

Our File: EA1415-01

February 2, 2016.

Re: Independent Consultant for Risk Assessment in EA1415-01

The purpose of this letter is to inform parties that the Review Board will use an independent consulting firm to review all of the technical materials submitted by Canadian Zinc (CZN) relevant to the conductance of a risk assessment for the Prairie Creek All Season Access Road project. The proposed independent consulting firm is:

Oboni Riskope Associates Incorporated (Oboni Riskope)
2302 West Fourth Ave
PO Box 19158 Fourth Ave
Vancouver BC V6K 4R8

Scope of Work for Oboni Riskope

The purpose of the Review Board's contract with Oboni Riskope will be to complete a risk assessment for the proposed all season road development. The risk assessment will clearly identify the risks and associated consequences of the proposed road in plain language. The risk assessment must be based on the evidence on the Review Board's public record for the Prairie Creek All Season Access Road project. It will consider adverse impacts to the environment, people and infrastructure. The risk assessment will consider the proposed road project as a whole, and will particularly focus on:

- locations identified as moderate, high, and very high risk from a geohazards and terrain stability perspective¹
- the sundog creek realignment
- locations with sensitive habitat that would likely result in a high consequence event (this should include areas with karst topography)
- where the road design increase the likelihood of an accident
- locations where channel avulsion risks are considered to be likely to effect the road and/or road crossing structures

¹ As defined in the Mapping Summary Report ([PR#107](#)), Appendix F of the DAR Addendum ([PR#99](#)), and Appendix 2 of the DAR ([PR#129](#))



The technical report describing the contractor's risk assessment should specifically answer the following questions:

- components within the risk assessment:
 - what are the risk elements?
 - what is the probability of an adverse consequence to elements at risk?
 - what are the consequences and severity of each risk?
- summary of risk assessment findings:
 - where are the riskiest locations and what are the associated consequences?
 - where are the highest consequence locations?
 - are the risks tolerable and acceptable without mitigations?
 - are the risks tolerable and acceptable with mitigations?
 - what are the residual risks if mitigations are implemented and are the proposed mitigations appropriate and sufficient?
 - what are the tradeoffs between the proposed alignments from a risk perspective?
 - how do the risks differ between a winter road versus and all-season road?
 - what are the possible systemic mechanisms that could lead to a failure?
 - what are the priority risks to consider / manage overall?
- what are the major uncertainties in the risk assessment and how were they accounted for?
- what are the assumptions for the risk assessment and what are the implications of the assumptions being incorrect?

The project-specific part of this environmental assessment does not include previously assessed components. The environmental assessment will include cumulative effects.

The contractor will participate in a phased approach described below:

Phase 1- Technical Review

Oboni Riskope will review all existing relevant material on the record for this environmental assessment and prepare information requests to be issued to the developer. The information contained in and flowing from these information requests will be available for all parties to see. Following the information request stage, an Oboni Riskope representative will participate in person in the Technical Sessions where they will be available to ask questions to the developer as well as answer any questions asked of them by other parties.

Phase 2- Technical Report and Hearings

Oboni Riskope will participate in the second round of information requests in the same way as described for Phase 1. Oboni Riskope will attend and participate in the public hearings as a third party technical advisor to this environmental assessment, meaning that it will participate in the preparation of a technical report and the public hearing in the same manner as other parties. Its technical report, describing the findings of their risk assessment, will be made publically available prior to the submission of other parties' technical reports. Parties may follow up on and make sure of the information in the Oboni Riskope technical report in their own technical reports, if desired.

Oboni Riskope's participation in the public hearing will include:

- presenting a plain language summary of its risk assessment for the Review Board and parties
- preparing questions to ask during the public hearing



- being available to answer questions from other parties regarding the findings of the risk assessment
- reviewing and responding to relevant undertaking responses from the developer.

Oboni Riskope will also be available at the hearing for cross examination by other parties.

Oboni Riskope will prepare a final written summary as its closing submission. The closing submission will describe Oboni Riskope's views on significant adverse impacts that have not been mitigated through the environmental assessment process and make related recommendations. All information and technical expertise provided by Oboni Riskope to the Review Board will also be made available to all parties to this environmental assessment and to the Developer.

Oboni Riskope will not participate in the Review Board deliberations.

CVs for the Oboni Riskope team that will be working on this risk assessment are included below.

Parties that wish to comment on the proposed scope of work for the independent risk assessors described above are asked to submit their comments to the Review Board by 4:00 pm, February 5th, 2016.

The contacts for the Project are Environmental Assessment Officers Sachi De Souza (867) 766-7054; sdesouza@reviewboard.ca and Kate Mansfield (867) 766-7062; kmansfield@reviewboard.ca.

