



July 14, 2014

Mr. Paul Norris
Ontario Waterpower Association
380 Armour Road, Suite 264
Peterborough, Ontario
K9H 7L7

Re: Subject Matter Expert Submission: Surface Water Quality and Fish Sampling

Dear Mr. Norris,

Please find attached my submission as a subject matter expert for surface water quality and fish sampling related to hydroelectric power development. A description of my experience in the subject area as it relates hydropower development is provided below and my curriculum vitae is attached.

Experience in the Relevant Topic Area

I have practiced professional environmental consulting related to contaminant assessment and remediation in the environment for over 10 years. I have assessed the impacts of metals, petroleum hydrocarbons and persistent organic contaminants (e.g., PCBs and dioxin/furans) to a variety of media including surface water, fish, groundwater, sediment, soil and air, and provided management solutions for mitigating or remediating identified impacts. The results of my work have been communicated through meetings, public information sessions, written reports, technical seminars and mediation. In the last three years, my work has focused almost exclusively on contaminant impact assessment in surface water and fish tissue.

Experience in the Hydroelectric Sector

I have provided professional consulting advice to proponents, regulators, consultants and non-profit organizations on assessing the potential impacts of hydroelectric facilities on water quality and mercury concentrations in fish tissue. This includes working with the Ontario Ministry of the Environment to revise a draft guideline for assessing these media, co-authoring with OWA a Best Management Practice for hydropower developers to assess the same, implementing fish and water assessment programs for several waterpower developments across Ontario, providing Waterpower Class Environmental Assessment support to developers and subject matter expert support to OWA, and providing short courses on the design of water quality and fish sampling programs to hydropower stakeholders.

Closing

Thank you kindly for considering my submission. Sincerely,

David Leeder. B.Sc. (Hon)
david.leeder@environmentalsciences.ca



Relevant Recent Projects

Professional History

Hutchinson Environmental Sciences Ltd.

Intermediate Environmental Scientist
Bracebridge, ON
2011 – Present

Golder Associates Ltd.

Intermediate Project Scientist
Ottawa, ON
2008 – 2011

Jacques Whitford Ltd.

Intermediate Project Scientist
Halifax, NS and Goose Bay, NL
2005 – 2008

Environmental Solutions Ontario Inc.

Field Technician and Junior Environmental Scientist
Oro, ON
2004 - 2005

Gartner Lee Ltd.

Junior Environmental Scientist
Bracebridge, ON
2002

Ontario Ministry of Natural Resources

Contract Technician
Bracebridge, ON
2001

Education

Honours B.Sc., Laurentian University. 2004.

Environmental Earth Science,
Certificate in Environmental Biology.

- **Subject matter expert support for changes to water quality and mercury in fish tissue related to hydroelectric power development (2014).** *Ontario Waterpower Association (OWA).* Technical advice to the OWA on accurate sampling programs and predictive modelling for water quality and mercury in fish related to waterpower development including: co-authoring a new Best Management Practice (BMP) with OWA; attending meetings with regulators and industry stakeholders to address gaps in understanding and perspective related to policy development; and providing a short course on the new BMP and its rationale to industry stakeholders.
- **Statistical analysis of Ontario Ministry of the Environment mercury-in-fish predictions for proposed hydroelectric generating facilities (2014).** *Namewaminikan Hydro Inc.* Statistically assessed the accuracy and reliability of four models proposed by the Ontario Ministry of the Environment (MOE) for predicting mercury increases in fish tissue following hydroelectric development.
- **Mercury in fish predictive modelling support for proposed hydroelectric facilities (2013 - present).** *Xeneca Power Development Inc.* Assessed the modelled potential increase of mercury in fish and water following hydroelectric development including identifying the ranges of accuracy and reliability of model outputs, applying the increases to environmental receptors to assess the actual potential impacts, providing recommendations for monitoring and mitigating impacts, and discussing with regulators the real world implications and management options.
- **Water quality assessment and fish mercury body burden assessment, proposed hydroelectric generating facilities across Ontario (2011 – present).** *Xeneca Power Development Inc.* Developed and conducted water quality and mercury-in-fish monitoring programs to assess the baseline conditions and potential impacts of proposed hydroelectric generating facilities. Included developing a science-based monitoring program for regulatory approval and providing guidance to third-party consultants.
- **Water Power Class Environmental Assessment support (2011 - present).** *Xeneca Power Development Inc.* Prepared assessment and mitigation documents, addressed regulator and stakeholder comments. Provided technically defensible assessments and mitigation methods.
- **Aquatic impact assessment, former gas extraction process water injection wells, Beaton River, northeastern British Columbia (2012 - present).** *Secure Energy Services.* Applied passive integrating samplers to measure low-level hydrocarbons in a river. Derived a new approach, currently under regulatory review, for managing contaminated remote gas wells.
- **Acid mine drainage water quality assessment, water disposal and site reclamation options analysis, northeastern British Columbia (2014).** *Secure Energy Services.* Assessed treatment options for low pH, and high metals and saline water in borrow pits affected by acid mine drainage.