

# Human Health Risk Assessment (HHRA) - Flin Flon / Creighton Technical Advisory Committee (TAC)

December 6, 2007  
Flin Flon City Hall – Council Chambers

## Attendance

MB Conservation: Dave Bezak, Mike Gilbertson (teleconference), Geoff Jones (teleconference),  
Dean Kasur, Audrey Romanchuk  
MB Health: Marcia Anderson, Susan Roberecki (teleconference)  
MB STEM: Doina Priscu (teleconference)  
MB Water Stewardship: Dave Green  
SERM: George Bihun (teleconference)  
SK Health: James Irvine, David Sampson  
Health Canada: Lindsay Smith (teleconference)  
HBMS: Ian Cooper, Alan Hair, Joel Nilsen  
Intrinsic Environmental: Adam Safruk, Elliot Sigal  
Observer: Tom Lindsey  
Facilitator: Sheldon McLeod

## Introduction

- There were several new additions to the agenda:
  - Manitoba Health has been receiving inquiries and having discussions regarding the need for a biological monitoring program.
  - Review of changes to the TAC Terms of Reference (TOR).
  - Discussion of the governance model submitted by Saskatchewan Environment.
- TAC Members were asked if there were any further comments on the notes from earlier meetings. No comments were received, and the notes will be uploaded to the HHRA website.
- A review of action items from the previous meeting was conducted:

Action Item #15: Complete.

Action Item #16: Complete

- Although no discussion was held, an understanding was reached.
- Indoor dust will be treated similarly to soil, in that a standard level of ingestion will be established regardless of the actual loadings in individual homes. The actual contaminant concentrations in the dust will be the critical factor for determining exposure.

Action Item #17: Incomplete – Comments from Dr. Roberecki on the HHRA TOR remain outstanding, but will be submitted shortly.

Question: Can the TAC confirm that the HHRA TOR will be reactive to new information?  
Response: Yes. The HHRA TOR should be considered a “living document”.

Action Item #18: Complete with the comments received to date.

Action Item #19: Complete.

Action Item #20: Complete.

Question: What is the status of the HHRA website?

Response: The website went “live” effective Monday, December 3<sup>rd</sup>.

Action Item #21: Complete.

### **Human Health Risk Assessment – Terms of Reference (TOR)**

- Saskatchewan Health comments appear to be missing from the Comment / Response Table.
- Reference to individuals making comments will be removed and replaced with organizations.
- Several comments required discussion and input from the TAC:

Comments #7 - #9: Drinking Water Monitoring

- It was suggested that source water should be sampled at the Flin Flon and Creighton municipal water treatment plants in addition to the point of consumption, household sampling.
- It was agreed that source monitoring would be incorporated into the drinking water monitoring program.
- There was a concern from the TAC that the number of homes being sampled for drinking water quality was insufficient and may not be representative of older homes that may still have lead plumbing.
- It was pointed out that there are a number of factors unique to individual homes (such as water filtration, running water prior to consumption, lead or copper plumbing) and that the HHRA scope was not meant to conduct a detailed assessment of water quality in the communities.
- It was decided that a one-time survey involving a larger number of households of various ages / factors would be conducted to ensure that the current sampling locations are representative of each community.

Comment #13: Assessment of Historical Impacts

- There was a discussion on how to incorporate higher historical exposure levels into the HHRA.
- The general consensus was that the HHRA will only determine future acceptable levels of exposure based on the present situation.
- The best approach for dealing with the question of health effects related to historical exposure would come from a Public Health Assessment. However, this is very difficult to implement in such a small population.
- It was suggested that, theoretically, remediation to more stringent standards might offset historical exposures. However, this has never been implemented at other sites.

Question: Is the underlying health of individuals being taken into account?

Response: Yes. The guidelines are designed for the protection of the most sensitive individuals – children, pregnant women, and the sick.

Note: There was some disagreement as to whether the guidelines adequately compensate for pre-existing exposure.

Question: Will the HHRA address best and worst case scenarios? For example, someone living in an older home with lead paint and plumbing. Is there a different approach for these individuals?

Response: The HHRA will address average exposures and then will attempt to resolve focus on smaller “at risk” groups. Eventually, it may be necessary to look at individual neighbourhoods or streets.

Question: Who determines the “acceptable” level of risk?

Response: The TAC Membership should address this.

Question: Is there any benefit to adjusting hazard quotients to account for past exposures?  
Response: The TAC Membership should make this determination.

