



Mackenzie Valley Land and Water Board
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Staff Report

Applicant: Aboriginal Affairs and Northern Development Canada – Contaminants and Remediation Directorate (AANDC-CARD)	
Location: Giant Mine Site	Application: MV2012L8-0010
Date Prepared: April 9, 2014	Meeting Date: May 22, 2014
Subject: Roaster Complex Detailed Deconstruction Plan (RCDD) v.2	

1. Purpose/Report Summary

The purpose of this Staff Report is to present to the Mackenzie Valley Land and Water Board (MVLWB or the Board) the Roaster Complex Detailed Deconstruction Plan version 2 (the Plan). The Plan is required under condition H.1 of type B Water Licence (WL) MV2012L8-0010 (for deconstruction of the roaster complex and underground stabilization activities at the Giant Mine site, NT) issued to Aboriginal Affairs and Northern Development Canada – Contaminants and Remediation Directorate, Giant Mine Remediation Project (AANDC-CARD).

2. Background

- March 28, 2013 – WL issued to AANDC-CARD;
- June 6, 2013 – Roaster Complex Detailed Deconstruction Plan Version 1 approved by the Board;
- March 27, 2014 – Updated Plan received;
- April 4, 2014 – Plan posted on the On-line Review System for public comment period;
- April 29, 2014 – Review comment deadline;
- May 8, 2014- Proponent response submitted; and
- May 22, 2014 – presented to the Board.

3. Discussion

The Roaster Complex Detailed Deconstruction Plan is a requirement of WL MV2012L8-0010 condition H.1 which states:

The Licensee shall, 45 days prior to starting deconstruction of the Roaster Complex, submit to the Board for approval a Roaster Complex Detailed Deconstruction Plan. This plan shall contain the items as listed under Schedule 2, item 1.

Schedule 1, item 1 states:

The Roaster Complex Detailed Deconstruction Plan referred to in Part H, item 1 shall include, but not be limited to, the following:

- a. An assessment of the potential risks to the environment from the chosen deconstruction methods and mitigating measures to address these risks;
- b. A summary of the equipment and methodology to be used for deconstruction of the Roaster Complex;
- c. The proposed sequence of deconstruction work within each structure of the Roaster Complex to be taken down, including where decontamination work is required as part of the structure deconstruction;
- d. The size reduction, stacking, packaging, and storage procedures for non-hazardous waste and arsenic-containing hazardous waste, and packaging type as applicable;
- e. Spill contingency plans specific to Roaster Complex deconstruction if the plans deviate from or add to the November 2012 General Contingency and Emergency Spill Response Plan prepared by Nuna/Deton Cho Joint Venture as submitted in the Accepted Application;
- f. A plan for the management and monitoring of dust, including but not limited to thresholds, action levels, and management responses; and
- g. Design of the recycled water collection and transport system, and related spill prevention measures.

The Licensee is submitting the updated plan as required under condition H.6 which states:

The Licensee shall modify the plans referred to in Part H items 1 and 3 as necessary to reflect any proposed changes in operations. Any proposed changes shall be submitted to the Board for approval.

As a result of planning for the 2014 operating season, changes were required to be made to the RCDD. These changes include changes to Figure 8, appendix C: Waste Classification and Packaging and Appendix D: Detailed Deconstruction Plan.

Changes to the Plan fall into two categories:

- 1) Arsenic-containing waste sub-types: Arsenic-containing wastes are currently described under Item 4-Hazardous Wastes in section 2.1 of the RCDD and include items that are expected to exceed the testing thresholds set out in Figure 8. Additions to the list of items that require further cleaning can be found on the footnote 2 of Figure 8; these items include steel and fiberglass with arsenic trioxide dust between the layers of material. The testing protocols and waste management and storage procedures for arsenic-containing wastes will remain the same; it is only the list of sub-types under arsenic-containing wastes that has been updated.
- 2) Additions to the equipment list: in accordance with Schedule 2, item 1(b), requires that the equipment used for deconstruction be approved. The equipment listed in the appendices has been updated to accommodate the needs of the upcoming field season and equipment availability. Most of the changes involve changing brand name or model of the equipment, but approval to bring additional equipment to site is requested. The additional equipment includes items such as additional tool cribs, an additional water tank, and dust destroyers. The dust destroyers will be used to control dust through wetting in addition to the water sprayers already approved in the plan.

