

To: Members of the Trent-Severn Waterway Panel at the Peterborough Hearing on July 4, 2007

From: Bruce Lister* and Goodith Heeney*

Subject: Environmental Degradation Implicit in Two Heavily Subsidizeable Micro Hydroelectric Projects on the Scenic Trent-Severn Waterway Just North of Peterborough's Trent University

Date: July 2, 2007.

The core issue is whether to proceed with two micro hydroelectric projects north of Trent University that are technologically viable and candidates for very heavy subsidies at taxpayers expense. They would involve, however, severe environmental degradation to riverside park and farm land.

They stem from a federal call in 1992 for tenders for six hydro power plants to be built on the Trent-Severn Waterway (TSW). Trent-Severn originally awarded, presumably for a fee, the power rights to Dams 24 and 25 to the Kilworthy Group, who sold its interest to Otonabee Power, who then sold to Canadian Hydro Developers Incorporated (CHDI), who (temporarily?) let the project lapse in the early 2000s. TSW more recently awarded the power rights to Dams 22 and 23 to Trent Rapids Power Corporation (TRPC). These two projects would boost the number of hydroelectric plants on the Trent-Severn Waterway (TSW) from 18 to 20 or 21.

For the latter of these two projects, TRPC would draw water from above Dam 23 and flow it via a future 1.2 kilometre canal to be blasted out through forest and limestone on the western shoreline of the Otonabee River to a powerhouse on the western shoreline just below Dam 22. Electricity at high voltage would be transmitted by aerial cable to the existing provincial grid interconnection at the south end of Trent University. The rock detritus from the canal would go to canal dyking and two disposal heaps up to two storeys high, covering the equivalent of two

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soccer fields. 7,530 trees would be cut down. The remnant river section after this water diversion would be slower, weedier and smelly. There would be a loss of wetland and deterioration in other natural habitat. The view from across the river would be of a hardened drier shoreline.

The seekers of rich subsidization for this latter project comprise three bodies. TRPC is 50 per cent owned by the City of Peterborough through its Public Utilities Services (PUS) and 50 per cent owned by a Toronto private sector company, Shaman Power. The third body is Trent University who would receive payments in return for leasing its riverside parkland to TRPC for 30 years, provided water flows stayed above specified minima. We do not know whether the risk of secularly lower water flows would be borne equally by partners PUS and Shaman.

What is certain is that this latter project would inevitably be followed by a revival upriver of the scheme by CHDI, or a successor, around Dams 24 and 25, as its unsubsidized 1990s project was transformed by the equivalent of the rich subsidies for TRPC. CHDI's original scheme involved one powerhouse fed by a long water storage canal. It was of course to have had safety fencing on both sides, which however would have marred the farm scape and given a concentration camp feeling to shoreline homeowners. Their western view would have encompassed at least one large disposal dump. Shortly before CHDI pulled out, it changed its plan to two powerhouses fed by two short canals.

Controversy over these schemes is causing embryonic dissension amongst Trent University students, faculty, alumnae and donors; municipal governments; the media; neighboring homeowners and other stakeholders. Fear of income retaliation appears to be intimidating some "independent" consultants and other environmentalists and town planners. Secrecy over the financial details prevents economic cost-benefit analysis broader than the conventional accounting framework.

Among the further regulatory steps ahead would be an Environmental Assessment Hearing by the Province of Ontario. The Province noted in March, 2005, early in its push to expand clean renewable energy, that some technically viable water power sites "should remain undeveloped to meet environmental, natural resource, wilderness, and recreational requirements". This may have been influenced by the tempestuous seesaw history of Quebec micro hydroelectric subsidization, 1990 to 2002, which was eventually resolved in favour of environmentalist eco-tourism (see appended summary adapted from Rivers Foundation website).

We are a group actively concerned to protect the riverine park and farmland north of Trent University in the City of Peterborough and the Township of Smith-Ennismore-Lakefield. We contend this open space warrants remaining undeveloped, for reasons given below, especially its great natural beauty. We support the modernization of the aged hydro plant at the south end of Trent University, because no environmental damage will occur.

Our vision, as friends of the Otonabee River, is to maintain and enhance its historic attractiveness to:

- Canadian and foreign boaters;
- picnickers;
- fishermen;
- teenagers and other swimmers;
- Trent University students and staff;
- childrens' summer day camp;
- neighboring homeowners;
- hikers and cross-country skiers;
- dog walkers;
- wild fauna and flora;
- eco-tourists; and
- field naturalists.

The attractiveness of the Otonabee benefits mental and physical health, natural habitats and the local economy. These won't be sustained without defence of the land use planning that should be behind the survival of Otonabee parks, unimproved trails, wild flora and fauna and farm scapes. We also envision eventual upgrading of the sewage treatment plants at Lakefield and Peterborough from secondary to tertiary status. Summer testing for E coli should occur at swimming holes, with results on notices nearby. There should be a Biennial Report on the ecological state of at least the Otonabee section of the Trent-Severn Waterway, including monitoring against further hardening of its shorelines. With Greater Golden Horseshoe population projected to rise from its present 3.7 millions to 11.5 millions by 2025, such open space will be a pearl beyond price for future generations. "Smart Growth", friendly to the environment, is superior urban strategy.

