



Environment Environnement
Canada Canada

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April 15, 2004

Our file: 4782 012

Mr. Jim Wall
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Nunavut Water Board
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Via Email at Tech1@nwb.nunavut.ca

Dear Mr. Wall:

RE: NWB3IQA04 - Earth Tech Canada Inc. Effluent Quality Criteria for the Iqaluit Water Treatment Plant

Thank-you for your letter dated April 5, 2004 requesting specific guidance as to the likelihood of Earth Tech Canada Inc.'s proposed effluent quality criteria for the Iqaluit Waste Water Treatment Plant meeting Section 36(3) of the *Fisheries Act*. The following specialist advice has been provided pursuant to Environment Canada's mandated responsibilities for the enforcement of the *Canadian Environmental Protection Act*, Section 36(3) of the *Fisheries Act*, the *Migratory Birds Convention Act*, and the *Species at Risk Act*.

Environment Canada's current thinking on dealing with Section 36(3) of the *Fisheries Act* and municipal wastewater effluent is to have non-acutely lethal effluent. The courts have ruled that non-acutely lethal effluent can be determined by conducting the 96 hour Rainbow Trout Bioassay LC50 Toxicity Test for the wastewater effluent (it should be noted that in the near future there will be a pH-drift adjustment for this test that will make testing for ammonia toxicity more accurate; it is hoped this test will be available in 2005).

The proposed effluent quality for the Iqaluit wastewater treatment discharge (45 mg/L BOD5, 45 mg/L Suspended Solids, 10 mg/L Ammonia) are a significant improvement over the effluent quality guidelines for marine embayed areas that are currently being followed in Nunavut (120/180 BOD/TSS) and a step in the right direction towards meeting the requirements of Section 36(3) of the *Fisheries Act*. These limits are consistent with Environment Canada's current thinking on a long term strategy for maximum allowable limits for BOD5 and TSS in municipal wastewater effluent. Environment Canada's current thinking is to have the target design of 20-30 mg/L BOD5 and 20-30 mg/L TSS to allow for a factor of safety to ensure maximum limits of 45 mg/L BOD5 and 45 mg/L TSS are never to be exceeded. Environment Canada is working with the Canadian Council of Ministers of the Environment (CCME) to establish national criteria for wastewater effluent quality which will address the *Fisheries Act* requirements. The above noted position is the part of the discussion points the Department will be taking to CCME in the near future.

Environment Canada cannot at this time provide specific guidance as to the likelihood of the proposed effluent meeting the requirements of 36(3) of the *Fisheries Act* as it is not possible to

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determine whether the proposed effluent based on **these three criteria alone** will be deleterious or not. This said, the following points provide some direction to assist in addressing *Fisheries Act* Section 36(3) responsibilities for your consideration:

- Testing the effluent for toxicity, as referenced in the beginning of this letter, will help to confirm if toxicity is an issue related to the *Fisheries Act* Section 36(3);
- Reducing the existing design criteria effluent guidelines is consistent with due diligence strategies to reduce liabilities from potential Section 36(3) *Fisheries Act* violations;
- Understanding, updating and maintaining upstream source control and pollution prevention strategies (such as pretreatment at industries discharging to the municipal wastewater treatment plant) will also reduce Fisheries Act liabilities;
- Additional due diligence strategies may also include, but are not limited to, optimizing wastewater treatment facility operation/maintenance and designing facilities to a minimum baseline of secondary treatment effluent quality (and potentially higher treatment depending on site specific sensitivity).

Environment Canada hopes that this information is of use to the Nunavut Water Board in your discussions with the City of Iqaluit and Earth Tech Canada Inc. If you have any further questions regarding this issue, please feel free to contact me at (867) 975-4639, or Christina Ruii, Project Engineer, at (306) 780-7365.

Yours truly,

Original signed by

Colette Meloche
Environmental Assessment Specialist

cc: (Stephen Harbicht, Head, Assessment and Monitoring, Environment Canada, Yellowknife)
(Craig Broome, Head, Enforcement, Environment Canada, Yellowknife)
(Christina Ruii, Project Engineer, Environment Canada, Saskatoon)