4. Comments

n/a

5. Review Comments

Comments were received from Alternatives North and Environment Canada. Staff have attached the Comment Summary Table for the Board's review.

AANDC-CARD provided responses to the comments that were submitted.

6. Security

n/a

7. Conclusion

After review of the Plan in conjunction with the WL, and after reviewing the comments submitted by reviewers and responses from AANDC-CARD it is the staff opinion that all items have been addressed.

8. Recommendation

Board staff recommend that the Roaster Complex Detailed Deconstruction Plan (RCDD) v.2 be approved as submitted by Aboriginal Affairs and Northern Development Canada – Contaminants and Remediation Directorate (AANDC-CARD) on March 27, 2014.

9. Attachments

- [Roaster Complex Detailed Deconstruction Plan v.2](#)
- [Roaster Complex Detailed Deconstruction Plan – supporting figures and equipment list](#)
- Online Review System Comment Summary Table
- Draft Issuance Letter

Respectfully submitted,



Tyree Mullaney
Regulatory Officer

Review Comment Table

Board:	MVLWB
Review Item:	AANDC CARD - GIANT - Roaster Complex Deconstruction Waste Management Plan - Revision 2 (MV2012L8-0010)
File(s):	MV2012L8-0010
Proponent:	AANDC
Document(s):	AANDC - CARD Roaster Complex Deconstruction Waste Management Plan - Revision 2 - MV2012L8-0010 (3 MB) AANDC CARD - Roaster Complex Deconstruction Waste Management Plan - Fig 8 and Equipment List - MV2012L8-0010 (5 MB)
Item For Review Distributed On:	Apr 4 at 16:07 Distribution List Apr 7 at 11:00 Distribution List
Reviewer Comments Due By:	Apr 29, 2014
Proponent Responses Due By:	May 8, 2014
Contact Information:	Rebecca Chouinard 867-766-7459 Tyree Mullaney 867-766-7464

Comment Summary

AANDC (Proponent)				
ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Staff Response
1	General File	Comment (doc) Cover Letter - May 8 2014 Recommendation		
2	General File	Comment (doc) Attachment A - Response to Alternatives North Comments Recommendation		
Alternatives North: Kevin O'Reilly				
ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Staff Response
1	Cover Letter and revised Figure 8.	Comment AANDC wishes to amend the arsenic-contaminated waste sub-types to include "steel or fibreglass with arsenic trioxide dust fixed between layers of the material". It is not clear whether this kind of material was previously considered part of another sub-type, and whether this changes will have any effect on the quantities of waste as listed in s. 2.1 of the Waste Management Plan. It is also not clear whether this new sub-type requires any special handling or whether there is capacity to handle and store this new subtype within the existing limitations of the Waste Management Plan. Recommendation 1) AANDC should clarify what effect the new waste sub-type will have on the quantities of waste and whether this waste was previously considered within one of the other waste sub-types. 2) AANDC should clarify whether there are any special	May 8: 1) Initially it was expected that a large portion of the steel or fibreglass materials would be cleaned such that concentrations would be below those thresholds set out in Figure 8 for arsenic-containing waste (i.e. classified as non-arsenic containing waste). However, it was also initially expected that a portion of the arsenic impacted waste could not be cleaned sufficiently to meet the requirements to be classified as a non-arsenic waste. These wastes were included in Figure 8 of the waste management plan. During the 2013 season, a number of materials were identified that could not be cleaned sufficiently; these materials included layers of plate steel and fiberglass that included an inner layer of arsenic between the outer plates (e.g. plate steel). Since the arsenic material could not be removed from the underlying substrate, the waste material was classified as an	Response received from the proponent are sufficient.

