore represent an incremental cost for Canada.</td>
</tr>
</tbody>
</table>

**Considerations**

*With the exception of certain water and geotechnical monitoring, the SD (as represented by the RECLAIM estimate) does not explicitly address the non-reclamation.*
5. **Serious and imminent threat to the environment** (Section 15.3(b))

- The RECLAIM estimate does not address serious and imminent threats to the environment, nor does it address the costs associated with catastrophic events.

- Canada could incur incremental costs in responding to a serious and imminent threat just prior to, or after, bankruptcy following a period of declining site management.

- The Minister may draw on the land lease security to address a serious and imminent threat. Since the land lease security is also intended for reclamation, an imminent and serious threat near the time bankruptcy would result in a shortfall as DDMI would not be in a position to replenish the security. The Minister would need to draw on the ASD to address this shortfall.

- An example of a serious and imminent threat would be the imminent over-topping of the tailings pond. It would be a significant cost to Canada to engage a contractor on an emergency basis to ensure the protection of water and the stability of structures.

**Considerations**

The SD (as represented by the RECLAIM estimate) and Land Lease do not address serious and imminent threats to the environment as a security amount separate from reclamation security. There would be a need for the Minister to hold additional security in the ASD to cover these potential costs in a scenario where a serious and imminent threat is followed immediately by bankruptcy.

6. **Compliance with regulatory instruments** (Article V)

- The Minister can draw on the water license and land leases security (as represented by the RECLAIM estimate) to address compliance issues associated with those regulatory instruments and to compensate adversely affected persons.

- Non-compliance by DDMI can only occur while DDMI is

- Theoretically, there could be a one or more substantial and material non-compliances immediately preceding a bankruptcy, which could leave Canada with some incremental costs associated with addressing these non-compliances. The Minister would need to draw on the ASD to address this shortfall for any non-compliance associated with regulatory instruments where no security is held (e.g. explosives permit) or where the security overlaps with the reclamation
under the Explosives Act;
- the Land Leases;
- Navigable Waters Permits issued under the Navigable Waters Protection Act; and
- Any and all additional Regulatory Instruments applicable to the Project at any time.

operational and is typically addressed through other measures (engagement, direction, order).

security (e.g., land lease, water license).

- However, the analysis could not identify a credible scenario where there would be significant incremental costs associated with a non-compliance that would not also be a serious and imminent threat to the environment (see row above) or be addressed through the interim care and maintenance costs (covered by the RECLAIM estimate).

**Considerations**

A non-compliance while DDMI is operating would typically be addressed through measures other than drawing on security. Any significant incremental costs for Canada resulting from a non-compliance that was outstanding just prior to bankruptcy, is likely covered by one of the scenarios identified above (e.g., serious and imminent threat.) Therefore, there would not be a need for the Minister to hold additional security in the ASD for costs to address non-compliance with regulatory instruments.
AANDC has established policies, principles and procedures within the Mine Site Reclamation Policy for the Northwest Territories (AANDC 2002). The policy “…should provide proponents, boards and government departments with certainty, clarity and consistency regarding expectations, from project design to operations and post-closure.”

The following excerpts from AANDC 2002 are particularly relevant:

- Every mine should, at all times, have a mine closure and reclamation plan, which includes measures to be taken in the event of a temporary closure.
- Adequate security should be provided to ensure the cost of reclamation, including shutdown, closure and post-closure, is born by the operator of the mine rather than the Crown.
- Best management practices, including progressive reclamation, should be applied to advance environmental protection and reduce environmental risks.
- The total financial security for final reclamation required at any time during the life of the mine should be equal to the total outstanding reclamation liability for land and water combined (calculated at the beginning of the work year, to be sufficient to cover the highest liability over that time period).
- The recognized methodology for calculating reclamation costs for the purposes of financial security, should be the RECLAIM or some other appropriate model.
- …To ensure that financial security is most efficiently and effectively applied, …DIAND responsibilities will include …developing and updating of recognized standards, models and assumptions for calculating reclamation costs (e.g., RECLAIM model); …
- When ongoing reclamation work reduces the outstanding environmental liability, it will result in a reduction in the level of financial security required to be maintained.
- Credit for progressive reclamation work should be made in a timely fashion in accordance with authorities set out in the applicable legislation.
- The value of reclamation work will be based on generally accepted modelling (e.g., the RECLAIM model) and calculated as the difference between previous outstanding liability and estimates made of the remaining liability following the reclamation work (as opposed to actual costs, if actual costs do not fully reduce outstanding liability).
- The Mackenzie Valley Land and Water Board (and now Wek’ëzhii Land and Water Board) has the jurisdiction to determine the amount of security in water licences and land-use permits, while the Minister of DIAND has the power to determine the form of security provided under these instruments.