In the not too distant future, on one side of the coin, would be a total operating output average from the two projects of about 12 megawatts per hour or less of extra electricity. The other side of the coin would be two or three blasted-out storage feeder canals, two or three powerhouses, three or four disposal heaps, high safety fencing and other environmental self-mutilation. This destruction is airbrushed aside in the four successive drafts to date of the Environmental Screening Report, which falls short of the professionalism espoused for example by the US Trust for Public Land.

Recently, the US Trust for Public Land contracted with six economist teams to construct valuation formulae for:

- air cleansing by trees;
- water retention by vegetation and soil;
- park users' savings from not having to purchase recreation from private providers;
- park users' savings on doctors, hospitals and pharmaceuticals by being marginally healthier from park exercise;
- the increase in property value from proximity to a park;
- the increase in tax revenues from park-related tourism; and
- the value of time and money donated by residents to parks.

In late 2005, a coalition including the Rivers Foundation, the International Rivers Network, the Sierra Club and like-minded bodies, issued a Press Release entitled “Unmasking the ‘Clean’ Hydroelectricity Myth: Building Hydro Dams to Fight Climate Change Destroys the Environment”. They seek drastic reductions in greenhouse gas emissions from transport, large industrial emitters and energy generators using coal, oil and gas. They support greater energy efficiency and green energy alternatives such as wind power, solar and geothermal.

New micro hydroelectric plants (ie less than 10 megawatts) are in reality a very small part of the answer to Ontario’s 15,000 megawatt excess of demand over supply by 2027. Over 90% of Ontario’s looming shortfall of supply is planned to be rectified by nuclear, big hydro at Niagara, imports from New York State and Quebec, voluntary consumption constraint from smart meters and closer-to-free-market pricing etc., and natural gas. The remainder will come from alternative renewables, of which micro hydro would be not more than about 1 to 2 % points.

Ontario’s new Standard Offer Program (SOP) has a powerful incentive price to producers which so far in 2007 has been averaging more than double the free market price, which can be represented, in the opinion of Energy Probe, by the New York Independent System Operator market price. It averaged 6.564 cents Canadian per kilowatt hour (kwh) in the 12 months to April 2007. SOP encourages business to develop and wholesale renewable energy to the grid by simplifying regulatory hurdles and setting a fixed 20-year price, partially inflation-protected. The base price is 11 cents per kwh; those that can demonstrate they can operate reliably during peak hours will be paid an additional 3.52 cents per kwh of electricity delivered during peak hours. 22 projects have been approved so far, mostly in solar, wind and bio-gas. The TRPC scheme is among the 36 applications not yet approved.

In an April 19, 2007 letter to Peterborough’s Committee of Adjustment, TRPC President Robert Allen noted “Without support through programs such as the Ontario Standard Offer Program and the proposed Eco-Energy Program, many rivers and streams would never be developed because the financial return on such projects would not make them viable. As part of the Environmental Screening Process, TRPC looked at four alternative configurations. While each of the configurations had pros and cons, only the proposed configuration was found to be feasible after considering all the relevant technical, economic and environmental factors. Ultimately, if the proposed configuration is not approved through all steps of this endeavor, the renewable resource potential at Dams 22 and 23 will not be developed”.

CHDI’s earlier lapsed scheme involving Dams 24 and 25 was relatively unsubsidized and only marginally profitable. By contrast, TRPC’s scheme would be very, very, very profitable - at taxpayers’ expense. The difference stems particularly from the first two of the following four taxpayer-financed subsidies:

- if Ontario’s SOP blended price continued to be double the free market price, it would be worth millions of dollars annually to TRPC and CHDI;

- the federal ecoENERGY for Renewable Power Program, with its rebate of 1 cent per kilowatt hour;
- the public might not receive adequate net compensation for the beautiful shoreline given by taxpayers in trust as parkland to Trent University, only to be dis-invested from recreational open space and leased by Trent University to TRPC.
- TRPC and CHDI should be counting on paying user charges to the Trent-Severn Waterway for the benefits they would receive from four federal dams. 41 Haliburton lakes can be drawn down within a pre-negotiated range to assure water for TSW navigation in dry spells, like early each Fall. Cottagers increasingly object. There are also competing demands for water treatable for drinking, for swimming pools, for road watering, for golf courses and for the hydro power plants. All we users should be paying water use fees to TSW, directly or indirectly. Reputedly, global warming may inhibit regional rainfall, but even it out seasonally. With water demand increasing and supply stable to decreasing, the implicit price of water is going up. User charges and conservation are inevitable.

