

ATTACHMENT L - TAC COMMENTS AND RESPONSES

A draft version of this document was provided to the Technical Advisory Committee for comment. Below are comments received and responses to those comments. Where appropriate, the content of this document has been updated to reflect required changes.

1.1 Reduction in Emissions from Industrial Sources and Ongoing Monitoring

An overall comment (from Dave Bezak and Susan Roberecki) relates to the overall benefits of the RMP:

- Though it might be hard to quantify in some cases, it would be most helpful to try to identify the expected benefit or outcome from each of the planned risk management activity (i.e. what is expected to be achieved from the action and how will success be measured). I am not sure that this is easily quantifiable in all cases but there obviously must be some expectation of benefit from the successful delivery of each. For example, reduced air emissions should assist in ensuring that dust (particulate matter) levels are below provincial air quality objectives and show overall trends downwards, as related to industrial activities. Similarly dust containment should also lower heavy metal concentrations and inhalation risk associated with that exposure?? As much as this can be quantified, the better the plan will be. I believe that the CEPA 1999 *Environmental Code of Practice for Base Metal Smelters and Refineries*, which is part of the federal pollution prevention planning requirement, addresses fugitive releases and their estimation and possibly can be a tool to help evaluate dust reduction benefits. **(from Dave Bezak) The operational activities in the RMP are holistic and based on best practices/ sound judgment. They are not tied directly to a measurable goal individually, nor is there a baseline per se to easily compare to. The CEPA 1999 Environmental Code of Practice for Base Metal Smelters and Refineries is not an overly useful tool for the measurement and tracking of measurable changes to dust loading, however, our current practices match sections detailed in it. An example would be sec. 4.2.1 Prevention and Control of Fugitive Air Emissions - Recommendation R201; HBMS covers major stockpiles, spray coat temporary stockpiles and have an ongoing paving program for roadways.**
- I agree with the comments from Dave particularly in relation to establishing goals for the environmental exposure reduction measures. **(from Susan Roberecki). HBMS will continue to monitor air quality and can utilize the snow survey data to measure overall dust loading reductions. This can be compared to pre-smelter shutdown data for comparative purposes.**

Overall, there are many activities that should reduce dust levels in the community, which could be compared to pre-shutdown levels through on-going air and snow monitoring. The blood lead level follow-up study should then allow us to conclude that activities have reduced dust in the community which in turn has reduced blood lead levels.

From Dave Bezak:

- Under "Dust Control", it might help to clarify that management of road dust applies to roads on-site within the facility compound (not city roads). **This has been clarified.**
- In the section on Remediation (studies), perhaps some additional information might be provided on the proposed research to be undertaken by the University of Saskatchewan. **This information will be provided to the TAC.**
- In the section on remediation (operational work), five substantive projects are briefly discussed. Again, as possible, the anticipated environmental benefits perhaps

could be better quantified, as it relates to reducing exposure and improved risk management, seemingly primarily to reduce dust containing metals in the air. **Providing quantifiable benefits with each item individually would be extremely difficult to measure. As an example, reported road dust levels with NPRI are partially based on unpaved roadway length. Once paved the reported number for road dust will decrease, however, the measured actual and the associated future blood lead levels may not have such a linear impact.**

- Information in Appendix H on source emission monitoring is helpful background. However, a better link needs to be included as to how this links to exposure and future risk management. **In conjunction with the snow survey results, this will be the measurement tool. Previously, informal Pareto-like analysis put the spotlight on Smelter emissions. Presently, plans are in place to assess other emission sources and will develop baseline data to measure progress against in post smelter operations.**

- Information in Appendix H on ambient monitoring for particulate matter (and constituent selected heavy metals of environmental interest) provides an excellent background to this monitoring for the area. It is suggested that section also describe the specific air quality monitoring that is anticipated or planned to continue and how it will be used for future risk management purposes. Also, Manitoba has adopted an ambient air quality guideline for PM₁₀ (pls refer to http://www.gov.mb.ca/conservation/pollutionprevention/airquality/pdf/criteria_table_update_july_2005.pdf). **Comment noted, Appendix H is the specific monitoring plan that is in use and will continue to be used.**

- The information on the two snow surveys (Appendices I and H) is interesting and is referenced in the section on “Continued Environmental Monitoring Activities”. The report on snow sampling from the winter of 2009/10 does provide some comparison of results to work from the previous winter. However, it is somewhat difficult to readily discern patterns, trends (if any), etc. – perhaps some overview of the report findings in a summary way could be included in the first part of the report. Also, though the reports make good reading, I am not sure how they relate to human health risk management. My recollection is that the incremental risk from metal exposure by children eating snow was very Low (and required some creative thinking to even quantify the risk). Though I agree that monitoring activities need to continue (such as the air quality monitoring of particulate matter/heavy metal), perhaps as well as other programs, these activities probably need to link back to exposure to be a meaningful part of the plan. **The snow surveys provide a measurement of metal deposition rates. The snow survey for the 2 years pre-shutdown will be compared to results from the 2010-2011 winter snow survey (report expected by June 2011). Another snow survey is planned pending budgetary approval for the 2011-2012 winter.**

From Lawrence Elliot:

- More description on the content/role of the USask soil research would be helpful

This information will be provided to the TAC.

1.2 Attachment K

From Dave Bezak:

- The contractual arrangement between HBM&S and its consultant (AECOM) indicates that the section of the risk management plan entitled “Education Outreach Campaign” is a confidential report and seemingly could not be made public. Subject to further discussion between the parties, it generally would be our belief and expectation that the

risk management plan would be publicly available. The fact that one important portion of the report may have to be restricted would greatly take away from the openness and transparency that has been part of the process, to-date. If this can be waived, the first two pages of that section could be removed from the report.

