November 16, 2009

Ministry of the Environment 35030
Environmental Assessment Branch and Approvals Branch
2 St. Clair Avenue West, Floor 12A
Toronto, ON
M4V 1L5

Attention: Sandra Guido, Senior Program Support Coordinator

Re: Project Description Report for the Proposed
Ashbridges Bay Biogas Cogeneration Plant
7 Leslie St., Toronto, Ontario

Enclosed for your review is a Project Description Report in support of a Renewable Energy Approval application to be prepared for proposed Toronto Hydro Energy Services Inc. Biogas Cogeneration Plant. We look forward to receiving a list of Aboriginal Communities to be consulted regarding the proposed undertaking.

Please contact the undersigned with any questions.

Yours truly,

Stephen Chan, P.Eng.
Senior Manager – Generation & Renewable Development
Toronto Hydro Energy Services Inc.
Enc.

Cc: Doris Dumais, Director - Approvals Program

DRAFT PROJECT DESCRIPTION REPORT
TORONTO HYDRO ENERGY SERVICES INC.
ASHBRIDGES BAY BIOGAS COGENERATION PLANT

Toronto Hydro Energy Services Inc. (TH Energy) is proposing to construct and operate a Biogas Cogeneration Plant (the Facility) to be located adjacent to the Ashbridges Bay Treatment Plant (ABTP) at 7 Leslie St., Toronto, Ontario (see Figure 1 – Site Location Plan). TH Energy has entered into a long term lease agreement with the City of Toronto for the site location. The Facility is located in a mainly industrial area, with some nearby recreation areas (i.e., public parks and boat club).

The proposed TH Energy Facility is classified under O.Reg. 359/09 as a Biogas Facility, and will utilize biogas produced in existing digesters at the ABTP to generate electricity and thermal energy in the form of hot water. The Facility will generate 9.912 MW of electricity from seven (7) reciprocating engine generators, rated at 1.416 MW each, under the Ontario Power Authority's (OPA) Feed-in-Tariff (FIT) Program. The thermal energy generated by the Facility will be sent to ABTP for process heating requirements.

Process Description

The biogas is produced by anaerobic digestion of the biodegradable material in municipal sewage waste at the ABTP facility, and will be comprised primarily of methane and carbon dioxide. Biogas and hot water will be piped to and from the TH Energy Facility across a shared property line. Prior to combustion of the biogas in the engine generators, moisture entrained in the biogas will be removed by a refrigerated type chilling process. The engine generator is a 4-stroke lean burn reciprocating engine. It operates on the basis of exothermic reaction of combusting biogas and air in the combustion chambers of the engine cylinders. This creates gases of high temperature and pressure, which are permitted to expand causing the movement of pistons inside each cylinder, which rotate a shaft. The rotational energy produced by the engine is converted to electrical energy by a generator connected to the end of the shaft. Heat resulting from the combustion process is recovered from engine cooling, lube oil cooling and from the exhaust flue gases by heat exchangers, which produces the hot water for use at the ABTP.

Potential Environment Effects

All emissions to the environment will comply with applicable regulations under the Environmental Protection Act (EPA). Anticipated emissions to the environment from the proposed Facility consist of exhaust gases from the engine generators and noise from process equipment.

The exhaust gases (primarily nitrogen oxides, suspended particulate matter, carbon monoxide and carbon dioxide) from the engine generators will exit through separate stacks located 13.5 m above the roof and 23.5 m above grade. Exhaust gas emissions and resulting ground level concentrations will comply with Ontario Ministry of Environment criteria as outlined in O.Reg. 419/05.

All significant noise emitting equipment at the Facility will be confined within the site building through proper building design and building material selection. Any noise emissions from site building entry and exit points will be mitigated with sound attenuation equipment as required to meet NPC 205, 232 and 233 documents under Section 9 of the EPA.

FIGURE 1 SITE LOCATION PLAN