Appendix 2. CVs and clients' references

Dr. Franco Oboni

crisis management, communications and preparedness
due-diligence, acquisitions, strategic organization
natural and man-made risk and hazard analyses
disaster recovery plans and business continuity
risk assessment and management
crisis plans drills and instruction
teaching, training and coaching
failure and accident analyses
negotiations and litigations
landslides and rock falls
decision making support
human error analyses
cyberdefense risks

Linkedin profile <http://www.linkedin.com/in/foboni>

Languages

Trilingual:	English, French & Italian
Excellent:	Spanish
Good knowledge:	German

Education

Ecole Polytechnique Fédérale, Lausanne, (EPFL), Switzerland: **Ph.D., Civil Engineering, 1988** (uncertainties and probabilities applied to civil works).

Postgraduate courses on thermal improvement of buildings, application of statistics and probabilities in civil engineering as well as 3rd cycle courses on concrete, steel and wood structures, (EPFL), 1985

Ecole Polytechnique Fédérale, Lausanne, (EPFL), **Diplôme d'Ingénieur Civil, 1978**

Professional record

Eurosain/Studio TTA: Founder/ Risk Management Principal Consultant, 8-2009

Riskope International, principal consultant, 2000-present (www.riskope.com).

Oboni Riskope and Associates (former Oboni Associates Inc., Oboni Associates SA), Switzerland, Canada, President, 1988-present (www.riskope.com)

CSD SA, Chief of Sector and Managing Director, 1984-1988



Soil Mechanics Laboratory, EPFL, Research Engineer, 1981-1984

Bureau Schalcher & Associés, Project Engineer, 1978, 1979-1981

National Computer Centre, Director, Civil Engineering Section, La Paz, Bolivia, 1978-1979

Summary of experience

Franco heads Riskope, an international practice on Risk and Crisis Management based in Vancouver, B.C., Canada, and Lausanne, Switzerland. He is a consultant, coach, author of over fifty papers and co-authoring of the 2007 book entitled: "Improving Sustainability through Reasonable Risk and Crisis Management". Franco regularly gives seminars, and workshops worldwide, teaches in universities (including MBA courses). Clients include the UNDP, Fortune 500, World Bank, several international mining companies, railroads, highways, harbours, luxury and food suppliers, military and numerous communities, regional and provincial governments.

Franco has managed a broad range of risk and crisis mitigation projects, risk and security audits, reviews and geo-environmental hazard mitigation studies. Projects have included definition of needs, training for corporate clients, negotiations with community leaders, as well as the preparation of monitoring programs, Risk Assessments and Optimum Risk Estimates (ORE, the flagship product of Riskope).

Franco taught regularly at the University of British Columbia on "Design of Risk Management Systems" (Continuing Education) and on Edumine for the last 10 years. Now he delivers his customized seminars directly to interested industrial corporations (among his clients are BC Hydro, Mitsubishi Motor Company, Japan Metal Mining Association, to name but a few). Franco was co-recipients of the Italian Canadian Chamber of Commerce (Canada West) 2010 Innovation Award.



Cesar Oboni

natural and man-made risk and hazard analyses
risk assessment and management
applied probabilistic analyses
failure and accident analyses
decision making support
synthetic environments
human error analyses
cyberdefense risks
disaster models
risk models

Linkedin profile <http://www.linkedin.com/in/coboni>

Languages

First language:	French, English
Excellent:	Japanese
Simple level:	Italian, German

Education

Ecole Polytechnique Fédérale, Lausanne, (EPFL), Switzerland and Université de Lausanne:
Special Maths and Computer Sciences, 1999-2002
Aichi Shukutoku University (愛知淑徳大学), 2004-2006

Professional record

Riskope International, founder, 2000-present (www.riskope.com), and managing director
of Riskope Switzerland SA.

Oboni Riskope and Associates, Switzerland, Canada, Director of Mathematical Modelling
2005-present (www.riskope.com)

Oboni and Associates Inc. Developer and Project Team Member 2000-2005

Summary of experience

Cesar has an applied mathematics (EPFL, Lausanne) and cross cultural business
background (Aichi Shukutoku University, Japan), is a director of Oboni Riskope Associates



Inc., Vancouver and VP of Risk Modelling of Riskope International SA.

Cesar has been involved in risk analyses and reviews for numerous facilities and organizations, communities, mining, military, transportation, including "at perpetuity" projects.

Beside his activities in Risk Assessment and Optimum Risk Estimates (ORE, the flagship product of Riskope for industries and projects around the world, Cesar has been very active in the analysis of special and emerging risks, co-authoring a report on Cyber-defence at national scale for an European country.

In various projects Cesar created a link between Risk Analysis and future mitigative policies considering societal acceptability, willingness to pay and other social drivers.

Clients include Fortune 500, large mining corporations, UN/UNDP, transportation and military.

César is the co-author of 2007 book entitled: "Improving Sustainability through Reasonable Risk and Crisis Management" and over ten papers published in international conferences and symposiums. He was co-recipient of the 2010 ICCO, Italian Canadian Chamber of Commerce (Canada West), Innovation Award.