FILE NUMBER: N7L2-1645

Date: May 20, 2005

To: Monica Krieger

Organization: LKFN

Fax: (867) 370-3010

From: Stephen Mathyk

Number of pages including cover

Remarks:

DTC correspondence attached:

☐ Enclosures

☐ As requested

☐ For your information

☐ For your comment

☐ For your approval

Delivered by Date

☐ Mail

☐ Courier Hand

☐ Delivered

☐ Fax  \textsuperscript{2005

\textsuperscript{Note: The document accompanying this transmission contains confidential information intended for a specific individual and purpose. The information is private, and is legally protected by law. If you are not the intended recipient, you are hereby notified that any disclosure, copying, distribution, or the taking of any action in reference to the contents of this teledoced information is strictly prohibited. If you have received this communication in error, please notify the above person immediately by telephone and return the original to by regular mail to address above.}
Stephen Mathyky

From: Stephen Mathyky [stephen@mvlwb.com]
Sent: Friday, May 20, 2005 9:03 AM
To: Nathan Richea; Zabey Nevitt; Anne Wilson; Bart Blais; Chris Hanks; Colleen Roche; Dave Balint; Dora Enzoe; Gord MacDonald; Jason McNeill; John McCullum; Julian Kanigan; Kelly Cott; Monica Krieger; MVLWB Permit; Rachel Crapeau; Scott Wytrychowski; Sheryl Grieve; Stanley Anablak; Ted Blondin; Tim Byerse; Tony Pearse
Subject: FW: Updated Contingency Plan - Received (DDMI - N7L2-1645)

DTC – FYI

Steve

-----Original Message-----
From: Macdonald, Gord (DDMI) [mailto:Gordon.MacDonald@diavik.com]
Sent: Monday, May 09, 2005 4:33 PM
To: Stephen Mathyky
Subject: RE: Updated Contingency Plan - Received (DDMI - N7L2-1645)

Stephen,

The attached contains the required revision. A paper copy will follow by mail.

Gord

-----Original Message-----
From: Stephen Mathyky [mailto:stephen@mvlwb.com]
Sent: Friday, May 06, 2005 8:46 AM
To: Macdonald, Gord (DDMI)
Cc: 'MVLWB Permit'
Subject: FW: Updated Contingency Plan - Received (DDMI - N7L2-1645)

Gord, please see the attached Board letter related to the issue raised by Environment Canada (below).

Regards,

Stephen Mathyky
Regulatory Officer
MVLWB
(867) 669-0506

-----Original Message-----
From: Wilson,Anne [Yet] [mailto:Anne.Wilson@EC.GC.CA]
Sent: Tuesday, April 12, 2005 4:15 PM
To: Stephen Mathyky; Nathan Richea; Zabey Nevitt; Bart Blais; Chris Hanks; Colleen Roche; Dave Balint; Dora Enzoe; Gord MacDonald; Jason McNeill; John McCullum; Julian Kanigan; Kelly Cott; Monica Krieger; MVLWB Permit; Rachel Crapeau; Scott Wytrychowski; Sheryl Grieve; Stanley Anablak; Ted Blondin; Tim Byerse; Tony Pearse
Subject: RE: Updated Contingency Plan - Received (DDMI - N7L2-1645)

5/20/2005
Hi Stephen,
Thanks for circulating the plan. I would like to flag one concern with the revised plan: Section 2.a.iv states that "Any effluent that is directed to the North Inlet as part of this contingency plan shall not be released unless it passes an LC50 test, unless otherwise approved by the Inspector." The last phrase indicates that approval could be sought to release effluent which fails an acute toxicity test, but such effluent would be deemed to be in violation of section 36(3) of the Fisheries Act. Of course the Inspector would not approve this, but this clause should not have been included here (it was put in as recommended by GLL) as that is not a workable option.

Anne

-----Original Message-----
From: Stephen Mathyk [mailto:stephen@mvlwb.com]
Sent: Monday, April 11, 2005 3:42 PM
To: Nathan Richea; Zabey Nevitt; Wilson, Anne [Yel]; Bart Blais; Chris Hanks; Colleen Roche; Dave Balint; Dora Enzoe; Gord MacDonald; Jason McNeill; John McCullum; Julian Kanigan; Kelly Cott; Monica Krieger; MVLB Permit; Rachel Crapeau; Scott Wytrychowski; Sheryl Grieve; Stanley Anablay; Stephen Mathyk; Ted Blondin; Tim Byerses; Tony Pearse

Subject: FW: Updated Contingency Plan - Received (DDMI - N7L2-1645)

Sorry folks, I was under the impression that this had already been circulated. See the approved and updated plan attached.

