NWB Tools

Megan Porter <megan.porter@nwb-oen.ca>

response to: 131219 2AM-MRY1325 Submissions Related to the Annual Security Review (ASR)

1 message

Torng, Allan <ATorng@gov.nu.ca> Thu, Jan 2, 2014 at 2:02 PM
To: Megan Porter <megan.porter@nwb-oen.ca>, "Phyllis Beaulieu (phyllis.beaulieu@nwb-oen.ca)" <phyllis.beaulieu@nwb-oen.ca>
Cc: "Klassen, Ken" <KKlassen@gov.nu.ca>, "Joy, Wanda" <WJoy@gov.nu.ca>, "Hutchison, Kristine" <KHutchison@gov.nu.ca>, "Baikie, Maureen" <MBaikie@gov.nu.ca>, "Workman, Peter" <PWorkman@gov.nu.ca>

Phyllis,

As requested, please find below our comments on the submissions in relation to the Annual Security Review (ASR) for the Mary River Project:

1. A (e-)copy of the following documents should be submitted to the Environmental Health Officer at the Iqaluit Public Health Unit:

a. spill contingency plan(s),

b. environmental management and monitoring plans,

c. landfill operations and maintenance manual,

d. contingency and emergency response plan,

e. wastewater treatment & disposal plan,

f. fuel storage and maintenance plan,

g. mine closure, abandonment, and reclamation plan,

h. hazardous waste containment area plan(s), and

i. hazardous material and waste management plan.

2. The Environmental Health Officer at the Iqaluit Public Health Unit should be informed of any site spills, waste, leachate, or other discharges that may (adversely) affect human exposure or water body that is used as a drinking water source, and the (proposed) action(s) to resolve or mitigate that spill, waste, leachate, or other discharge.

3. Source Water Plan - Is there a plan for source water assessment and protection, water treatment, and distribution of that water taking into account the goal of the drinking water objectives? The drinking water objectives provide a performance target for water suppliers to ensure the provision of chemical and microbiological safe drinking water, and reduce the risk to human health.

In brief, the microbiological component of the safe drinking water objectives is as follows:

a. 4 log inactivation of viruses – For example, the common practice of maintaining 0.5 mg/L of free chlorine for 20 minutes (contact time) is considered adequate for the inactivation of viruses in most cases.

b. 3 log removal or inactivation of *Giardia Lamblia* and *Cryptosporidium* –*Giardia* and *Cryptosporidium* may be inactivated by large doses of free chlorine, ultraviolet light, or removed by filtration. Ultraviolet disinfection is given a credit a 3.0 logs if the dose is a minimum of 40 mj/cm^2. In addition, the US EPA has developed design guidelines to determine that the proposed water treatment will provide the desired inactivation of these protozoa.

c. Two treatment processes for all surface drinking water systems – A minimum dual (water treatment) barrier is recommended for all surface water sources to reduce the risk of microbial threats to drinking water. Water filtration and disinfection is an example of a dual water treatment application.

d. ≤ 0.1 NTU of turbidity – Where possible, filtration systems should be designed and operated to reduce turbidity levels as low as possible. Drinking water from sources may meet exemption criteria based on specific filtration technology that may be used (see http://www.hc-sc.gc.ca/ewh-semt/pubs/water-eau/2012-sum_guide-res_recom/index-eng.php).

e. '0' (total) coliforms and '0' *Escherichia coli* bacteria – The presence of total coliforms indicates that the water has been inadequately treated and may contain pathogenic microorganisms. The presence of *E. coli* is indicative of fecal contamination and that enteric pathogens may be present.

Questions: Would the discharge of treated sewage stored in the existing PWSP's at Mary River Camp and Milne Inlet impact the (respective) source water supply? What monitoring programs are in place to assess the impact on the source water supply?

A (e-)copy of the 'source water plan' should be submitted to the Environmental Health Officer at the Iqaluit Public Health Unit.

4. Does the operation's Emergency Response Plan include actions to take if the source water was contaminated, or to address the failure of the water treatment system? The Emergency Response Plan should be annually reviewed and updated, and a (e-)copy of that plan should be submitted to the Environmental Health Officer at the Iqaluit Public Health Unit.

5. The purveyor of the water should conduct routine quality monitoring of the water source. Please copy the Environmental Health Officer (at the Iqaluit Public Health Unit) with a (e-)report of the data/results on the chemical, physical, and bacteriological water quality. The current edition of the *Guidelines for Canadian Drinking Water Quality* should be used as a guideline for the evaluation of (drinking) water. If ultraviolet disinfection is being used at the site, the "%UV transmittance" data must be included with the water quality analysis.

6. To ensure prompt processing of approvals for new food premises operations (e.g., kitchen facilities), it is essential that all submissions received are complete and correct. The following is a guide that may be used to help ensure submissions contain necessary details for processing.

a. floor plans showing the layout of the facility with, for example, equipment details, finishing schedule, lighting and ventilation details;

b. connection to approved, potable supply of water (note - information on the adequacy of the quality and quantity of water should be provided);

c. connection to a community sewer or an approved on-site sewage disposal system (note - details should show that the operation of the facility will not exceed the design flow rate for that system); and

d. a (e-)copy of the food safety plan for all potentially hazardous foods to be served in the facility, and sanitation plan for that facility.

An inspection of that food premise facility is required prior to approval for operation. Please contact the Environmental Health Officer at the Iqaluit Public Health Unit to arrange for a date and time for an inspection.

