

**GENERAL INSTRUCTIONS FOR EXCEL TEMPLATE:**

1. Do not leave blank rows above or between comments.
2. Do not modify or delete the instructions or the column headings (*i.e.* the grey areas).
3. Each comment must have an associated topic and recommendation.
4. All formatting (*i.e.* bullets) will be lost when this file is uploaded to the Online Comment Table.
5. If necessary, adjust the cell width and height in order to view all text.
6. Cutting and pasting comments from WORD documents cannot include hard returns (spaces between paragraphs).
7. If you would like to create paragraphs within a single cell, please use a proper carriage return (ALT & ENTER).

<p><b><u>TOPIC</u></b></p> <p><i>Be as specific as you think is appropriate; for example a section or page of the document, a recommendation #, general comment, etc.</i></p>	<p><b><u>COMMENT</u></b></p> <p><i>Comments should contain all the information needed for the proponent and the Board to understand the rationale for the accompanying recommendation.</i></p>	<p><b><u>RECOMMENDATION</u></b></p> <p><i>Recommendations can be for the proponent or for the Board. Recommendations should be as specific as possible, relating the issues raised in the "comment" column to an action that you believe is necessary.</i></p>
<p>April 19, 2013 Covering Letter, page 2</p>	<p>The licensee states that "years of previous monitoring did not establish a definable coefficient of correlation between PM10 and TSP (associated arsenic)..." No explanation is provided anywhere in the documentation submitted as to why PM10 was chosen as a surrogate for arsenic. Furthermore, there is no explanation provided as to why the previous monitoring did not establish any relationship amongst TSP, PM10, PM2.5 and arsenic.</p>	<p>The licensee should provide an explanation as to why PM10 was chosen as the best surrogate in lieu of real-time arsenic monitoring which is not possible. Please provide evidence that indicates what proportion of the airborne arsenic from Giant Mine is captured through PM10 monitoring. The licensee should provide an explanation as to why the years of previous monitoring data could not be used to guide current planning for arsenic monitoring. Were there problems with the equipment used, analytical methods or the licensee simply did not do the analysis required and there were no efforts to reanalyze any archived samples?</p>
<p>April 19, 2013 Covering Letter, page 3</p>	<p>Appendix A of the Dust Management Plan is apparently a portion of the Giant Mine Site Wide Air Quality Management Plan but it is not clear when this complete document will be prepared, if it will be submitted to the MVLWB for approval, and whether other interested parties will be consulted in the development of this Plan.</p>	<p>The licensee should provide a date for the expected completion of the Plan, whether other interested parties will be engaged in the development of the Plan and whether it will be submitted to the MVLWB for approval.</p>

<p>Submittal Document 1, Deconstruction Risks and Mitigation Table</p>	<p>Alternatives North has stated to Aboriginal Affairs and Northern Development Canada numerous times that it wishes to be involved in the assessment of risks. This was done at the October 2011 Technical Sessions as part of the Environmental Assessment and most recently in our comments on the water licence application (Comment 44). There was no involvement by Alternatives North in the development of any of the documents submitted. The documents were not submitted to the Giant Mine Environmental Management Systems Working Group for review.</p>	<p>AANDC should provide an explanation as to why Alternatives North and possibly other interested parties or the Giant Mine Environmental Management Systems Working Group, were not engaged in the development or review of the documents submitted, and more specifically, the assessment of risk, mitigation measures, action levels, and the air quality monitoring program. Does AANDC intend to engage interested parties in the development of future plans related to the roaster complex?</p>
<p>Submittal Document 1, Deconstruction Risks and Mitigation Table, page 1</p>	<p>AANDC states "the Project Team has also applied for a City of Yellowknife demolition permit" but does not commit to or explain if a development permit pursuant to the City's Zoning By-law is being sought. In AN comment #21 submitted on the water licence application, AANDC indicated it would seek permits from the City of Yellowknife and GNWT.</p>	<p>AANDC should explain why it does not intend to apply for a development permit from the City of Yellowknife. If AANDC does not intend to apply for a development permit for the roaster complex demolition, will it ever apply for a development permit from the City of Yellowknife for any Giant Mine remediation activities?</p>
<p>Submittal Document 1, Deconstruction Risks and Mitigation Table, page 1</p>	<p>AANDC states that "an independent quality assurance/quality control monitor has been contracted to ensure the work is being performed to regulatory standards". There is no name provided for the contractor and it is not clear to whom they would report or whether these reports will be filed with the MVLWB.</p>	<p>AANDC should provide the name of the company that has been contracted to do this work and should commit to file these reports with the MVLWB. Alternatively, the MVLWB should direct AANDC to file these reports for the public registry in the interest of accountability and transparency.</p>
<p>Submittal Document 1, Deconstruction Risks and Mitigation Table, page 3</p>	<p>Vegetation disturbance appears in the table as some willows and grasses will have to be removed. It is not clear what arsenic uptake may have occurred in this vegetation and whether it may require any special handling.</p>	<p>AANDC should provide any information on whether there has been any arsenic uptake in vegetation around the roaster complex and how it intends to dispose of it following removal.</p>
<p>Submittal Document 1, Deconstruction Risks and Mitigation Table, page 8</p>	<p>The table mentions that GNWT "will implement traffic control or road closure measures as required." There is no discussion in any of the documents of any circumstances that might lead to closure of the Ingraham Trail due to any accident, malfunction or exceedance of any air quality criteria as a result of the routine activities associated with the roaster complex demolition.</p>	<p>AANDC and/or GNWT should provide an explanation as to when vehicular and pedestrian traffic on the Ingraham Trail would be stopped as a result of air quality issues from the roaster complex demolition.</p>

