



Our file: EA0809-002

Vial email

April 23, 2010

Mr. David Harpley
VP –Environment and Permitting Affairs
Canadian Zinc Corporation
Suite 1710-650 West Georgia Street
PO Box 11644
Vancouver, BC
V6B 4N9

Dear Mr. Harpley:

**Re: Canadian Zinc Corporation, Prairie Creek Mine
Conformity Check of Developer's Assessment Report and Deficiency Statement**

Introduction

The Review Board has completed a conformity check of the Prairie Creek Mine Developer's Assessment Report (DAR) and found it to not be in conformity with the June 26, 2009 Terms of Reference for this environmental assessment.

A conformity check determines whether the developer has responded to the items in the Terms of Reference (ToR) with enough information to address potential adverse impacts from the project on the environment. The Review Board met April 20-22, 2010, to perform a conformity check on the Prairie Creek Mine DAR. The following is a deficiency statement which lists the information requirements from the ToR that are not in conformity.

Selected portions of the ToR that remain outstanding have been provided in italics in this deficiency statement. Canadian Zinc Corporation is asked to answer the specific requirements described below so that the DAR can be considered in conformity with the Terms of Reference.

3.2.5 Development Description

ToR Section 3.2.5 – temporary storage of tailings in water storage pond

3) A table of all existing infrastructure components, whether and how they are proposed to be altered (e.g., larger or smaller buildings, new equipment, altered material flows) and for what purpose, and a description of which existing infrastructure will be removed entirely and how it will be replaced

4): For each existing infrastructure component, a prediction of any changes from its current level of usage during full scale operations (e.g., increased frequency of aircraft flights), as well as comparison of maximum expected usage to the design capacity for the development component

10) The backfill technology to be used, the paste backfill plant, transport of the paste backfill to the underground works, the planned bulkheads system, and when and how tailings stored on the surface will be transported to and used in the paste backfill system

Request to developer

As described in Section 6.3.7 of the DAR, the former tailings pond will be converted into a water storage pond. This water storage pond is later identified briefly in Section 6.12.2 and in Appendix 12 as a temporary storage site for mill tailings. Temporary storage of tailings in the water storage pond instead of on surface adjacent to the pond as originally proposed in the Project Description is an important change in project design. No mention is made of temporary tailings storage in the water storage pond in Table 6-2 or Section 6.3.7 of the DAR. Please describe use of the water storage pond as a location for the temporary storage of tailings. Specifically, please provide details on:

- volume of tailings to be stored in the water storage pond;
- method of tailings transport to the pond and method of tailings placement in the pond;
- location of tailings storage in pond identified on a figure in plan view and cross section;
- duration of tailings storage in the pond;
- method of tailings removal from the pond with predicted ability to remove all temporarily stored tailings; and
- impacts of temporary placement of tailings in storage pond on pond water quality in ToR Section 3.3.2.

ToR Section 3.2.5 – storage of overburden and organic material removed from waste rock pile site

11) The location, contents and estimated amounts of mined materials, soil and overburden at all surface storage facilities, along with estimates of storage requirements and underground storage capacity limits

Request to developer

The estimated amounts of overburden and organic material to be removed from the waste rock pile site and storage location are not included in the DAR. It is understood from the Preliminary Design of the Waste Rock Pile (Appendix 11) that some quantities of overburden material are suitable for construction of the containment berm for the seepage collection pond and that a storage site for some of the overburden material may therefore be temporary. Please describe the estimated volume of overburden and organic material to be removed from the waste rock pile site, the temporary or permanent storage locations for the materials and an estimated storage footprint. In addition, please show the storage locations on a map.

ToR Section 3.2.5 – aggregate sources

13) Location(s) and proposed activities of aggregate production and storage, with an estimate of the amount of aggregate that will be produced per year over the life of the mine, by location

Request to developer

General locations of aggregates are described in Section 6.13 of the DAR, however, estimated amounts of aggregate that will be produced per year are not included. Please provide an estimated amount of aggregate that will be produced per year over the life of the mine, by location with a focus on realigned sections of the winter road.

ToR Section 3.2.5 – access road improvements

21) All existing or proposed access roads required for the Prairie Creek Mine, with particular emphasis on the winter road, including analysis of necessary one-time improvements, initial and annual construction techniques, proposed water crossing types by location, and amount of water and other materials required

Request to developer

In Section 6.21.1 of the DAR (Access Road Alternatives, Polje Creek By-Pass km 48-59), reference is made to a possible span crossing over the creek. Please describe the type of span crossing proposed for Polje Creek. In addition, please describe the type of temporary span

structures that may be used at creek crossings along the winter road as referenced in Section 6.22.1 of the DAR.

Section 6.21.2 of the DAR describes construction for the winter road and proposed re-alignments. In particular, this section refers to segments of the winter route that are on sloped ground and will require cut and fill techniques in order to construct a level road bed. Please identify the time of year proposed for construction of the realigned road sections. Please identify the specific locations and total length along the winter road where cut and fill construction techniques will be required. In addition, please identify locations and estimated length of the route where cut and fill techniques within ice-rich soil or permafrost will be required.

