

## Rhonda Miller

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**From:** Kevin O'Reilly [kor@theedge.ca]  
**Sent:** Wednesday, February 13, 2008 12:05 AM  
**To:** permits@mvlwb.com  
**Subject:** re: Comment Letter on Giant Mine Remediation Plan Water Licence Application (MV2007L8-0031)  
**Attachments:** Giant Mine Water Licence Submission.doc  
**Importance:** High

Please find attached a comment letter on the Giant Mine Remediation Plan Water Licence Application MV2007L8-0031.  
Thank you.

Kevin O'Reilly  
Box 444  
Yellowknife NT X1A 2N3

Box 444  
Yellowknife NT  
X1A 2N3

February 13, 2008

Willard Hagen, Chairperson  
Mackenzie Valley Land and Water Board  
7<sup>th</sup> floor – 4910 50<sup>th</sup> Ave.,  
Box 2130  
Yellowknife NT  
X1A 2P6

**Re: Giant Mine Remediation Project Water Licence Application MV2007L8-0031**

Dear Mr. Hagen

Please consider this letter during your preliminary screening of the Giant Mine Remediation Project Type A Water Licence Application. I request that the Mackenzie Valley Land and Water Board make a referral of this application for an environmental assessment to the Mackenzie Valley Environmental Impact Review Board pursuant to section 125(1)(a) as this development or undertaking, the Giant Mine Remediation Project, might have a significant adverse impact on the environment or might be a cause of public concern. My reasons to support this request appear below.

**Introduction**

I am a 22-year resident of Yellowknife that has served in a variety of positions with federal, territorial and Aboriginal governments, and with non-governmental organizations. I served nine years on Yellowknife City Council from 1997 to 2006 including the period where the Giant Mine went into receivership.

I have had extensive involvement for my previous employers or as a private citizen on the Giant Mine and the development of the remediation plan, with a particular interest in the underground arsenic trioxide dust storage.

I have reviewed the water licence application for the Giant Mine Remediation Plan and some of the background information submitted by the applicants.

I intend to intervene in the water licencing process to the extent possible for a private citizen without access to participant funding, but would certainly prefer that this development be referred to an environmental assessment.

This closure is one of the first under a new regime that includes constitutionally entrenched rights negotiated through several Aboriginal land claims agreements as expressed through the *Mackenzie Valley Resource Management Act* and under DIAND's mine site reclamation policy and guidelines.

This process will likely set several important precedents with regard to security, closure requirements, monitoring and other aspects of closure, as the proponents are the Department of Indian Affairs and Northern Development, and also have responsibilities for inspections of water licences, management of financial security, and interventions on licence applications. This is a very confusing and often conflicting set of responsibilities. I have noted that DIAND has yet to submit any comments on this application and wonder whether there will be any participation in a potential public hearing as an intervenor.

This process is also important in that the Giant mine is very close to the largest community in the NWT and has the potential to have a long-lasting negative effect on the environment and health of many residents and future generations. We have experienced so many failures in the past with mine closure, it is very important to get this one right.

In my view, the most appropriate means of reviewing this development is through a formal environmental assessment by the Mackenzie Valley Environmental Impact Review Board rather than a simple licence application and public hearing. This is based on the significance of this mine closure, its proximity to a large population centre, and the critical remaining deficiencies in the Remediation Plan that I outline later. To be clear, I have no objection to some parts of the Remediation Plan proceeding as soon as possible, but the management of the underground arsenic trioxide in particular poses huge challenges that deserve a detailed and rigorous review.

I have noted that the City of Yellowknife has requested the establishment of a Working Group so that the Remediation Plan can be reviewed. While this may be a useful forum, it is not necessarily open to the public and may not have thoroughness required for a development of this nature.

### **Deficiencies in the Remediation Plan and Application**

The Remediation Plan forms part of the licence application and is the basis upon which the development will be carried out. Although there has been a significant amount of work undertaken to put together the Plan, there are still several critical deficiencies. These are listed below with some rationale.

#### ***1. The Plan does not adequately reflect the need to minimize perpetual care requirements.***

In my view, the driving principle in developing the Remediation Plan was to minimize costs with some balancing of environmental and human health costs. There was little effort to ensure that the knowledge, technology and capacity exists far into the future, in theory forever, to adequately contain the arsenic trioxide. Other options to manage the underground arsenic trioxide did not receive adequate consideration, particularly reprocessing of this material followed by deep disposal of the ferric arsenate.

***2. The monitoring plan for the frozen block option for management of the underground arsenic trioxide is not adequate.***

Although the Executive Summary of the Remediation Plan claims “A detailed plan for monitoring the site during and after implementation of the Remediation Plan has been developed” (page iv), the only information I could locate regarding monitoring for the frozen block option are the three paragraphs in section 7.7 of the Remediation Plan as follows:

**7.7 Frozen Ground Monitoring**

A ground temperature monitoring system will be installed along with the ground freezing system. The monitoring components will include thermistors or thermocouples mounted on the freeze pipes as well as additional thermistor or thermocouple strings installed in separate drillholes.

During the period of active freezing, the in-ground monitoring will be supplemented by monitoring of temperatures and pressures in the coolant as it enters and leaves freeze pipes or groups of freeze pipes. This method is commonly used in freezing systems of similar design to ensure that all freeze pipes are functioning correctly.