<p>Giant Mine Roaster Complex Deconstruction Waste Management Plan</p>	<p>As a set of general comments on this plan, there is no list of abbreviations and there is a lot of duplication. Appendices A and D should be incorporated into the main text as they appear to be additions where the real details on Giant Mine are found. Diagrams, figures and photos would make it much easier to explain and understand the decontamination and deconstruction activities and steps. Appendices pages are not numbered and there are a number of typographical errors that a careful editing should have corrected.</p>	<p>AANDC should commit to revising the Plan by adding a list of abbreviations and reducing the duplication by incorporating Appendices A and D into the text. Figures, diagrams and photos should be added to make the document more user-friendly.</p>
<p>Giant Mine Roaster Complex Deconstruction Waste Management Plan, page 11</p>	<p>The four bullets at the top are the guiding principles for Giant Mine remediation but do not reflect the views of Alternatives North and perhaps others. The concept of minimizing perpetual care requirements, promoting public involvement and long-term planning with local authorities and interested parties are not reflected.</p>	<p>AANDC should revisit the guiding principles for the Giant Mine Remediation Project to reflect community interests and input.</p>
<p>Giant Mine Roaster Complex Deconstruction Waste Management Plan, page 12</p>	<p>AANDC does not commit to apply the findings or recommendations from the Environmental Assessment to the roaster complex demolition.</p>	<p>AANDC should commit to retroactively consider and apply the findings and recommendations from the Environmental Assessment to the roaster complex demolition.</p>
<p>Giant Mine Roaster Complex Deconstruction Waste Management Plan, page 12</p>	<p>At the bottom of the page it indicates that the Giant Mine Remediation Project was assigned a Hazardous Waste Receiver Registration Number. It is not clear why this was done or whether outside waste materials may be brought to the Giant Mine site.</p>	<p>AANDC should provide an explanation as to why a Hazardous Waste Receiver Registration Number is necessary for the Giant Mine site and whether any outside waste is being brought to or stored at the site.</p>
<p>Giant Mine Roaster Complex Deconstruction Waste Management Plan, page 13</p>	<p>There is no indication that any audits will be performed of domestic refuse before it is deposited into the Northwest Pond Non-Hazardous Waste Area.</p>	<p>AANDC should commit to regular and periodic domestic refuse audits to ensure that no hazardous waste is being deposited in this waste stream.</p>
<p>Giant Mine Roaster Complex Deconstruction Waste Management Plan, page 13</p>	<p>There is not indication of any testing or auditing that might be performed on arsenic or asbestos contamination in sewage or greywater that might be generated at site.</p>	<p>AANDC should commit to regular and periodic testing of sewage and greywater at site to ensure that there is no asbestos and arsenic contamination above acceptable limits.</p>
<p>Giant Mine Roaster Complex Deconstruction Waste Management Plan, page 14</p>	<p>Section 4 on hazardous or potentially hazardous materials does not contain any detailed criteria or decision tree as found in figure 8.</p>	<p>At a minimum, AANDC should reference figure 8 in this section so readers can more easily find how hazardous waste is actually determined or classified.</p>

