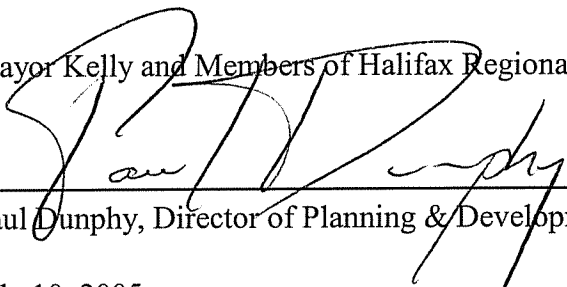


**Halifax Regional Council**  
**August 9, 2005**

**TO:** Mayor Kelly and Members of Halifax Regional Council

**SUBMITTED BY:**

  
Paul Dunphy, Director of Planning & Development Services

**DATE:** July 10, 2005

**SUBJECT:** Wind Turbine Proposal - Lake Major Watershed

## **INFORMATION REPORT**

### **ORIGIN**

Request by Renewable Energy Services Ltd. to erect a test wind turbine on lands of the Halifax Regional Water Commission in the Lake Major watershed in order to determine the feasibility of developing larger scale wind energy projects within HRM.

### **DISCUSSION**

#### **Zoning**

In the fall of 2004, Nova Scotia Power held a competition to identify renewable energy developers who would be granted access to the provincial power grid. Scotia Windfields Ltd. was the successful proponent for wind energy development within the "Chebucto Wind Field", which includes HRM.

- An affiliate company, Renewable Energy Systems Ltd. (RESL), is erecting a single wind turbine in the Goodwood - Western Commons area as a pilot project. The property is zoned I-3 (General Industrial) and this zone allows wind turbines as the primary land use. A municipal development permit has been issued.
- RESL wishes to erect a second test turbine in the Lake Major water supply watershed. Power would be sold to the Water Commission for use in its water treatment plant rather than being distributed through the provincial power grid. A municipal development permit has not been applied for yet. The watershed zone does not permit stand alone industrial uses. However, since the power generated from the test turbine will be used exclusively by the Water Commission, the turbine is considered an accessory use under the Municipality's zoning regulations and a development permit can be issued.

Council/Water Commission Process

On January 25, 2005, Regional Council considered a staff report on the relationship between HRM and the Water Commission. Among the recommendations adopted by Council was a requirement that any use of watershed lands for purposes other than those directly associated with their use as municipal water supply:

- must have Council approval in addition to Water Commission's Board; and
- must be in compliance with applicable water supply legislation.

Consequently, RESL's proposal to erect a test turbine at Lake Major must be endorsed by Regional Council prior to being constructed.

Next Steps

There are two components to the proposed test project which have to be reviewed. These are the turbine itself and the construction of a 500 foot access road. The Lake Major Protected Water Area Regulations do not permit road construction after September 30. If the test turbine is to be erected this year, the road construction must commence shortly so that it can be completed by this date. As a result, approval for road construction will be required in advance of the approval for the test turbine. Water Commission staff have proposed the following process to review each component.

*Road Construction*

On August 10, the Water Commission's Board will be asked to approve construction of the road on the condition that RSEL:

- executes an access agreement with the Water Commission;
- the costs of road construction will be borne by RESL along with the risk that this investment does not guarantee that the test turbine will be approved;
- complies with the Lake Major Protected Water Area Regulations by obtaining a permit for road construction from Nova Scotia Environment and Labour; and
- complies with all conditions attached to the Provincial approval.

If RESL agrees to these terms and the Water Commission's Board approves the agreement, Council will be asked to approve the road construction on the same basis, at the September 6 Council meeting.

*Test Turbine*

The test turbine proposed by RESL does not generate sufficient power to warrant a provincial or federal environmental assessment. Having said that, in order to ensure due diligence with respect to protecting the water supply, RESL will be required by the Water Commission to carry out the same environmental screening as would be required by a Class I Provincial Assessment, albeit without

registering the project with the Province. Prior to the Water Commission's Board and Council reviewing RESL's proposal, they will be required to complete the following activities:

- conduct all the technical assessments required under a Provincial Class I Environmental Assessment and demonstrate to the Water Commission's satisfaction that there is negligible impact upon water quality from the construction and operation of the turbine and that any other environmental issues identified can be managed to the satisfaction of the Water Commission;
- hold public consultation in the Cherry Brook/North Preston communities identifying the location of the turbine and provide the public with the results of the environmental screening and analysis; and
- agree to business terms with the Water Commission addressing land lease costs, power rates and operational issues.