- Home renovation workshops. I don't believe that there is a *Home Depot* in Flin Flon (if that is a correct interpretation of the text), probably a *Home Hardware* store??

From James Irvine:

- In the education section (1.4.1 Choosing target activities) a number of strategies were eliminated. It may be prudent to include these strategies within the general education and awareness information that would be provided (some of this info would be contained in Health Canada or the MB/SK fact sheet on lead anyways) For example, even though the Pb levels in the community drinking water survey was below CDWQ guidelines (except 1), reducing the potential exposure to Pb will be a combined effort from a number of pathways (if a slight reduction can occur from water exposure, it will help the overall exposure). Note in the Health Canada Pb fact sheet (released this month) that they mention using cold water for drinking / cooking and running the water first thing in am - and they comment on the concern for very new homes or new plumbing as well as the old.

From Lawrence Elliot:

- I support that the General Awareness Campaign should also provide education/guidance to residents regarding: keeping homes as dirt and dust-free as possible; helping infants/kids avoid ingesting dirt and paint chips; running tap water until cold; avoiding lead shot from game.
- On page 13 of AECOM proposal, the mid-program evaluation idea is a good one; there is a typo, it's January 2012, not Jan 2011
- I support the idea of a dedicated website, but recommend either that it be clear that this is to be an ongoing website for general health promotion in the FF area (e.g. will be the ongoing Healthy Flin Flon site) and that this lead exposure reduction campaign is the first of many initiatives to be promoted on the site; OR, that it be clear in the title that this website is mainly for the lead exposure reduction campaign, as that is what the content of the site is currently all about, so as not to be confused with other broader initiatives of e.g. the RHA or Healthy Flin Flon.

From Susan Roberecki:

- I agree with comments from Dave, James and Lawrence
- Particularly the need to communicate other lead reduction strategies as well (general lead reduction information).
- With regard to the Education Outreach Campaign, the document reads clearly for the public to understand all the elements of the campaign. It flows nicely and is well organized. However, from a technical advisory committee point of view, I was hoping to see more of a discussion of the evidence/ information used to make the decisions on what strategies were chosen. I wonder if there could be a technical document that could outline this? It should be clear as to why we chose the strategies that we did.

The rationale for the selection of mitigation strategies is provided. It is recognized that the Education Outreach Campaign only addresses a select group of the available mitigation strategies. The need for additional mitigation will be considered after the follow-up blood lead study.

1.3 Follow-up Blood Lead Study

From James Irvine:

There had been some discussion regarding various methodologies to assess the source of lead in the dust (ie the rough proportion of Pb from paint-type lead versus smelter-type lead) at other meetings. Lawrence, Susan, Paul and I have had some discussions with Health Canada and there may be several options to consider:

- 1) the potential for using previous capillary blood test results (if there were any IPMS testing or mass to charge ratio) as apparently many labs will include this in their blood Pb analysis,
- 2) for the next round of testing (fall 2012) doing this analysis;
- 3) apparently urine testing can provide some finger printing for Pb speciation (but not a quantitative analysis); or
- 4) doing Pb speciation of the house dust wipes.

Having an idea of the speciation of Pb between paint and smelter, may provide information on the potential impact from various mitigation strategies.

Blood from the original study is not available for further analysis. The possibility of utilizing blood from the follow-up study in this manner will be investigated; it should be noted that urine will not likely be collected in the follow-up study. If future dust sampling is conducted, Pb speciation will be conducted.

From Lawrence Elliot:

- In the general RMP document page 6, item 4, regarding the repeat exposure evaluation in Fall 2012, as there are many factors which can influence the results of this study in addition to the risk management activities, and this is not a scientifically-controlled intervention, recommend changing wording from "...to establish whether the various actions taken as a result of the RMP have brought about a reduction in the average lead in blood..." TO something like, "To re-evaluate the average blood lead levels of children in the community, 3 years after the original exposure evaluation, and after the implementation of the proposed risk management activities." **Agreed, this change has been made.**

From Susan Roberecki:

- I agree with the comments from Dave particularly in relation to establishing goals for the environmental exposure reduction measures. In relation to the follow-up exposure study. In terms of the age range 1 to 6 years. I was my understanding that the original study had older children as well and unusually, the highest lead levels were in children 5 and 6 years. I have concerns that we are likely to get less participation in the follow-up study than in the original study and we may be looking at very small numbers of children, which will be reduced further by limiting the age group. **It should be noted that the original study for lead only looked at children up to the age of 6 years old; the follow-up study will utilize the same age range. In addition, it should be noted that the highest levels were in children aged 2 years and 6 years, not 5 years. We agree with the concerns related to the study size and every effort will be made to ensure a sufficient sample size for the follow-up study.**
- I support the suggestion by James (and Health Canada) that we explore the possibility of further analysis of the samples to determine the source of the lead in the body, either in the original samples or future samples. **Addressed above.**
- Is there an Appendix for the follow-up Exposure Study? **There are no further details available at this time. The follow-up study will be conducted in Summer/Fall of 2012, and will follow the same procedure and oversight provisions of the original study. The details of the follow-up Exposure Study will be developed early in**

2012. A study design/protocol will be drafted for TAC review and approval. Following TAC sign-off and prior to implementation, the study protocol will be subjected to an ethics review panel. The study protocol and study results will be published as separate independent documents in spring 2012 and winter 2012/2013, respectively. Draft documents will be provided to the TAC for review and sign-off prior to CAC and public release.