Once frozen conditions have been established and the active freezing system is converted to passive thermosyphons, the performance of each thermosyphon will be monitored by annual checks of gas pressure and monitoring of heat loss from the radiators. Ground temperatures will continue to be monitored using the thermistors or thermocouples mounted on the freeze pipes and in independent drillholes.

This is not a detailed plan and does not include locations, frequency, duration, tiered thresholds or triggers for management responses or contingencies, or other necessary aspects of a proper monitoring program for such a crucial part of the Remediation Plan. The lack of detail instills little public confidence that this perpetual care methodology has really been thought through carefully.

***3. No commitment to ongoing research and development for improved management of the underground arsenic trioxide.***

I could not locate any information on financial security that should be required of this development to ensure that it is actually carried out in a timely and coordinated fashion. There is a reference in the Executive Summary (page v) to the need for federal Treasury Board approval to secure funding for this development. Given this uncertainty and lack of detail around financial security, it is unclear how the public can be assured that this project will actually be carried out.

There is no commitment I could locate in the documentation submitted, that clearly indicates an interest in, let alone any plans for any sort of ongoing research and development for improved management of the underground arsenic trioxide. I have characterized the frozen block option as the ‘freeze it and forget it’ method. Without a clear commitment to ongoing research and development, this scenario will become reality. I recommend that should the frozen block method be approved, that a separately administered trust fund be set aside to support ongoing research and development.

***4. Need for independent oversight of implementation of the Remediation Plan.***

Although there is a Giant Mine Community Alliance (GMCA) in place, the Remediation Plan does not articulate any ongoing role for this body during implementation and monitoring. In my view, the GMCA is not inclusive or independent and is not an appropriate model for community oversight of this very significant development. It is simply a communications liaison body. The monitoring agencies for the diamond mines in the NWT provide a much more appropriate model for oversight for a development or undertaking like the implementation of an approved Remediation Plan for the Giant Mine.

#### Other Concerns with the Remediation Plan

I have a number of other concerns with the final version of the approved Plan as follows:

- In general, the closure criteria specified in the Plan for various mine components are not nearly specific enough for a third party to verify compliance or success. There should be clear descriptions of all monitoring programs including locations for sampling and the rationale for selection, methodology to be employed, and triggers or thresholds for management responses need to be spelled out in action plans subject to Board review and approval, prior to work being initiated.
- Post-closure monitoring should not be simply based on regulated parameters under the water licence but successful achievement of the closure criteria over a reasonable period of time. Reductions in post-closure monitoring must be based on this principle.
- The remediation of contaminated soils is to be undertaken to “industrial” standards even though portions of the mine site are currently used for recreational purposes and have a high potential for residential use. I also have some concerns regarding the appropriateness of the arsenic soil remediation standards adopted by the Government of the NWT.

Thank you for the opportunity to submit my concerns with this application and I trust that it will receive the scrutiny that it deserves through an environmental assessment.

Sincerely,

A handwritten signature in black ink that reads "Kevin O'Reilly". The signature is written in a cursive, slightly slanted style.

Kevin O'Reilly

cc. Mayor and Council, City of Yellowknife  
Chiefs, Yellowknives Dene First Nation  
Chairperson, Mackenzie Valley Environmental Impact Review Board

## Rhonda Miller

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**From:** Kathleen Graham [kgraham@mvlwb.com]  
**Sent:** Thursday, February 14, 2008 11:36 AM  
**To:** 'Kevin O'Reilly'  
**Cc:** Registry (permits)  
**Subject:** RE: Comment Letter on Giant Mine Remediation Plan Water Licence Application (MV2007L8-0031)

Good Morning Kevin,

Thank you for your comments on the Giant Mine File. Unfortunately, since we received your comment three weeks after the extended comment deadline (January 21<sup>st</sup>), I cannot include your comments in the Preliminary Screening at this time. (the Preliminary Screening has already been submitted to the Board for the next Board Meeting). However, I will verbally let the Board know that you have submitted a letter on February 13<sup>th</sup> requesting an EA.

Kathleen

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**Kathleen Graham**  
Regulatory Officer

**Mackenzie Valley Land and Water Board**  
7th Floor - 4910 50th Avenue  
PO Box 2130  
Yellowknife, NT X1A 2P6  
Ph: 867-669-0506  
Fax: 867-873-6610

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**From:** Kevin O'Reilly [mailto:kor@theedge.ca]  
**Sent:** Wednesday, February 13, 2008 12:48 AM  
**To:** kgraham@mvlwb.com  
**Subject:** Fw: Comment Letter on Giant Mine Remediation Plan Water Licence Application (MV2007L8-0031)  
**Importance:** High

----- Original Message -----

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Kevin O'Reilly  
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Yellowknife NT X1A 2N3

**Rhonda Miller**

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**From:** kor@theedge.ca  
**Sent:** Thursday, February 14, 2008 12:09 PM  
**To:** Kathleen Graham  
**Cc:** "Registry (permits)"  
**Subject:** Re: RE: Comment Letter on Giant Mine Remediation Plan Water Licence Application (MV2007L8-0031)

Thank you for your reply. I understand that my comment letter was submitted after the deadline but that was the best I could do as a private citizen.

As part of its deliberations on the preliminary screening, if the Board has access to the other comment letters, I would ask that copies of my letter also be made available. Thanks.

Kevin O'Reilly

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> Kathleen Graham  
> Regulatory Officer  
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> Mackenzie Valley Land and Water Board  
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> PO Box 2130  
> Yellowknife, NT X1A 2P6  
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