The AANDC (2002) policies, principles and processes have been followed for calculating the closure and reclamation costs:

- DDMI has an approved Interim Closure and Reclamation Plan (WLWB September 26, 2011);
Cost estimating has been done with RECLAIM based on the closure and reclamation scope described in ICRP V3.2, the standards and assumptions recommended by AANDC (October 2011) and in accordance with AANDC 2002 such that adequate security should be provided to ensure the cost of reclamation, including shutdown, closure and post-closure, is born by the operator of the mine rather than the Crown.

WLWB determined (using RECLAIM) that the amount of total closure and reclamation liability is $131.4M (WLWB January 25, 2012).

DDMI has applied best management practices to waste rock segregation over the last 10 years. This work has reduced closure and reclamation costs.

The value of the waste rock segregation work to closure and reclamation was determined using AANDC (2002) to be $55.7M. This is based on difference between previous outstanding liability ($187.1M) and estimates made of remaining liability following work ($131.4M).

Total outstanding closure and reclamation liability is $131.4M. To hold more than $131.4M in closure and reclamation security would be in conflict with AANDC Policy (AANDC 2002).

RECLAIM is the recognized method to be used for calculating reclamation costs for the purposes of financial security (AANDC 2002). If that method is used, follows AANDC updated “recognized standards, models and assumptions for calculating reclamation costs” and it is approved by the WLWB, then by definition of AANDC Policy that estimate is the total amount of closure and reclamation financial security.

AANDC Table 2 summarizes a list of closure and reclamation costs that in AANDC believes are not included in the RECLAIM estimate approved by the WLWB. AANDC therefore seems to conclude that security beyond the amount of the RECLAIM estimate should be required.

The following are some AANDC statements from Table 2 with a DDMI response.

AANDC Statement #1: "Canada may incur additional costs by engaging third parties to conduct assessment work, additional engineering design, and consultation required to implement the closure and reclamation plan."

DDMI Response #1: RECLAIM estimates the costs that Canada would incur if they were required to implement closure and reclamation today following ICRP V3.2 and with full recognition that ICRP V3.2 is an interim plan with identified and unidentified uncertainties. The engineering costs ($4M) and management costs ($4M) in the WLWB RECLAIM reflect the current state of the plan and the work required to advance the plan and manage the implementation. The engineering and management costs are estimated in RECLAIM as a percentage (each at 5%) of the total costs. AANDC Policy (AANDC 2002) gives responsibility to AANDC for determining these types of assumptions for reclamation cost estimating. The assumed value of 5% is as provided by AANDC (October 2011).

AANDC Statement #2: There remains a significant likelihood that site conditions at the time of bankruptcy are different from those assumed in the ICRP and the RECLAIM estimate, and/or that the proposed reclamation design is not appropriate or sufficient.

DDMI Response #2: The WLWB RECLAIM estimate includes a contingency of $16M. The contingency is to address a number of uncertainties in the cost estimate including all of those described by AANDC in Table 2. In Appendix B of the AANDC June 2007 RECLAIM cost estimate, AANDC provides the following guidance to support a Diavik specific contingency of $15M.
Uncertainty and Selection of Contingency in Reclamation Cost Estimates


Uncertainty and selection of an appropriate contingency amount is often the most controversial aspect of rehabilitation security. As with any type of cost estimating process, there is potential for the actual cost to be different from the estimated cost. This arises from a number of factors which introduce uncertainty in the assumed scope and effort of the work. In the case of mine rehabilitation security, uncertainty really means;

“What is the likelihood that the actual cost will vary from the estimated cost?”