Giant Mine Roaster Complex Deconstruction Waste Management Plan, page 20	This page contains two figures for the expected volume of waste requiring storage (6,100 and 7,000 cubic metres).	AANDC should clarify what the actual figure is for wastes requiring temporary storage at the site.
Giant Mine Roaster Complex Deconstruction Waste Management Plan, page 25	This page contains the following statement, "If the new material discovered is hazardous, daily work plans and procedures will be modified." There are no provisions to either notify the MVLWB or the inspector if new hazardous materials are identified or special handling may be required outside the scope of the current plan.	The MVLWB should require the licensee to notify the Board and inspector if new hazardous material is discovered on site or if the plan does not cover the proposed handling of such materials. The MVLWB should also require that the licensee should update and resubmit the plan for approval at least every six months or as required when new materials or procedures are required.
Giant Mine Roaster Complex Deconstruction Waste Management Plan, page 39 and Appendix D, sections 2.4.8, and 2.4.9	These sections of the Plan reference torch cutting of materials to facilitate demolition, packaging and storage. It is not clear whether any arsenic contaminated materials will be cut with a torch and whether the combustion of such materials requires any special procedures for decontamination or worker health and safety. Section 2.4.8, Appendix D references a "site specific health and safety plan for Torch Cutting Procedure" but this document is not found in any of the submitted material.	The licensee should explain whether torch cutting will be carried out any arsenic contaminated materials, whether combustion of such materials creates any special risks and what the mitigation may be for such activities. AANDC should submit the site specific health and safety plan for Torch Cutting Procedure.
Giant Mine Roaster Complex Deconstruction Waste Management Plan, page 44	Section 3.3 discusses how AANDC intends to "reduce the potential for erosion of the gravel pad underlying the Temporary Waste Storage Area" but there is no discussion as to how, by whom and how frequent any inspections may be conducted of the facility to ensure that no erosion of the pad takes place.	AANDC should clearly indicate how often this facility will be inspected, by whom and when (presumably during the spring freshet and after storm events).
Giant Mine Roaster Complex Deconstruction Waste Management Plan, Appendix A Detailed Deconstruction Plan	There are several references in this part of the plan to cutting materials but there is no description of the equipment, methods and risks associated with this specific activity	AANDC should discuss what equipment will be used for cutting of materials, methods, and any risks that may be associated with this activity.
Giant Mine Roaster Complex Deconstruction Waste Management Plan, Appendix A Detailed Deconstruction Plan	Section 4 (v) refers to "surfaces successfully pass inspection" but no measureable criteria are provided for what this means.	AANDC should provide a clear indication of what measureable criteria are to be used to indicate that material in the flues successfully passes inspections.