Regards,

Stephen Mathyk
Regulatory Officer
MVLB
(867)669-0506

-----Original Message-----
From: Julian Kanigan [mailto:kaniganj@inac-ainc.gc.ca]
Sent: Monday, April 11, 2005 3:25 PM
To: stephen@mvlwb.com
Subject: Re: Updated Contingency Plan - Received (DDMI - N7L2-1645)

Hi Steve.

I don't think I have a copy of March 22nd Updated Contingency Plan mentioned in your acceptance letter. Would you be able to forward that on?

Thanks,

>>> "Stephen Mathyk" <stephen@mvlwb.com> 04/08/05 4:30 PM >>>
DTC - Please see the Boards receipt letter for the Updated Contingency Plan (Part J, Item 5) attached. This is for you record.

Regards,

5/20/2005
Stephen Mathyk  
Regulatory Officer  
MVLWB  
(867) 669-0506  

-----Original Message-----  
From: Macdonald, Gord (DDMI) [mailto:Gordon.MacDonald@daivik.com]  
Sent: Tuesday, March 22, 2005 9:18 AM  
To: Stephen Mathyk (E-mail)  
Subject: J5 Contingency Plan  

Stephen,  

Here is the final plan with the changes required by the Board. A paper copy will follow by mail.  

Gord  

<<J5 Approved Contingency Plan Submission.pdf>>  

5/20/2005
May 9, 2005

Todd Burlingame, Chair
Mackenzie Valley Land and Water Board
7th Floor – 4910 50th Ave.
P.O. Box 2130
Yellowknife, NT, X1A 2P6

Re: Part J Item 5 – Contingency Plan – Toxicity

Attached is the Contingency Plan with the additional revision required by the Mackenzie Valley Land and Water Board in the letter dated May 3, 2005. This requirement was subsequent to the approval letter of February 25, 2005.

Diavik Diamond Mines Inc.

Regards,

[Signature]

Gord Macdonald

cc: Stephen Mathyk – MVLWB

Attachment – Revised - Approved Contingency Plan (May 2005)
Approved Contingency Plan – Effluent Toxicity
Revised May, 2005

Context: This section is an addendum to DDMI’s Contingency Plan (March 2004). It is required based on the Amended Water License (June 30, 2004) Part J Item 5.

Effective Date: This Plan becomes effective upon written Approval by the Mackenzie Valley Land and Water Board. This Plan will be updated to reflect any changes in toxicity testing protocols as described in SNP Part F.

Procedure:

1. If valid results (as defined by test methods referenced in Part H Item 8) from either of the monthly acute toxicity tests (96 hr trout, 48 hr daphnia) show mortalities greater than 20% but less than 50% in the 100% effluent, then:

   i. Notify Inspector.
   ii. If this is the second time that valid test results have shown mortalities greater than 20% but less than 50% in the last four months, then proceed directly to Step 1ai.
   iii. Review pH control in NIWTP and ensure levels in 6.0-7.0 range and review water quality at 1645-18 and 1645-49.
   iv. Re-sample immediately and re-test with species that showed mortality.

   a. If results from re-test (1iii) continue to show mortalities greater than 20% but less than 50% in the 100% effluent, then:

      i. Direct NIWTP effluent back to NI.
      ii. Notify Inspector.
      iii. Initiate Toxicity Identification and Evaluation (TIE) to determine if source is ammonia.

   b. If the TIE (1aiii) determines that the source of toxicity is ammonia, then:

      i. Review pH control in NIWTP and ensure levels in 6.0-7.0 range and review water quality at 1645-18 and 1645-49.
      ii. Re-sample and re-test with species that showed mortality.
      iii. Determine the period of time the mine water can be held in the NI.
      iv. Notify Inspector of action plans.
      v. Any effluent that is directed to the North Inlet as part of this Contingency Plan shall not be released unless it passes an LC20 test, unless otherwise approved by the Inspector.
c. If the TIE (1aiii) determine that the source of toxicity is NOT ammonia, then:
   i. Notify inspector of plan to resume discharge.
   ii. Resume discharge.
   iii. Continue TIE in an attempt to determine the cause of the toxicity.