Factors which may introduce uncertainty into a reclamation cost estimate can be grouped into three broad areas, each of which are described below. It should be recognized that this is not intended to be an exhaustive list. Every mine is a special case and identification and evaluation of uncertainty factors should be conducted on a case by case basis.

Uncertainty factors pertaining to the mine plan consider the:

• Data base of geology and geochemistry (which may result in ARD or metal leaching problems),
• Characterization of critical foundations (such as under dams and waste dumps),
• Application of a new technology or unique application of an existing technology,
• Use of optimistic control strategies (such as blending of acid generating and acid consuming rocks), and,
• Predictions concerning the effectiveness of control measures (such as cyanide degradation in tailings impoundment water).

Uncertainty factors pertaining to the rehabilitation plan are:

• Variability in the extent and type of disturbance at the time of mine closure,
• Expectations for the success of rehabilitation measures, and,
• Potential for difficulty in implementing the closure measures.

Uncertainty factors pertaining to the cost of the rehabilitation work are:

• Cost of equipment, manpower, and consumables such as lime and fuel,
• Duration of time required to complete the work (and the effect on the associated site support costs),
• Availability of qualified contractors to carry out the work.

It is only through consideration of the above factors can the cost estimator select an appropriate contingency. The final determination is still a matter of professional judgment, however the factors described above will help to guide the professional. (From Appendix B AANDC June 2007 RECLAIM Estimate for Diavik)

AANDC Policy (AANDC 2002) gives responsibility to AANDC for determining assumptions for reclamation cost estimating. The assumed value for contingency of 20% used in the WLWB RECLAIM estimate is as provided by AANDC (October 2011).
AANDC Statement #3: “With the exception of certain water and geotechnical monitoring, the SD (as represented by the RECLAIM estimate) does not explicitly address the non-reclamation related commitments described in the EA.”

DDMI Response #3: ICRP V3.2 includes scope for a comprehensive monitoring program including both performance and effects monitoring. The ICRP V3.2 includes annual reporting. ICRP V3.2 when implemented will be the site environmental management plan. The “Environmental Management Plans for Closure and Post Closure phase(s) of the Project” referenced in EA 6.1 is the Final Closure Plan. The ICRP V3.2 includes requirements of all licenses, permits and authorization including the EA. There are no environmental management or monitoring requirements in the EA that are not included in the ICRP. EMAB has also reviewed the ICRP and has not identified any EA obligations that have not been included in the ICRP. The WLWB RECLAIM estimate is specific to ICRP V3.2 and includes $10,174,000 for post closure monitoring. This compares to $541,500 in AANDC (1999), and $3,557,936 in AANDC (2007). AANDC (2011) included the amount of $10,174,000 for monitoring based on DDMI’s analysis “DDMI presented a total cost for post-closure monitoring. It is assumed that the company has a better knowledge of their current costs for this work than an estimated value from BCL” (AANDC April 2011 – Appendix A).

The cost to fund EMAB is not included in RECLAIM. The security for this funding is the $3M Environmental Agreement Security Deposit. Regarding the adequacy of $3M for EMAB to be involved with review/advice on environmental monitoring during closure and reclamation being completed by AANDC, DDMI notes that the Minister determines what these EMAB costs would be as per EA 17.15 and 18.3 and that these clauses were considered when establishing the amount of $3M.

**EA 17.15.** DDMI may curtail, suspend or interrupt operations as it sees fit, and during such periods of curtailment, suspension or interruption, DDMI shall be excused from the performance of its obligations hereunder to the extent considered reasonable by the Minister in Consultation with the Advisory Board.

**EA 18.3.** Once DDMI has ceased Commercial Production at the Project, the Minister may, in his/her discretion, and following Consultation with the Parties and the Advisory Board, do either or both of the following:

a) Relieve DDMI of its responsibilities and obligations arising from this Agreement to the extent deemed by the Minister to be reasonable in the circumstances; and

b) Set a schedule for winding down and concluding the operation of the Advisory Board.