Giant Mine Roaster Complex Deconstruction Waste Management Plan, Appendix B MSDS Sheets	The MSDS sheets for the wetting agent Foster 32-80 provide virtually no information on the constituents or the toxicity of this material (see section 11 "no additional health information available", and section 12 "no ecological information available"). This material will end up in the waste water from the decontamination work yet no information is provided on its potential effects.	AANDC should provide more meaningful information about the constituents and effects of this particular wetting agent.
Giant Mine Roaster Complex Deconstruction Waste Management Plan, Appendix C Waste Classification and Packaging	The table of packaging is not complete for degreasers or asbestos encapsulation materials even though this information is available in Appendix B.	AANDC should complete this table by including the information from the MSDS sheets available in Appendix B.
Giant Mine Roaster Complex Deconstruction Waste Management Plan, Appendix E Off-site Waste Receiving Facilities Confirmation Letters	The last letter is from a private contractor concerning haul and disposal of sewage from Giant Mine but there should be a letter from the recipient of the sewage, the City of Yellowknife. Comment 16 above also raises concern about possible asbestos and arsenic contamination of sewage and greywater.	AANDC should provide a letter from the City of Yellowknife indicating that it is prepared to accept sewage and greywater from Giant Mine related to the roaster demolition.
Dust Management Plan, page 6	The list of acronyms is not complete. For example, AAQC and JSA are not included.	The list of acronyms should be checked to ensure that it is more complete.
Dust Management Plan, page 7	There is a definition provided for "Air Sampling Professional" and it is the understanding of Alternatives North that AD Williams has been retained by Parsons Canada to undertake this work. When we reviewed the AD Williams website, we could find no information on previous projects or expertise in the field of air quality monitoring.	AANDC should confirm who will carry out the air quality monitoring associated with the roaster complex demolition, the experience of the subcontractor and confirm that an air sampling professional will be assigned to this work (both for occupational health and safety and ambient air quality monitoring).
Dust Management Plan, page 11	Section 3.2 provides an overview of the Dust Management Plan including reporting and record keeping requirements. Alternatives North has consistently requested that there be public reporting of the air quality monitoring results from the roaster complex demolition as far back as October 2012 and most recently in our comments on the water licence application (comment 13 and 35). GNWT provides live reporting of its four air quality monitoring sites. Alternatives North has also requested that webcams be installed at Giant Mine so the public can watch the roaster complex demolition and other site activities to ensure that there is no visible dust at the site as committed to by AANDC. This is the kind of input we have consistently made on public engagement despite AANDC's assertions	AANDC should make a clear and unequivocal commitment to live internet reporting of ambient air quality monitoring results and webcams at Giant Mine before any decontamination and deconstruction activities commence. Should AANDC fail to make such a commitment, we respectfully request that the MVLWB make live ambient air quality monitoring results reporting and site webcams a requirement of this Giant Mine Roaster Complex Deconstruction Waste Management Plan.

Dust Management Plan, page 14	Section 4.2 on Fugitive Dust Characterization references previous air quality and industrial hygiene investigations conducted from 2004 to 2012 and a 2013 report on air quality monitoring, these are not found in the references (section 9). Alternatives North also respectfully requests copies of these reports.	AANDC should amend section 9 to reflect the reports referenced in the text and provide copies of these reports to the MVLWB for the public registry.
Dust Management Plan, page 15	This section states "Plastic sheeting will be used on all containment facilities and structures. This product has been found to be resistant to most weather environments throughout Canada." Yellowknife winter weather can drop below -45 C without wind-chill and much lower when wind-chill is factored in, making plastic very brittle.	AANDC should confirm that the plastic sheeting and shrink wrap can survive the extreme winter conditions found in Yellowknife.
Dust Management Plan, page 18	A number of documents are referenced in the bullets at the bottom of this page but are not part of the package submitted.	AANDC should provide copies of these documents to the MVLWB for the public registry as they appear to form part of this Dust Management Plan.
Dust Management Plan, page 29 and Appendix A	The second paragraph on the page references an "Emergency Response Plan" but this document is not found in any of the materials submitted to date. Alternatives North would like a copy of this document.	AANDC should provide a copy of the Emergency Response Plan as referenced, to the MVLWB for the public registry and before any decontamination or deconstruction activity takes place.
Dust Management Plan, page 29	Section 5.2 states that air monitoring will be required for 12 hours per day. Alternatives North would like to confirm that this period will cover all of the work carried out at the site as the previous sentence states there will be 10 hour shifts offset by "a few hours". If there is an accident or a malfunction at the site during deconstruction, there could be a 12 hour lag in any air quality monitoring before the problem might be detected. Is 24/7 ambient air quality monitoring during the summer period possible or even year-round until the work is completed?	AANDC should provide an explanation as to why air quality monitoring is not being carried out around the clock at the site during the deconstruction period or even year round, to detect any accidents or malfunctions.

