Independent Environmental Monitoring Agency
P.O. Box 1192, Yellowknife, NT X1A 2R2 ▪ Phone (867) 669 9141 ▪ Fax (867) 669 9145
Website: www.monitoringagency.net ▪ Email: monitor1@yk.com

July 11, 2011

Karl Schubert
Superintendent—Traditional Knowledge and Permitting
EKATI Diamond Mine
BHP Billiton Canada
#1102, 4920 - 52nd Street
Yellowknife NT X1A 3Z1

Dear Karl

Re: Use of Nitrate Ideal Performance Standard in Ekati Water Management

On May 17, 2010 the Agency wrote BHPB expressing concern over the applicability and use of the nitrate Ideal Performance Standard (IPS) as an effluent discharge criterion at the Ekati diamond mine (see attachment). We have not received a formal response to date.

On February 15, 2011 the Canadian Council for Minister's of the Environment (CCME) released a draft Canadian Water Quality Guideline for the Protection of Aquatic Life for nitrate at 3.6 mg/l. The draft specifies that:

> The CCME guideline derivation protocol (CCME 2007) provides the option of implementing the Protection Clause in situations where a data point for a species at risk, a species of commercial or recreational importance, or an ecologically important species falls below the HC5 (CWQG) value on the long-term SSD. In this case, for the development of a national guideline applicable to Canada, the Protection Clause is not implemented since the lake trout is not a COSEWIC endangered species, and the value below the HC5 is not a lethal-effect endpoint. **However, on a site-specific basis, jurisdictions have the option of adopting the lower data point as the water quality guideline value in watersheds where, for example, Lake trout occur and are considered an important component of the ecosystem.** [emphasis added] (CCME 2011, page 114)
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> **CCME (2007) recommends implementation of the Protection Clause and using the lower point (lake trout MATC of 14 mg $NO_3^- \cdot L^{-1}$) as the criterion in watersheds where Lake trout occur and are considered an important component of the ecosystem.** [emphasis added] (CCME 2011, page 127)

To be clear, the Agency and perhaps others, consider lake trout an ecologically important species. As the top species of the aquatic food web in a watershed with few large fish and a small number of fish species, lake trout are vulnerable. Application of the draft CCME nitrate guideline and the Protection Clause to the Leslie Lake to Slipper Lake watershed where lake trout are found would mean a nitrate discharge criterion of 3.16 mg/l nitrate.

On February 18, 2011 Eric Denholm, BHPB sent an e-mail to the Agency and others, and undertook that "BHP Billiton will first review this new document and subsequently respond to those questions on the IPS or, alternately, advise of implications of the draft CWQG to the management of nitrate in minewater at the EKATI Diamond Mine." We have yet to receive anything in writing from BHPB on this issue.

On July 5, 2011 we received a copy of a letter sent the previous day by the Aboriginal Affairs and Northern Development Water Inspector authorizing effluent discharge from Cell E of Long Lake. The Agency contacted the Inspector and was informed that water sampling by BHPB in Cell E found nitrate at 3.84 mg/l. This is above the draft CCME guideline, with or without the use of the Protection Clause.

It is not clear to the Agency how BHPB is applying its "Zero Harm Policy" or the precautionary principle, to which BHPB committed in the Environmental Agreement, in this particular case.

We again request BHPB to provide an explanation as to how the nitrate IPS was used to determine the timing and quantity of discharges from the LLCF and why the nitrate IPS is used given that lake trout are an important species found downstream.

We look forward to your respective reply and an opportunity to discuss these matters further.

Sincerely

W.A. Ross

Bill Ross
Chairperson

cc. Society Members
Mark Cliffe-Phillips, Wek'eezhii Land and Water Board
Jason Brennan, Water Inspector
Jane Fitzpatrick, Environment Canada
Bruce Hanna, Fisheries and Oceans