		<p>handling requirements for this new waste sub-type. 3) AANDC should clarify whether there is the capacity to handle and store this new waste subtype within the capacity and limitations set out in the Waste Management Plan.</p>	<p>arsenic containing and included in total volume for that waste category. The following summarizes the total waste that is estimated to be generated during the completion of the Roaster deconstruction project. As stated in the Waste Management Plan the only wastes that will be stored at Giant Mine will be arsenic impacted wastes, mineral wastes, asbestos waste as well as non-hazardous wastes. All non-arsenic containing hazardous wastes will be hauled offsite. Non-hazardous waste – 2,240 m3, Mineral waste – 140 m3, Oils and liquids – 20 m3, PCB containing materials – 12 m3, Chemicals and mercury containing materials – 25 m3, Materials coated with leachable lead containing paint – 1 m3, Non-leachable lead painted materials – 4 m3, Arsenic trioxide dust and waste containing arsenic – 3,925 m3, Non-arsenic contaminated asbestos waste – 100 m3, TOTAL WASTE VOLUME – 6,467 m3 2) No new handling or storage procedures for arsenic containing wastes are required; the procedures described in the approved Waste Management Plan apply to this waste. 3) The Temporary Waste Storage Area has a footprint of 17,800 m2 located within a fenced compound. It has a capacity to store approximately 7,800 m3 of waste in marine shipping containers. Based on current waste volume estimates shown above, there is expected to be sufficient space within the Temporary Waste Storage Area to store the arsenic impacted waste as well as the non-hazardous waste generated in the Roaster Deconstruction program</p>	
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Environment Canada: Sarah-Lacey McMillan

ID	Topic	Reviewer Comment/Recommendation	Proponent Response	Board Staff Response
1	General File	Comment (doc) EC no comment letter Recommendation		n/a



PO BOX 1500
YELLOWKNIFE, NT X1A 2R3

May 8, 2014

Mr. Willard Hagen, Chair
MACKENZIE VALLEY LAND AND WATER BOARD
BOX 2130, 7TH FLOOR, 4922 - 48TH STREET
YELLOWKNIFE, NT X1A 2P6

Responses to Review Comments; Roaster Complex Deconstruction Waste Management Plan, Revision 2, Figure 8 and Updated Equipment List

Dear Mr. Hagen:

Please find enclosed the Giant Mine Remediation Project Team's response package addressing the review comments on the Roaster Waste Management Plan, Revision 2. The response package consists of the components as identified below:

1. *Cover letter*
2. *Comment Summary Table (uploaded to online registry system)*
3. *Attachment A – Responses to Alternatives North Comments*

The Project Team would also like to acknowledge that they have reviewed the letter submitted from Environment Canada and will continue to provide updates as required.

We appreciate the opportunity to review comments. If you have any questions about our response package, please contact the undersigned by telephone at 819-934-9223 or by email at Katherine.Ross@aandc-aadnc.gc.ca.

Sincerely,

Katherine Ross
Regulatory Project Analyst
Giant Mine Remediation Project

Encl: Comment Summary Table (on-line reporting system)
Attachment A – Responses to Alternatives North Comments.

cc.: Adrian Paradis, Regulatory Manager, AANDC

Attachment A
Responses to Alternatives North Comments
Revision 2 to the Roaster Complex Waste Management Plan
May 8, 2014

Comment: AANDC wishes to amend the arsenic-contaminated waste sub-types to include "steel or fiberglass with arsenic trioxide dust fixed between layers of the material". It is not clear whether this kind of material was previously considered part of another sub-type, and whether this change will have any effect on the quantities of waste as listed in s. 2.1 of the Waste Management Plan. It is also not clear whether this new sub-type requires any special handling or whether there is capacity to handle and store this new subtype within the existing limitations of the Waste Management Plan.