Comments #18 / #23 / #27: Bioavailability / Bioaccessibility

- A study related to the bioavailability of the various metals needs to be conducted before this issue can be addressed in the HHRA. This discussion should occur off-line with Health Canada and other agencies in order to develop a study that is technically feasible, scientifically sound, and acceptable to the regulatory agencies.

Question: How is the bioavailability data used in the HHRA?

Response: Some chemicals may have limited effect if they are bound in soil. Exposure is adjusted based on this information.

Question: Has this approach been used in the past?

Response: Yes. Animal studies have been conducted to determine the bioavailability for certain soil types. In some cases, this has been done on a site-specific basis.

Question: This approach is consistent with past practice?

Response: Yes. This approach is standard practice, but the study must be properly designed.

Comment #16:

Question: Can the references for the adjustment factors be distributed? Some of the factors seem unusual and Health officials would like to review the source.

Response: Yes, references will be distributed. Some factors will have to be adjusted to deal with site specific conditions.

Comment #14:

Question: TSP – PM10 concurrence is being evaluated for arsenic. Will this be done for other metals as well?

Response: Yes, the same approach will be taken with the other metals for which historical TSP data is available.

- A request was made for a flow sheet of the HHRA process, along with the current status. This should also be distributed to the CAC.

Question: What is the current status against the original HHRA timeline?

Response: The HHRA is currently in the problem formulation stage, and will remain at that stage until the middle or end of January 2008, when the soil and dust survey results are received.

Question: What is “problem formulation”?

Response: Problem formulation is the process of collecting information on the chemicals of interest and their concentrations, exposure pathways, and receptor characteristics.

- Problem formulation will lead to the parallel development of an exposure assessment model and an assessment of hazard toxicity using existing Health Canada or US EPA data. These two assessments will be used to undertake risk characterization. This will in turn indicate what risk management is required or will indicate that more data is required. Concurrent to all these stages, there will be ongoing data collection and communication processes.
- The results of the problem formulation stage will be made a “deliverable” to the TAC.

#	Action	Responsibility	Target Date	Status
017	Final comments on the HHRA TOR to be submitted.	Susan Roberecki	2007-12-14	2007-12-06, updated
022	Conduct a broader survey of drinking water to confirm that the current sites are representative.	Alan Hair	2008-01-15	2007-12-06, new
023	Update table of comments / responses related to the HHRA TOR to include SK comments and latest discussions.	Elliot Sigal	2007-12-14	2007-12-06, new
024	Provide references for adjustment factors to TAC.	Elliot Sigal	2007-12-14	2007-12-06, new
025	Develop a flow sheet of the HHRA process for the TAC / CAC.	Elliot Sigal	2007-12-14	2007-12-06, new
026	Provide a report on the results of the problem formulation stage.	Elliot Sigal	2008-02-28	2007-12-06, new

### **Update on Sampling – Soils, Dust**

- The TAC was asked to review and comment on the “Local Foods Questionnaire”. The final version of the questionnaire will be developed by the Communications Working Group and distributed to the public.
- The questionnaire is not intended to be a consumption survey, only to ensure that proper source data is collected. Consumption data will be taken from published Canadian / US EPA sources. However, if the TAC felt strongly, the survey could be amended to include consumption information.
- Saskatchewan Health indicated that they had some site specific data for northern aboriginal communities that might be useful.
- It was noted that the questionnaire should specifically identify the purpose of the survey.
- A brief presentation on the status of the dust survey was presented.
- Results of the soil and dust surveys are anticipated by mid to late January 2008.

Question: Can a copy of the presentation be distributed to TAC members?

Response: Yes.

Question: Were soil sample locations recorded with the same level of detail as the dust samples?

Response: No. By design, soil from each front or back yard was collected as composite samples.

#	Action	Responsibility	Target Date	Status
027	Provide comments on the draft local foods questionnaire to Sheldon McLeod.	All	2007-12-21	2007-12-06, new
028	Revise questionnaire to include a description of the survey goal.	Elliot Sigal	2007-12-12	2007-12-06, new
029	Distribute copies of the dust survey update presentation.	Elliot Sigal	2007-12-10	2007-12-06, new
030	Provide report on consumption levels in northern Saskatchewan aboriginal communities.	James Irvine	2007-12-21	2007-12-06, new

## **Biological Monitoring**

- Manitoba Health is faced with numerous inquiries regarding the need to conduct immediate biological monitoring. The nature of their internal discussion is focused on whether or not there is a likelihood of finding anything, and ensuring that any study is meaningful.
- It was noted that HBMS workplace exposure data is being collected and reported to Manitoba Workplace Safety and Health. Given that this portion of the population would be at risk for the worst case exposure scenario, evaluation of these “high risk” employees might provide useful insight into biological monitoring for the general public.