<p>Dust Management Plan, page 30</p>	<p>Alternatives North has concerns about the Action Levels presented in this table but there is no commitment to notify the inspector or the MVLWB if there any exceedences. This is consistent with the approach taken in Response Frameworks under water licences (see for example, the Snap Lake water licence, Part G s.9).</p>	<p>The MVLWB should require that AANDC notify the inspector and the MVLWB within 10 days of any exceedences of the Action Levels in the Dust Management Plan. The notification should include details on any remedial actions and the corresponding results. There should be a review of the Dust Management Plan after six months, in preparation for the second construction season and an updated plan should be submitted to the MVLWB for approval.</p>
<p>Dust Management Plan, page 31</p>	<p>The following statement is found in the table concerning arsenic monitoring, "If there were no action levels exceedences and environmental effects monitoring data indicated a relatively consistent ration between arsenic and PM10 values, Parsons and Departmental Representative will use data to identify appropriate revised real time monitoring action levels to protect workers and the public from arsenic exposure." Alternatives North is already concerns that the Action Levels identified to date are insufficiently protective of the public but would like to have the opportunity to review any revised Action Levels. AANDC did not engage Alternatives North in the development of the currently proposed Action Levels.</p>	<p>Any revisions to the Dust Management Plan, including new Action Levels, should be subject to MVWLB approval, with an opportunity for interested parties to present any views.</p>
<p>Dust Management Plan, page 32</p>	<p>The Realtime PM10 Air Monitoring states "data will be downloaded from the units on a daily basis". It is unclear whether the data will be available "live" or only available at the end of each day.</p>	<p>AANDC should clarify whether the PM10 monitoring results will be available "live" or at the end of each day.</p>
<p>Dust Management Plan, page 34</p>	<p>This section appears to commit to Deconstruction Air Monitoring (Environmental effects air quality monitoring) is to be conducted adjacent to the ambient air quality monitoring station located beside Highway 4 and at a downwind site. Although spare units are to be maintained in Yellowknife, it is unclear whether deconstruction activities would stop if there is no air quality monitoring taking place.</p>	<p>AANDC should confirm that there will be arsenic sampling done at two locations (beside Highway 4 and downwind). AANDC should also confirm that decontamination and deconstruction activities will be stopped if there is no ability to conduct air quality monitoring.</p>
<p>Dust Management Plan, page 34</p>	<p>The last sentence in the last bullet in the Deconstruction Air Monitoring section reads "Should additional metals be present and require monitoring the fee will be adjusted." It is not clear what is meant by this sentence.</p>	<p>AANDC should clarify the meaning of this sentence.</p>

<p>Dust Management Plan, page 35-36</p>	<p>This section covers contingencies but there is no mention of accidents, malfunctions or worst case scenarios. There is no discussion of stopping traffic on Highway 4 or public notice of an emergency.</p>	<p>AANDC should amend the Plan to include some discussion of worst case scenarios, accidents and malfunctions and appropriate responses including closure of Highway 4, emergency responses and public notice.</p>
<p>Dust Management Plan, Appendix A</p>	<p>On the second page of this document there is mention of a monitoring camera that will produce a record every 2 hours during daylight and reviewed daily, yet there is no place on the form to record any observations from such photos. It is unclear who will review such photos and whether any of the inspection reports will be available to the public.</p>	<p>AANDC should amend the inspection report form so there is a space to record any observations from the monitoring camera. AANDC should clarify whether the inspections reports will be made available upon request from the public.</p>
<p>Dust Management Plan, Appendix B, Arcadis April 16, 2013 Memo</p>	<p>A number of references are used in this memo but there is no list of references provided. Alternatives North is particularly interested in the Lewis et al. (2011) reference and would like to obtain a copy. The last sentence states "PWGSC may wish to consider performing total arsenic, trivalent arsenic and pentavalent arsenic monitoring for a limited time as a specific research project, but routine monitoring for speciated arsenic in the air throughout the entire project is not indicated." It is not clear whether AANDC intends to do such monitoring and report on it, although Alternatives North would like this work to be done.</p>	<p>AANDC should provide proper references for this memo and clearly indicate whether it intends to perform arsenic speciation monitoring and report on it publicly.</p>
<p>Dust Management Plan, Appendix B, Arcadis April 17, 2013 Memo, page 8</p>	<p>The author of this memo discounts the 70 year period for arsenic chronic exposure criteria as developed by Michigan and New York in favour of a 10 year period for Giant Mine. No rationale is provided other than a brief statement "assuming that remedial construction activities take place at the Giant Mine for 10 years". This method of developing an arsenic exposure criterion does not recognize the cumulative effects of previous exposure by Yellowknife community members from airborne arsenic including windblown tailings, previous roasting operations and other fugitive dust. As the arsenic exposure criterion developed in this memo is used in subsequent documents for setting the Action Levels identified in the Dust Management Plan, we question those figures and whether they adequately reflect the precautionary principle given that arsenic trioxide is a proven non-threshold carcinogen.</p>	<p>AANDC should calculate a range of arsenic exposure values based on a more realistic pattern of exposure for long-term residents and apply the precautionary principle in setting conservative Action Levels.</p>