Recommendation: 1) AANDC should clarify what effect the new waste sub-type will have on the quantities of waste and whether this waste was previously considered within one of the other waste sub-types. 2) AANDC should clarify whether there are any special handling requirements for this new waste sub-type. 3) AANDC should clarify whether there is the capacity to handle and store this new waste subtype within the capacity and limitations set out in the Waste Management Plan.

Response:

1) Initially it was expected that a large portion of the steel or fibreglass materials would be cleaned such that concentrations would be below those thresholds set out in Figure 8 for arsenic-containing waste (i.e. classified as non-arsenic containing waste). However, it was also initially expected that a portion of the arsenic impacted waste could not be cleaned sufficiently to meet the requirements to be classified as a non-arsenic waste. These wastes were included in Figure 8 of the waste management plan. During the 2013 season, a number of materials were identified that could not be cleaned sufficiently; these materials included layers of plate steel and fiberglass that included an inner layer of arsenic between the outer plates (e.g. plate steel). Since the arsenic material could not be removed from the underlying substrate, the waste material was classified as an arsenic containing and included in total volume for that waste category.

The following summarizes the total waste that is estimated to be generated during the completion of the Roaster deconstruction project. As stated in the Waste Management Plan the only wastes that will be stored at Giant Mine will be arsenic impacted wastes, mineral wastes, asbestos waste as well as non-hazardous wastes. All non-arsenic containing hazardous wastes will be hauled offsite.

- Non-hazardous waste – 2,240 m³
- Mineral waste – 140 m³
- Oils and liquids – 20 m³
- PCB containing materials – 12 m³
- Chemicals and mercury containing materials – 25 m³
- Materials coated with leachable lead containing paint – 1 m³
- Non-leachable lead painted materials – 4 m³
- Arsenic trioxide dust and waste containing arsenic – 3,925 m³
- Non-arsenic contaminated asbestos waste – 100 m³
- TOTAL WASTE VOLUME – 6,467 m³

2) No new handling or storage procedures for arsenic containing wastes are required; the procedures described in the approved Waste Management Plan apply to this waste.

3) The Temporary Waste Storage Area has a footprint of 17,800 m² located within a fenced compound. It has a capacity to store approximately 7,800 m³ of waste in marine shipping containers. Based on current waste volume estimates shown above, there is expected to be sufficient space within the Temporary Waste Storage Area to store the arsenic impacted waste as well as the non-hazardous waste generated in the Roaster Deconstruction program.



Environment
Canada

Environnement
Canada

Prairie & Northern Region
Environmental Protection Operations (EPO)
5019 52nd Street, 4th Floor
Yellowknife, NT X1A 2P7

April 29, 2014

EC file: 5100 000 002 /004
MVLWB file: MV2012L8-0010

Tyree Mullaney
Mackenzie Valley Land and Water Board
7th Floor, 4922 48th St
PO Box 2130
Yellowknife, NT X1A 2P6

Via Online Submission

Attention: Ms. Mullaney

**RE: MV2012L8-0010 – AANDC CARD – Giant Mine Remediation - Roaster
Complex Deconstruction Waste Management Plan**

Environment Canada (EC) has reviewed the above mentioned Deconstruction Waste Management Plan submitted by AANDC CARD and has no comment. The review was conducted pursuant to EC's mandated responsibilities arising from the *Canadian Environmental Protection Act, 1999* (CEPA), the pollution prevention provisions of the *Fisheries Act*, the *Migratory Birds Convention Act* (MBCA) and the *Species at Risk Act* (SARA).

If there are any changes to the provided plans and/or more information becomes available, EC should be notified, as further review may be necessary. Please do not hesitate to contact me at (867) 669-4724 or at sarah-lacey.mcmillan@ec.gc.ca.

Sincerely,

Sarah-Lacey McMillan
Senior Environmental Assessment Coordinator
Environmental Protection Operations
Prairie and Northern Region
Environment Canada

cc: Carey Ogilvie, Head EA North (NT and NU), EPO

Canada

www.ec.gc.ca