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Submission to the Mackenzie Valley Environmental Review Board
Giant Mine review
Explorer Hotel, Yellowknife NT
July 22-23, 2008.

Mr. Chairman

I would like to thank the board for accepting this submission on such short notice. I would begin by stating that my comments are based on a two-part premise. The first premise is that a complete remediation of the Giant mine site, in my mind at least, requires a 'permanent' solution to the arsenic problem underground as well as other areas in and outside the lease area proper. It is my opinion that the public at large feels the same way. Secondly, that the stated 'fact' that a permanent solution is technically or financially impossible is incorrect.

On the first point, this concept of 'permanency' would require a solution that seeks to eliminate care and maintenance in perpetuity. It also requires that the philosophy of the remediation plan be changed to focus on how to achieve a 'permanent solution' and not what is economically or technically 'feasible' as the main criteria.

Often, what the public instinctively and very correctly feel is the right way to proceed, is sidelined by panels of experts expounding the status quo with armies of engineers and accountants for credibility. This places a large burden on the independent review process. Ultimately, the taxpayer is paying for this project and the taxpayers should get what they want. Based on the comments that I have heard over the course of the hearing plus my own and others opinions, I would conclude that the anxiety and concern that Ms Little spoke to and the fact that these hearings are being held again suggest that the general public is very concerned about the developers claim that this is the best option and rejects this view. They suspect that better options exist or will be developed and feel it unwise to commit to the frozen block strategy.

I would suggest at this point, that, if the publics desire for a better solution is initially more costly than the present cost deferred plan managed over perpetuity, yet it ultimately creates a permanent, ecologically stable environment for perpetuity, then it appears this would be a very wise investment. Trans-generational transfer of liability to the future is extremely unwise, unjust, and ultimately, usually costs way more than it ever would have if it were done right in the first place.

On the second point, what has particularly troubled me about this process is that it appears a very small amount of initial information on risk assessment has compounded into a justification for one particular option. The transparency of how this was done, what criteria were actually used to assess risk, what biases are present in the form of by-the-book techniques, what was rejected as out of hand and why, what was missed because of all of this, and what effect a new evaluation would have on the risk assessment process has never been transparent in my opinion.

I believe that the current frozen block proposal should be examined for hidden biases and 'a priori' assumptions. I suggest that a good many of these assumptions exist and must be examined, as some are key determinants for the entire plan. I am concerned that major issues such as long term committed funding and guaranteed power supply are not being presented as prime components to the plan. I believe that the developers claim that safe removal and processing is impossible not correct and should be closely looked at for inaccurate or incomplete assumptions. I would like a process for independent peer review that, among other things, re-visits the reasons for what was rejected as well as what was finally chosen as the operating plan. To suggest that no known technology exists to handle arsenic trioxide problems when industry routinely handles large amounts of highly toxic material on a daily basis all over the world lacks credibility and the arguments for this position and others as well need to be looked at closely by the board.

The following is a list of questions and comments that I would like to submit for the board's consideration in no particular order.