<p>Dust Management Plan, Appendix B, AECOM April 12, 2013 Memo on Real-time Fenceline Monitoring Risk-Based Action Level for PM10</p>	<p>Page 2 of the memo states that one of the assumptions in the development of the Action Level is that "100% of the arsenic in soil would become airborne". There may be other sources of arsenic during the decontamination and deconstruction activities, particularly if there are accidental releases. It does not appear that non-soil sources of arsenic were considered in setting the Action Levels.</p>	<p>AANDC should provide some rationale for not considering other non-soil sources of arsenic during deconstruction.</p>
<p>Dust Management Plan, Appendix B, AECOM April 12, 2013 Memo on Real-time Fenceline Monitoring Risk-Based Action Level for PM10</p>	<p>Page 3 states that the closest residential area to the contaminated sites at Giant Mine is 1.77 km but the Bayly residence is not considered.</p>	<p>AANDC should recalculate the adjusting factors using the Bayly residence as the closest residential area that could potentially be affected and is closest receptor.</p>
<p>Dust Management Plan, Appendix B, AECOM April 12, 2013 Memo on Real-time Fenceline Monitoring Risk-Based Action Level for PM10</p>	<p>Page 6 assumes recreational use of the Giant townsite or marina area at 2 hours per day. Alternatives North is of the view that this figure may be too low for exposure for members of the Great Slave Cruising Club during periods of maintenance activities on local boats. We wonder whether a more realistic assumption would be 8 hours to reflect a more conservative and precautionary approach. For all the reasons outline in comments 43-45 above, we wonder why a more conservative approach to developing Action Levels was not adopted. We would be interested in seeing what the Action Levels would be adopting a 70 year exposure timeframe, using the Bayly residence as the closest receptor and recreational use of the marina area for 8 hours.</p>	<p>AANDC should be requested to produce a Risk-Based Action Level for PM10 using a 70 year exposure timeframe, using the Bayly residence as the closest receptor and recreational use of the marina area for 8 hours.</p>
<p>Dust Management Plan, Appendix B, AECOM April 12, 2013 Memo on Real-time Fenceline Monitoring Risk-Based Action Level for PM10</p>	<p>Page 6 also states "a human health RBAL was developed only for inhalable PM10. Fenceline criteria for TSP [Total Suspended Particulates] will be outlined in the site-wide air monitoring plan and will be based on nuisance effects." There is no indication of when this work will be completed or whether lower Action Levels for PM10 might be calculated based on nuisance.</p>	<p>AANDC should clearly indicate when the site-wide air monitoring plan will be available and whether Action Levels for PM10 and TSP based on nuisance would result in lower Action Levels than those identified in the current plan.</p>

<p>Dust Management Plan, Appendix B, AECOM April 12, 2013 Memo on Community Air Quality Monitoring and Fenceline Criteria Ambient Air Monitoring</p>	<p>The overall approach of this memo is that ambient air quality monitoring will serve as an adaptive management system to guide mitigation but there is no mention of any role for the community in assessing the results or having any input into revised Action Levels. Given the significant public concern with the Giant Mine Remediation Project, this is not an appropriate approach. We are particularly concerned with Table 3 under Condition 3 where exceedences of the Action Level are evident both at Giant Mine and at Latham Island. Only then are site activities possibly stopped, with no notice provided to residents or involvement in possible solutions. There is no early warning system proposed other than a simple exceedance of an Action Level, that in our opinion may already be too high.</p>	<p>AANDC should better define how it intends to involve community residents in the reporting of air quality monitoring results and develop early warning of exceedences to better adaptively manage site activities.</p>
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