Question: Can this data be made available to health officials?

Response: HBMS currently monitors arsenic, cadmium, and lead in blood and urine samples for 400 employees. However, there is a concern over whether this data can legally be released for assessment due to confidentiality requirements.

- Manitoba Health indicated that they would be interested only in the data trends over time and would not want any personal information associated with the data. Manitoba Health would look into the legal issues related to release of this information.
- Saskatchewan Health indicated that they are satisfied that there is no urgent or immediate need to undertake biological monitoring. However, they would like the issue to remain on the table for further discussion, particularly once the results of the ongoing sampling programs become available.
- Manitoba Health indicated that there does not seem to be a large concern on the local level. Discussions with five of the ten local doctors revealed that only two inquiries had been received from local citizens related to biological monitoring, one occupational related.

#	Action	Responsibility	Target Date	Status
031	Investigate legal issues related to release of HBMS employee monitoring data.	Susan Roberecki	2008-01-31	2007-12-06, new

## **Technical Advisory Committee – Terms of Reference (TOR)**

- It was requested that the “Background” section be clarified to be consistent with Section 2.0.
- The “\*” in Section 3.0 referred to a former footnote detailing the different departments involved from Manitoba Conservation. Requested that the “\*” be removed and the phrasing changed to indicated “...representatives from...”.
- There was a discussion on whether the TOR title should reference the “Flin Flon Soil Study” or the “Human Health Risk Assessment”. It was decided that since the soil quality report initiated the HHRA, the reference to the soil study should remain for clarity in public perception. However, the title will be amended to incorporate the HHRA nature of the work.
- There was a discussion on what constituted an individual in Section 3.1, for purposes of a quorum. It was determined that a quorum would be based on one vote per organization rather than per individual.
- There was a discussion regarding the process for dealing with “delinquent” member organizations missing meetings or other obligations. It was decided that the Facilitator would address such problems, should they arise.

- There was a discussion on Section 5.3, which deals with whether TAC meetings should be open to the public or closed.
  - Various government agencies were concerned that having open meetings could lead to private discussions between members outside the official TAC meetings.
  - There was also concern regarding misinterpretation / misquoting of discussion by media, particularly since various government representatives are not allowed to speak directly with the media.
  - There was a general concern that individuals may not be able to participate in as frank or open a fashion as in a closed meeting.
  - It was decided that the TOR would reflect that the TAC has the ability to hold open meetings, but not an obligation to do so. This would provide the flexibility for the TAC to hold open portions of meetings at some later date.
- There was a discussion regarding how to relay confidential information to the CAC, as some data and material may not be ready for the public domain. It was suggested that the CAC Observers could relay the nature of the discussion to the main committee, but not necessarily the specific details.
- It was further suggested that the CAC needs to have a mechanism for providing feedback to the TAC. This will be addressed by including a specific agenda item on all future meetings for the CAC Observers to relay questions, comments or concerns from the CAC.
- The discussion on the governance model was postponed until the following meeting.
- Representatives for the Communications Working Group were discussed. It was suggested that each lead agency involved from the provinces should provide a representative. These representatives should be determined in early 2008, but this discussion can be conducted outside the meeting.

#	Action	Responsibility	Target Date	Status
032	Revise TAC TOR to reflect latest discussions.	Sheldon McLeod	2008-01-15	2007-12-06, new
033	Include CAC Feedback item on future TAC meeting agendas.	Sheldon McLeod	2008-01-15	2007-12-06, new
034	Determine the TAC representatives to the CWG.	Alan Hair	2007-12-31	2007-12-06, new

### **Other Issues**

- Manitoba Health noted that they have prepared a Fact Sheet related to the soil study for distribution to Flin Flon area residents.
- The next meeting will be a “face-to-face” meeting rather than a teleconference. However, should the results of the soil and dust sampling be delayed, the meeting will be postponed until after the results are available.

**NEXT MEETING:           Tuesday, February 5<sup>th</sup>, 2:00 pm**  
**Venue to be confirmed**