



Tłıchǫ Government

Box 412, Rae-Edzo, NT X0E 0Y0 • Tel: (867) 392-6381 Fax: (867) 392-6389 www.tlicho.ca

September 15 2012

RE: NICO Project - EA0809-004 [2009]

Mackenzie Valley Environmental Impact Review Board
200 Scotia Centre
Box 938, 5102-50th Ave
Yellowknife, NT X1A 2N7

Re: Response to Commitment made regarding Island Copper Expert Committee

The Tłıchǫ Government responds to a question asked by the Review Board's legal counsel, Mr. John Donihee. The Tłıchǫ Government was asked to provide details on the Island Copper Expert Committee to support the measure that has been discussed:

Include in the Report of the Environmental Assessment a requirement for an independent expert committee to review and support the unproven technologies brought to bear in the proposed mine: namely co-disposal and wetlands treatment as part of the water licensing phase, should the project proceed.

The Tłıchǫ Government sees parallels between the two examples, as Island Copper was testing novel technology (sub-marine tailings disposal) that was controversial, relatively untested and not well understood. Both co-disposal technologies and wetlands treatment are relatively new industrial applications, they are not well understood in the north, and there are remaining uncertainties in how these technologies will perform in this environment (See Undertaking by SENES, September 14, 2012 for uncertainties identified in the current plans for wetlands treatment and co-disposal). The Tłıchǫ Government has consistently tracked the uncertainty associated with these unproven technologies.

The predictions made by the developer in the Island Copper environmental assessment about the upwelling of the tailings in the sea were inaccurate. The tailings behaved differently, and the scientific team were able to investigate, react and provide guidance. The Island Copper peer review committee gave guidance, independent review, and operational suggestions that reduced the impacts on the environment of the novel technology.

Summary of Island Copper Expert Committee

At the time that it was constructed, the Island Copper Mine was using what was then considered novel technology: *underwater tailings disposal*. This meant that the developer was proposing to discharge the mine tailings into the sea. The company proposed to discharge 40,000 tonnes per day into the sea, rather than dispose of the tailings on land (which would have led substantial acid rock drainage being released into the surrounding area). The mine operated from 1971-1995 on the Rupert Inlet on the north end of Vancouver Island.

Many concerns were raised with this novel approach, including how the tailings would settle, how tidal currents would move and impact on the tailings, and potential negative impacts on commercial fisheries for salmon, crab and prawns, and the possibility of bioaccumulation of heavy metals through the marine food chain (Moore, Pelletier and Horne 2000).

The requirement of the Technical Advisory Group was contained in the Pollution Control Permit issued to Utah Construction and Mining. The goal was to help establish an Environmental Monitoring Program to ensure the “effluent standards were achieved and that the marine environment was monitored for physical, chemical and biological parameters” (*ibid*, p. 5).

The committee included 8-15 professors with specializations including marine biology, geology, phytoplankton ecology, and others (Affolder et al. 2011). The committee later changed to a four person group, after some controversy. At first the University of British Columbia managed the committee, which had the outcome of many graduate students turning their attention to the issue (Poling et al. 2002).

The committee designed a comprehensive environmental monitoring program and research programs to evaluate the impacts of the tailings discharge on the marine ecosystem. The university also assisted in developing an environmental sampling system and analytical laboratory at the mine site (Poling et al. 2002).

The committee met twice a year and visited the mine site once a year. They were heavily involved in monitoring of environmental impacts. The requirement in the permit was for a ten year life span to the committee, but it ended up lasting over 30 years.

Funding

The oversight body was funded through Utah Construction and Mining through the University of British Columbia, and thereafter by the company directly.

The operating cost of oceanographic monitoring, evaluation, and reporting amounted to less than CDN \$1 million / year (Poling et al. 2002).

Outcomes

The early operational years revealed that the company had been incorrect in its predictions that tailings would remain undisturbed after they were injected. By early 1972 (two years after tailing injection began), tailings were visible as far as 35 km away from the discharge point.

“A wide range of values were variously tracked at weekly, monthly, quarterly and annual periods. These included ocean depth, turbidity, oxygen, heavy metals in seawater, chlorophyll-a as a measure of phytoplankton abundance, species biodiversity and abundance, and heavy metals in the tissues of marine organisms. Virtually every parameter that might be impacted by the tailings, and that could be measured, was included in the program” (Moore, Pelletier and Horne 2000, p. 6).

During the 25 year life of the mine, the regulatory body never once found the mine to be out of compliance with effluent permits (Poling in Poling et al. 2002, 161) .

References

Affolder, N., K. Allen, and S. Paruk. 2011. Independent Environmental Oversight: A report for the Giant mine remediation environmental assessment. Available online at <http://www.reviewboard.ca/>

Poling, G., D. Ellis, J. Murray, T. Parsons, C. Pelletier. 2002. Underwater tailing placement at Island Copper Mine: A success story. Published by the Society for Mining, Metallurgy, and Exploration, Inc.

Moore, P. C. Pelletier and I. Horne. 2000. The Environmental Impact of Submarine Tailings Disposal at the Island Copper Mine on Vancouver Island: A case history in environmental policy. Greenspirit: For a Sustainable Future.