7. With respect to the landfill location, what were the geological criteria for the assessment or determination of the (landfill) site suitability, i.e., to mitigate future problems (e.g., potential containment failures, toxic hot spots, and resultant effects of partial degradation, leachate production, biogas production, et cetera)?

8. What are the environmental monitoring programs that are in place for the incinerator operation? How are the following incineration products monitored:

a. gaseous products from incomplete combustion, i.e., noxious gaseous phase emissions, toxic organic chemicals (e.g., dioxins, furans, halogen-substituted biphenyl compounds),

b. fly ash and particulates (e.g., $PM_{2.5}$),

c. metals and metalloids,

d. ash (content… for disposal in landfill), and

e. pathogenic agents (e.g., viruses, microorganisms)?

9. As the organic waste from kitchens are disposed/treated via incinerator, does the incineration process/operation inactivate pathogenic agents? If so, please clarify how that process/operation provides safety with respect to infectious agent survival.

10. In the Work Plan (p. 12 of 19), it stated that:

a. “Poly-chlorinated plastics will be sorted out of waste stream and sent to landfill and will not be incinerated”.

b. “The Disposal of incinerated bottom ash in the landfill will not proceed unless it is tested by an acceptable test procedure. If the composition of the ash makes it unsuitable for disposal at the Landfill facilities, the waste will be directed to an appropriate facility for disposal”.

In the Work Plan (p. 14 of 19), Table 2-5 listed the various waste categories, description, estimated quantities (generated), and disposal methods. Further, the estimated quantities of (hazardous) waste to be relocated off site were detailed in the Hazardous Material and Waste Management Plan.

Question: How are the above practices (i.e., sorting/separating of plastic materials prior to placement in the landfill, testing of bottom ash, and disposal at an ‘appropriate facility’) reflected in the waste management plan?

A (e-)copy of the Hazardous Material and Waste Management Plan should be forwarded to the Environmental Health Officer at the Iqaluit Public Health Unit.

11. In Table 2-9 of the Work Plan (p.17 and 26), a number of fuel storage tanks were listed (i.e., Jet-a1 tank, maintenance building diesel tank; warehouse building diesel tank; truck wash building diesel tank; arctic diesel tank; fuel tank farm; gas fuel or oil storage tanks for the dorm, kitchen, lab, laundry and ancillary buildings).

Recommendation: It is recommended that the following documentations be prepared, that is if they are not already available:

a. Fuel Spill Response Plan to address potential fuel spills. Further, the fuel spill response plan(s) should include, for example, a map showing the fuel storage and spill response equipment and kits, and the procedures for dealing with fuel spills (including monitoring and reporting procedures).

b. Fuel Storage & Management Plan for the operation and maintenance of fuel storage tanks (based on best management practices).

Personnel should be trained and familiar with both documents.

A (e-)copy of those documents should be forwarded to the Environmental Health Officer at the Iqaluit Public Health Unit.

12. With respect to the Abandonment and Reclamation Plan (project/mine closure), the Plan should address the following details: reclamation and decontamination objectives, assessment criteria for the verification of satisfactory

a. land reclamation (e.g., open mine pit, sedimentation pond, chemical/hydrocarbon contaminated soil, landfill, etc), and

b. building, equipment, and materials (e.g., tanks/plumbing, water treatment plant, maintenance shop, power plant, explosives plant, fuel storage tanks/areas, Mary River bladder tanks, bulk fuel farm lined containment areas, hazardous material/fuel storage geo-membrane fuel liners, oil/water separators, generators/areas, sewage holding tanks, asbestos containing materials, process chemicals, etc) decontamination,

and monitoring/sampling plan to confirm satisfactory achievement of environmental/land reclamation and building/equipment decontamination, etc.

Please send a (e-)copy of that Plan (and updates) to the Environmental Health Officer at the Iqaluit Public Health Unit.

13. With respect to the sedimentation ponds, effluent ponds, and other standing waters, what (best management) practices/process are in place for mosquito control (e.g., use of larvicides, or reducing/managing standing water)?

14. With respect to ponds with storage volumes that have significant volume and heights, what safety requirements are in place to address worker or public access and mitigate safety concerns (e.g., accidental drowning)?

15. Will mercury containing bulbs or lamps be used in the facilities? If so, what processes are in place to reduce accidental breakage of mercury-containing lamps during handling and transportation? What process is in place to collect and transport the (un-crushed) mercury containing lamps from the collection site to the recycling facility?

16. Please provide more information on the 'aerosol can recycling' program.

If you have any questions, please do not hesitate to contact Ken Klassen, Regional Environmental Health Officer (Iqaluit Public Health Unit) at (867)-975-4815, or the undersigned.

Allan Torng, MSc, MPM, CPHI(C)

Environmental Health Officer

Iqaluit Public Health Unit

Department of Health

P.O. Box 1000, Station 1031

Iqaluit, NU X0A 0H0

(867)-975-4817 (office)

(867)-975-4830 (facsimile)

From: Megan Porter [mailto:megan.porter@nwb-oen.ca]
Sent: Thursday, December 19, 2013 3:48 PM
To: oliver.curran@baffinland.com
Cc: Licensing Department
Subject: 131219 2AM-MRY1325 Submissions Related to the Annual Security Review (ASR)

The Nunavut Water Board acknowledges receipt of submissions in relation to the Annual Security Review (ASR) for the Mary River Project.

All submissions received can be viewed on our ftp site at the following link; ftp://nunavutwaterboard.org/1%20PRUC/2%20MINING%20MILLING/2A/2AM%20-%20Mining/2AM-MRY1325%20BIMC/3%20TECH/2%20SECURITY%20(C)/ Username; public Password; registry

Regards,