2. If valid results (as defined by test methods referenced in Part H Item 8) from either of the monthly acute toxicity tests (96hr trout, 48 hr daphnia) show 50% or more mortalities in the 100% effluent, then:
   i. Direct NIWTP effluent back to NI.
   ii. Notify Inspector.
   iii. Review pH control in NIWTP and ensure levels in 6.0-7.0 range and review water quality at 1645-18 and 1645-49.
   iv. Re-sample and re-test with species that showed mortality.

a. If results from re-test (2iv) continues to show 50% or more mortalities in 100% effluent, then:
   i. Initiate Toxicity Identification and Evaluation (TIE).
   ii. Determine the period of time the mine water can be held in the NI.
   iii. Notify Inspector with plan of action.
   iv. Any effluent that is directed to the North Inlet as part of this Contingency Plan shall not be released unless it passes an LC50 test.

b. If results from re-test (2iv) show mortalities less than or equal to 20% in 100% effluent, then:
   i. Notify inspector of plan to resume discharge.
   ii. Resume discharge.

c. If results from re-test (2iv) show mortalities greater than 20% but less than 50% in 100% effluent, then:
   i. Proceed to Step 1aiii.

References:
The TIE procedures that would be followed are based on the following references:


Steve

-----Original Message-----
From: Macdonald, Gord (DDMI) [mailto:Gordon.MacDonald@diavik.com]
Sent: Monday, May 09, 2005 5:09 PM
To: Stephen Mathyk (E-mail)
Subject: SOP NIWTP Acid System

Stephen,

Please see attached. Paper copy will follow by mail.

Gord

<SOP NIWTP Rev 01Approved Submission.pdf>
May 9, 2005

Todd Burlingame, Chair
Mackenzie Valley Land and Water Board
7th Floor – 4910 50th Ave.
P.O. Box 2130
Yellowknife, NT, X1A 2P6

Re: Part H Item 18 – SOP NIWTP Acid System (Approved)

Attached is the SOP for the NIWTP Acid System with the revisions required by the Mackenzie Valley Land and Water Board in the letter dated May 5, 2005.

Diavik Diamond Mines Inc.

Regards,

[Signature]

Gord Macdonald

cc: Stephen Mathyk – MVLWB

Attachment – Rev 01 - SOP NIWTP Acid System
1 OBJECTIVE/PURPOSE

To control the North Inlet Water Treatment Plant (NIWTP) effluent pH levels to within defined levels. This control is necessary to manage potential acute toxicity due to ammonia in the treated water.

The following Standard Operating Procedure (SOP) describes the procedures to be applied to ensure that the Sulphuric Acid Dosing Skid System is operated such that acute toxicity is managed but acid is only added if necessary. There are potential negative environmental aspects of adding acid when it is not necessary.

2 DOSING PROCEDURE

In-line monitoring of temperature and pH, along with daily grab samples for ammonia will be used to determine the need and dosing requirements to adjust pH levels in the NIWTP. The dosing procedure is controlled within the NIWTP Delta V system, which controls all other chemical additions such as flocculants and coagulants. The Delta V system will utilize in-line pH and temperature monitoring. Daily samples will be collected for ammonia and analyzed by DDMI Environment for total ammonia (N). Ammonia will be analyzed using the Denver Instruments 200 Series Advanced Electrochemistry Meter that is capable of measuring total ammonia N to 0.1 mg/L. The NIWTP operators will enter these ammonia results into the Delta V system for use in calculating trigger values.

The following are triggers that will be utilized to manage pH and un-ionised ammonia levels:

Trigger #1 – pH at 1645-18 greater than or equal 8.3. The final effluent from the NIWTP at 1645-18 must have a pH less than 8.4. The discharge from the NIWTP is monitored continually for pH. If the pH reaches 8.3 the acid system will be activated and operated with a target pH of 8.2, lower limit of 8.0 and upper limit of 8.4.

Trigger #2 – un-ionised ammonia levels greater than or equal to 0.1 mg/L. The final effluent from the NIWTP at 1645-18 must be non-toxic. The fraction of total ammonia that is unionized is a function of pH and temperature. The concentration of unionized ammonia and can be estimated mathematically as follows:
UA = TA *1/(10^((0.0901821+2729.92/(T+273.15))-(pH))+1)

Where:
UA - unionised ammonia at 1645-18 (mg/L)
TA = total ammonia (N) at 1645-18 (mg/L) – from daily measures collected by DDMI Environment or inline meter if/when installed.
T = temperature of water at 1645-18 (°C) from inline monitors.
pH = pH of water at 1645-18 (pH units) from inline monitors.

If the trigger of 0.1 mg/L unionised ammonia is reached, then the pH will be reduced to achieve a target of 0.09 mg/L unionised ammonia with an upper limit of 0.1 and a lower limit of 0.08 mg/L. The pH must never be reduced below 6.