The timing of this is mostly in the hands of RESL, but it is expected that this can be completed by late November. As with road construction, a recommendation would be made to the Water Commission Board first, followed by a recommendation to Council.

#### Wind Farm

Consideration of the test turbine is on a "without prejudice" basis. If the test turbine is approved and proves successful, it should not be assumed that development of a full scale wind farm is inevitably acceptable within the Municipality's water supply lands. A larger scale development supplying power to Nova Scotia Power's provincial grid is an industrial operation which is not permitted by the zoning on the water supply lands. Staff are undertaking a review of municipal regulations for wind farms. After that review is complete the Municipality will be in a better position to determine whether or not such development is acceptable and under what conditions.

#### **BUDGET IMPLICATIONS**

There are no budget implications associated with this information report.

#### **FINANCIAL MANAGEMENT POLICIES / BUSINESS PLAN**

This report complies with the Municipality's Multi-Year Financial Strategy, the approved Operating, Capital and Reserve budgets, policies and procedures regarding withdrawals from the utilization of Capital and Operating reserves, as well as any relevant legislation.

#### **ATTACHMENTS**

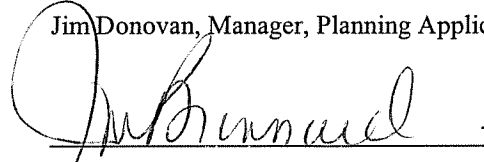
None

A copy of this report can be obtained online at <http://www.halifax.ca/council/agendasc/cagenda.html> then choose the appropriate meeting date, or by contacting the Office of the Municipal Clerk at 490-4210, or Fax 490-4208.

Report Prepared by:

Jim Donovan, Manager, Planning Applications, 490-6782

Financial Review:

  
Joan Broussard, MBA, Financial Consultant, 490-6267

**Attachment 1: Unsolicited Proposal from RESL**  
**RESL proposal to install test wind turbines at two sites in HRM**

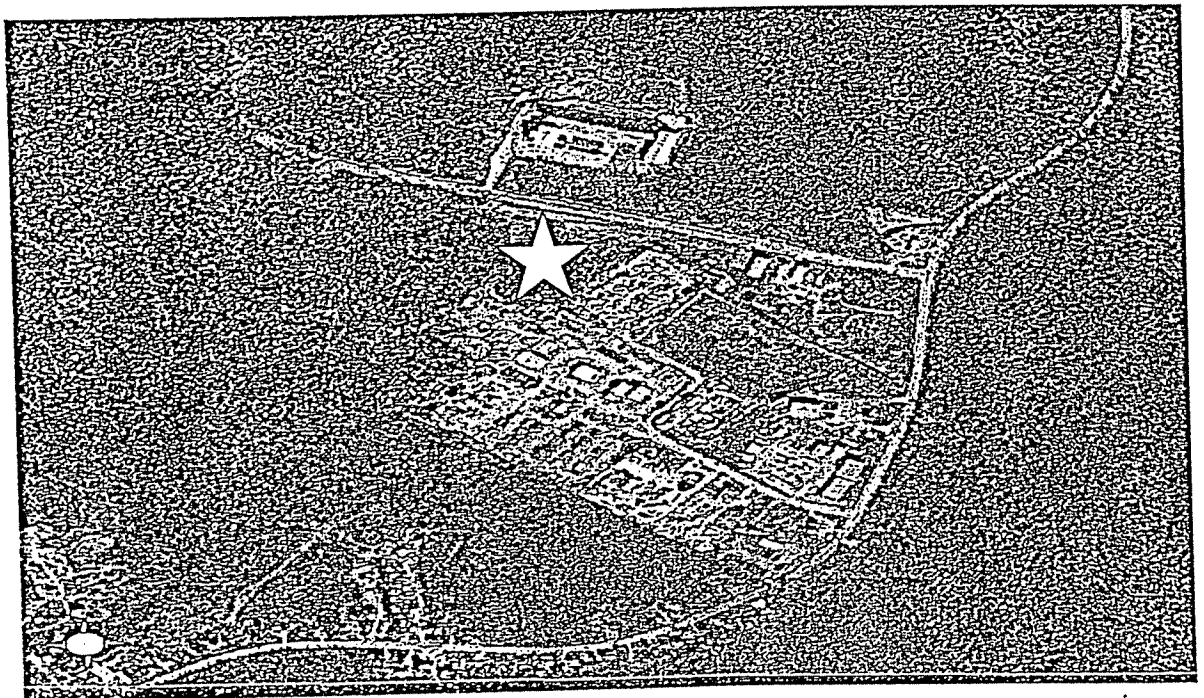
Renewable Energy Services Limited (RESL) proposes the installation of two test turbines in HRM. The test turbines will produce renewable energy under contract with Nova Scotia Power while measuring wind energy capacity on the East and West sides of HRM. Should testing confirm economic energy production, a plan will be developed for approval of larger scale renewable wind energy production.