TRPC has sought to re-designate existing Peterborough parkland into a status amenable to industrial development for the proposed canal, powerhouse and disposal dumps, but not at full City Council. The Parks Advisory Committee appears to be in abeyance on this matter. Council's preference appears to be to treat this as a minor variance. This despite Ontario's Planning and Conservation Land Statute Law Amendment Act, 2006, which came into effect on January 1, 2007 (see article in Cottage Life, June, 2007). Rather, the dispute in Peterborough has occurred only at the Committee of Adjustment level. TRPC proponents at the Committee level lost their application to Smith-Ennismore-Lakefield to re-designate such land, but won at Peterborough. The legalistic rationale relied on the "etcetera" part of the City's Official Plan 3.1.1, and because City Zoning By-law exemption 6.1 can be (mis)interpreted as covering the City's partial ownership of TRPC. Both matters will be heard at the Ontario Municipal Board (OMB) on July 30 and if necessary up to the following six days.

Level playing fields are hard to find. One arm of the federal government sells water power rights on TSW and dispenses a modest micro power subsidy while another arm reviews their environmental suitability with respect to navigable river bed, flood plains, water quality, and the health of the fish and migratory birds and tries to reverse TSW shore hardening. Likewise, one arm of the provincial government dispenses rich micro power subsidies while another arm is charged with environmental protection for the route of the canal and high voltage transmission amongst other things.

Both the TRPC's sparse financial disclosure and its site plans in five versions to date have been

evolving. TRPC's capital cost estimates have been revised up from \$19 millions to \$25 millions during the past year, yet still remain below the Ontario Government's rule of thumb of \$4,000 to \$7,000 per kilowatt installed, which would amount to \$32 millions to \$56 millions for 8 megawatts.

Eventual Victory Over Quebec Micro Hydroelectric Policies Whose Corollary was the Environmental Degradation of Parks

The seesaw history of Quebec micro hydroelectric policies is a cautionary tale that obviously had influence on Ontario policy. It is essential background to the controversy over the heavily subsidized Trent Rapids Power Corporation (TRPC) project that would degrade riverside parkland and open space in the City of Peterborough and neighboring Township Smith-Ennismore-Lakefield.

A 1990 Study on abandoned dam sites in Quebec was followed by a Hydro Quebec declaration that it would not be profitable for Quebecers to restore the small hydroelectric sites involved. The next year, despite this, the Province inaugurated a new subsidy policy to allow the building of 57 small hydro plants over the next three years.

A moratorium on this policy was announced in 1995 following two years of investigation by Anne-Marie Saint-Cerny and Alain Saladzius. They uncovered that the Province was paying the small producers double the electricity export price. Some promoters, after drying two kilometres (km) of river, tried to calm the furious citizenry by creating a park next to the no-longer-existing river! The two authors also made four other charges:

- certain promoters didn't declare the exact production of their power station in order to avoid the obligations of the Environment Quality Act;
- municipalities didn't benefit from the profits from small electricity generators;
- long-term jobs were not created; and
- some virgin sites were destroyed.

The ensuing Doyen Commission in 1997 amongst other things called for open, accessible disclosure to the public of any small hydro power station project before decisive actions were taken.

In 1999 a permit was granted to the Boralex Company to develop a small 9.7 megawatt (mw) hydro plant on the beautiful Parc of the River Batiscan about an hour west of Quebec City by car. Aroused citizens contested the permit, which the Environment Ministry then cancelled. Boralex sued and won at the lowest Court but lost at the Appeal Court level and was not able to get the Supreme Court to hear the case.

In 2001 Quebec announced it would permit 36 sites on 24 rivers to be developed for projects of less than 50 megawatts and would allow regional municipalities to become co-owners up to 49% with the private sector at 51% or more. The future founders of the Adoptez une Riviere group reacted by issuing a significant document arguing that:

- waterfalls and rapids constitute a unique collective heritage;
- the imminent power stations would strip the eco-tourist industry of essential assets and benefit only the private promoters; and
- energy efficiency stimulates much more economic activity. Power stations less than 50 megawatts do not produce a significant amount of energy and tear communities apart.

Five province-wide organizations entered the fight, led by prominent artists, including Michel Gauthier with his influential documentary movie *Rivieres d'Argent*. A large demonstration was held outside Hydro Quebec's offices. In a widely supported move, Mikael Rioux, a 26-year-old outdoor guide, hung a tent above the Trois Pistoles River for 36 days and successfully stopped a micro hydro project that would have destroyed three splendid waterfalls forever.

In late 2002 the Premier of Quebec cut the number of eligible sites from 36 to three, which were further delayed because no negotiations with First Nations had taken place.

The Rivers Foundation (www.rivers-foundation.org) was founded at this time to preserve the rivers threatened by electricity projects, pollution, privatization and various economic interests. It aims to raise people's awareness of this subject and is the source of the Quebec story told here.