3 DOSING SYSTEM DESCRIPTION

The sulphuric acid dosing system is composed of a dual-metering pump dosing package (1 in service, 1 in stand by and 1 as back up in storage) with an integrated calibration column. The pumping system is connected to a sulphuric acid tote (approximately 1000 liters) via stainless steel braided tubing. The sulphuric acid holding containers are housed within a catch tray system (poly-spillpallet™ 3000) consisting of a dual basin polyethylene tank. A self-priming peristaltic pump is provided to contain a possible sulphuric acid spill.

The acid will be transferred to the effluent using two (2) diaphragm metering pumps via SS316L interconnecting tubing to the injection point at the in-line mixer and is controlled by a ProMinent Process Controller/Monitor. This monitor controls pump speed, which is linked to the Delta V system and subsequently controls the volume of sulphuric acid being added. The amount of acid to be added is derived, using the two preprogrammed trigger calculations defined above. The system has been designed to maintain the pH at the optimal level at effluent flow rates up to the design capacity of 30,000 m³/day.
4 REFERENCES:

- Materials Safety Data Sheet- Sulphuric Acid 98%, CAS# 7664.93, Code AC-8750.
- Sulphuric Acid Tote Handling.

Revision History

<table>
<thead>
<tr>
<th>Revision</th>
<th>Description</th>
<th>Prepared By</th>
<th>Date</th>
</tr>
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<tr>
<td>00</td>
<td>Sulphuric Acid Dosing System</td>
<td></td>
<td>February 8, 2005</td>
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<tr>
<td>01</td>
<td>Conditions of MVLWB Approval</td>
<td>G Macdonald</td>
<td>May 9, 2005</td>
</tr>
</tbody>
</table>
May 19, 2005

Mr. Joe Carrabba, President
Diavik Diamond Mines Inc.
Box 2498
YELLOWKNIFE, NT X1A 2P8

Fax: (867) 669-9058

Dear Mr. Carrabba:

Diavik Diamond Mines – Standard Operating Procedure
North Inlet Water Treatment Plant (NIWTP) Acid System

The Mackenzie Valley Land and Water Board (MVLWB) acknowledges receipt of your letter dated May 9, 2005, with attached Standard Operating Procedure for the NIWTP Acid System (Approved). This submission has been reviewed and found to conform to the required changes specified in the MVLWB approval letter of May 5, 2005.

If you have any questions regarding this letter please contact me at (867) 669-0506 or e-mail mvlwbpermit@mvlwb.com.

Yours sincerely,

[Signature]

Stephen Mathyk
Regulatory Officer
Stephen Mathyk

From: Stephen Mathyk [stephen@mwlwb.com]
Sent: Friday, May 20, 2005 10:53 AM
To: 'EMAB'
Cc: Nathen Richea ; 'Zabey Nevitt'; 'Anne Wilson '; 'Bart Blais'; 'Chris Hanks '; 'Colleen Roche'; 'Dave Ballint '; 'Dora Enzoe'; 'Gord MacDonald'; 'Jason McNeill'; 'Julian Kanigan'; 'Kelly Cott'; 'Monica Krieger'; 'MVLWB Permit'; 'Rachel Crapeau'; 'Scott Wytrychowski '; 'Sheryl Grieve'; 'Stanley Anablak'; 'Stephen Mathyk'; 'Ted Blondin'; 'Tim Byerses'; 'Tony Pearse'

Subject: RE: 2004 AEMP comments

John, at this point I don’t see a problem with your extension request. I am also looking into EMAB’s request regarding the DTC review of the 2003 AEMP and subsequent years as described in your e-mail of May 4th (copied to the DTC). I hope to have a clarification for EAMB and the DTC on this next week.

Regards,

Stephen Mathyk
Regulatory Officer
MVLWB
(867) 669-0506

-----Original Message-----
From: EMAB [mailto:Emab1@arcticdata.ca]
Sent: Wednesday, May 18, 2005 4:48 PM
To: Stephen Mathyk
Subject: 2004 AEMP comments

Hi Steve,
I am requesting that the comment deadline on the 2004 AEMP be extended to June 27. Our independent export consultants will not be able to provide final comments on the report until then.

Let me know if you need further information, or if there is a problem with this request.
Thanks and cheers
John
John McCullum
Executive Director
Environmental Monitoring Advisory Board (for the Diavik mine)
2nd floor, 5006 Franklin Ave., Yellowknife,NT
Box 2577, X1A 2P9
766-2982; 766-3693(fax)
emab1@arcticdata.ca

5/20/2005