1-Were the psychological impacts associated with Giant mine included in the assessment of options.
2-Why is this project in perpetuity proceeding without long term ironclad funding in place
3-Why is this project proceeding without firm commitments for power requirements.
4-How will power requirements for the project affect the power supply situation in Yellowknife.
5-Was any thought given to create additional power infrastructure in a renewable energy form so that there could be a lasting benefit to the region once the power is no longer required in large quantities.
6-Was the rapidly rising price of energy projected into the future with given rates of increase.
7-It was stated several times that it is necessary to proceed promptly now that the assessment and final remediation plans are in place. Reasons given for this haste were decaying infrastructure such as old pipe and pumps and corroded processing tanks. Are there any others reasons?
8-If the arsenic is stable in sealed chambers and mine water is being processed and will be forever, why has this infrastructure not been upgraded to remove this need to proceed quickly in the face of public opposition.
9-Is the developer aware that the City of Yellowknife's emergency water supply intake is downstream of mine discharge and was this factored into the discussion around water discharge in both ordinary and extraordinary situations.
10-Is the temperature of the rock around the chambers below freezing now.
11-If so, how long would it stay that way without refrigeration.
12-Why was 340 mg/kg chosen for threshold criteria and what are the health risks in general associated with current surface levels of arsenic on site, around town and in the adjacent land area.
13-Could the developer describe some situations where a 'catastrophic release' of arsenic could occur and how these issues influenced the decision process
14-Is the developer convinced that there is no drainage from the tailings pond area underground to Back Bay through underground fracturing and that this will be so in the future.
15-Could the developer describe what role the bio availability vs. bound forms of arsenic played in the assessment of risk on surface.
16-Have any of the other tanks on site been evaluated for use in future processing or interim measures.
17-What are the sources of arsenic in Baker creek at this time and what are the various options for remediation and what will be the final result in terms of discharge quality.
18-Is the developer satisfied with the input from Miramar on site at this time as per the transfer agreement.
19- Could the developer explain "the scope of the development informs the scope"
20-Could the developer elaborate on how the risk assessment was used to determine the final choice of plans and what were the key determinants.
21-Were moderate areas of risk re-examined for options to reduce risk to low status so as to favorably compete with the frozen block method and could moderate risk be considered acceptable in this application.
22-Is the developer willing to cooperate with an independent peer review of the assessment criteria and their relative assigned weights.
23-Can the developer see any issues of urgency should they choose to upgrade some of the decaying plumbing and maintain the status quo while additional evaluations are conducted.
24-Could the developer explain again the situation regarding interim exemptions under section 39 for water use, what these activities might consist of and why it is necessary to ask for these exemptions.

25-Would the developer agree that there is no significant risk of arsenic exposure on surface other than a few roaster contaminated areas and that the levels around site are similar in risk to the general area around and in Yellowknife.
26-At what level of arsenic concentration that is biologically available does arsenic exposure become a significant risk according to Health Canada and how do these levels affect future use of the area.
27-Is there any indication that this project will eventually reduce arsenic levels in the surrounding area, and if so, how.
28-Why have intergenerational costs not been factored into the documents.
29-The obstacle mentioned in the presentation to a removal and processing option was that, although up to 99% of the arsenic could be retrieved, 1% could not and would always be a problem. The conclusion given was that it would be pointless to proceed unless one could get it all. I hope I have understood this point correctly. If this last 1% is not extractable with massive amounts of technology, then could the developer explain what pathway there might be for this last one percent to become an issue and how this information was used to in determining to eliminate the remove and process options.
30-Was a closed loop system using water as the removal vehicle, processing the water and converting the resultant sludge back into arsenopyrite in a granite matrix (i.e. turn it back into rock) for reburial underground ever evaluated as an option.
31-If the above option was evaluated and rejected, then could the developer explain why. If it was not evaluated, then could the developer explain why not.
32-What periods of time are these water licences expected to last, both the initial and long term.
33-What weight does INAC give to public concern over the long-term repercussions, as it applies to funding criteria and project models on a scale of one to ten.
34-Where does the water presently entering the pits from precipitation go.
35-Has there been an evaluation of the possibility, under the current plan, of a water plant failure and resultant holding pond overflow for any reason including mechanical failures, natural disasters and terrorism. Are there contingencies in place for such events.
36-Is the material used in the model of thermo-siphon being considered a CFC or other hazardous material.
37-Does the developer agree that public opposition to this project justifies a re-evaluation of the various options and will they dedicate their full resources to finding a suitable solution that address this concern in conjunction with independent peer review.

In conclusion, I believe that it would be wise at his point to consider suspending all further activities towards implementing the frozen block plan until an alternate model is developed that addresses the maintenance in perpetuity situation and all other issues raised thus far.
There is also another layer of issues to be examined at technical level. I can only conclude from what I have heard so far, that some issues, biases and suppositions exist in these technical areas as well and have been key determinants in the final outcome.

Thank you for your time and patience.

Gary Vaillancourt