3.3 Impacts on the Biophysical Environment

ToR Section 3.3.2 Mine site water quality – use of criteria for impact assessment described in Section 3.3.1 in determining opinion on significance of impacts

Section 3.3.1 When describing impacts and assessing their significance, Canadian Zinc must characterize:

- *The nature or type of the impact;*
- *The direction of the impact (i.e., beneficial vs. adverse);*
- *The magnitude of the impact, and whether it exceeds a threshold of manageable change;*
- *The geographic range the impact will occur within, as well as impact loads on any location of heightened sensitivity or high local impact intensity;*
- *The timing of the impact (including duration, frequency and extent);*
- *The likelihood of the impact occurring;*
- *The reversibility of the impact; and*
- *The confidence level in the prediction, and any factors influencing the level of uncertainty in the predicted outcome (this uncertainty analysis must consider the confidence of the developer in underlying assumptions, models, and data sources).*

These criteria shall be used by the developer as a basis for its opinions on the significance of impacts on the biophysical environment. The Review Board will make the ultimate determination of significance once considering all the evidence on the public record at the end of the environmental assessment.

Request to developer

The potential impact of the Prairie Creek Mine on local and downstream water quality is the key line of inquiry in the Terms of Reference for the Prairie Creek Mine. Section 3.3.1 of the ToR requires that the developer follow specific impact assessment steps and

significance determination factors for each valued component. In the DAR, these impact assessment steps and significance determination criteria for mine site water quality have not been followed.

Please present the missing information and follow the assessment steps and significance determination criteria for water quality as required under Section 3.3.1 of the ToR.

ToR Section 3.3.5 Fish and Aquatic Habitat – use criteria for impact assessment described in Section 3.3.1 in determining opinion on significance of impacts

Request to developer

Section 3.3.1 of the ToR requires that the developer follow specific impact assessment steps and significance determination factors for each valued component. In the DAR, these impact assessment steps and significance determination criteria for fish and aquatic life have not been followed. Please follow the impact assessment criteria as described in Section 3.3.1 and provide a significance determination for impacts to fish and aquatic habitat.

ToR Section 3.3.7 Terrain –use criteria for impact assessment described in Section 3.3.1 in determining opinion on significance of impacts

Request to developer

Section 3.3.1 of the ToR requires that the developer follow specific impact assessment steps and significance determination factors for each valued component. In the DAR, these impact assessment steps and significance determination criteria for terrain have not been followed. Please follow the impact assessment criteria as described in Section 3.3.1 and provide a significance determination for impacts to terrain.

Note: An acceptable example of impact predictions and significance determination using the criteria in Section 3.3.1 of the ToR can be found in the Vegetation and Wildlife Assessment Report (Appendix 17) of the DAR. For the purposes of consistency, this example could be used for impact predictions and significance determinations in the DAR for the valued components of Mine Site Water Quality – Section 3.3.2, Fish and Aquatic Habitat – Section 3.3.5 and Terrain – 3.3.7.

ToR Section 3.1.5 – DAR to be submitted as a stand alone document

The Developer's Assessment Report will be submitted as a stand alone document. Relevant data and analysis from the Project Description Reports and other previous studies should be incorporated where applicable into the Developer's Assessment Report and combined with any supplementary material and analyses required herein.

Request to developer

In Section 10.4.3 of the DAR reference is made to Flood Protection Berm reports related to the ability of the dyke to withstand flooding events. Please include these reports as part of the DAR submission as required in Section 3.1.5 of the ToR.

3.4 Impacts on the Human Environment

ToR Section 3.4.2 – capital and annual operating costs

1. *Qualitative and quantitative estimates of all beneficial and adverse economic impacts from the Prairie Creek Mine, including at minimum:*
 - a. *Capital costs associated with placing the Prairie Creek Mine in operation, broken down by major components (estimates should be in 2009 dollars Cdn. and may be in a +/- 20% range);*
 - b. *Annual operating costs during the life of the Prairie Creek Mine (estimates should be in 2009 dollars Cdn. and may be in a +/- 20% range)*

Request to developer

Please provide an estimate of capital costs associated with placing the Prairie Creek Mine in production broken down by major components and an estimate of annual operating costs during the life of the mine. The Review Board is aware that this ToR requirement may be considered confidential by the developer. Confidential information will therefore be addressed in the same manner as the terms put in place for confidential portions of Traditional Knowledge Assessment Addendum Report, August 2009, submitted to the Review Board by the Nahanni Butte Dene Band for this environmental assessment. These terms are as follows:

- Capital and annual operating cost information will be held under confidential cover at the Review Board office throughout the environmental assessment;
- The Review Board will notify parties that the information provided is under confidential cover;
- Parties may make a request to the Review Board to view the confidential information provided there are legitimate reasons to view it, e.g. a reasonable claim that a party may be affected;

- Should viewing of the confidential portions be granted by the Review Board, no reproductions in any form will be permitted and the viewing will take place at the Review Board's office only;
- Confidential information will be available to the Review Board during Board proceedings and decision making; and
- Confidential information will be returned to Canadian Zinc Corporation at the end of the environmental assessment.


The developer may submit this portion of its response to the deficiency statement under separate cover in order to facilitate confidentiality. If capital and annual operating cost information for the Prairie Creek Mine cannot be provided to the Review Board under the terms described above, please provide an explanation of why Canadian Zinc Corporation cannot comply with this section of the ToR.

Conclusion

The response to this deficiency statement should be submitted to the Review Board as an addendum to the DAR. Once the Review Board has determined that the DAR is in conformity with the ToR, the environmental assessment of the Prairie Creek Mine will proceed to the next phase and an updated Work Plan will be issued.

If you have any questions or are unclear on what is expected in your response to this deficiency statement, please contact me by email or phone.

Sincerely,



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