Following is an overview of the proposed test installations:

**Site 1.**

The first test site proposed is in the yard of Mills Heavy Hauling located in Goodwood. PID # 41016668 owned by Mills. The address is Mills Drive in Goodwood.

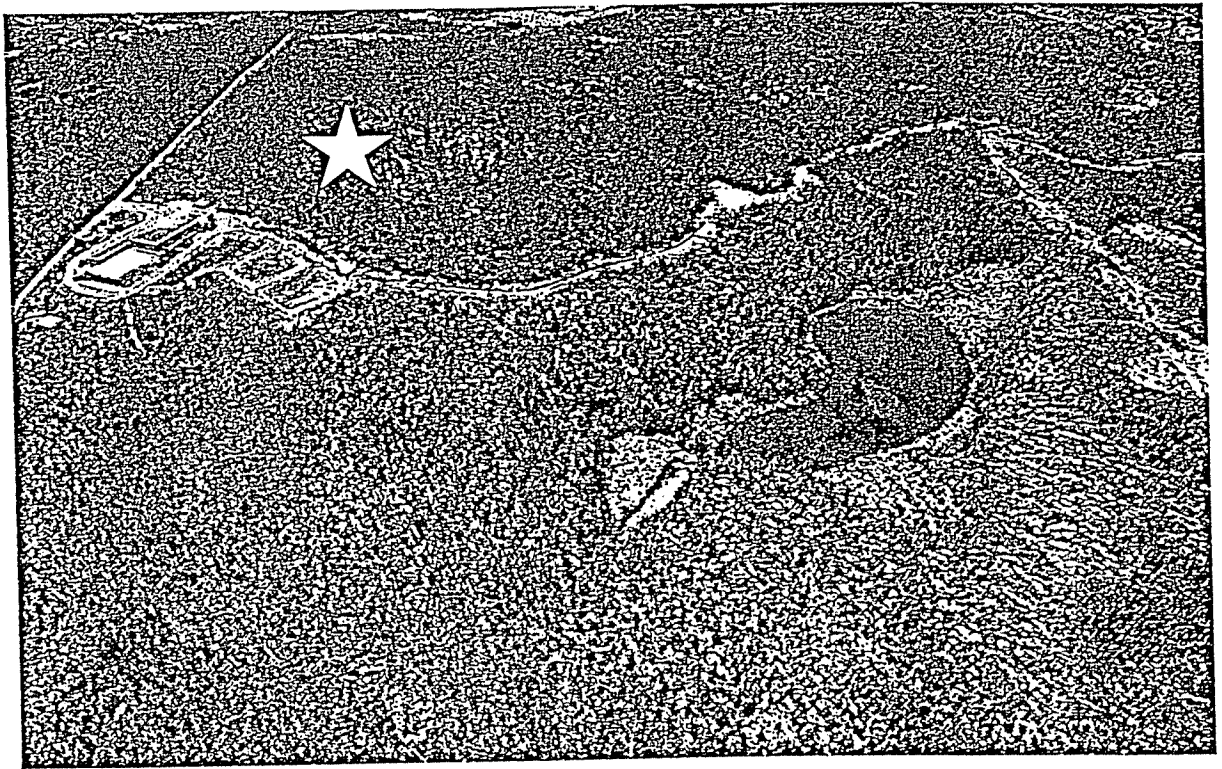
The following schematic and star illustrates the proposed test site.



Attachment number one provides a description of the proposed test turbine.

## Site 2

The second proposed test site is on the Lake Major Watershed located near Flat Barren Brook Lake Major adjacent to the water processing plant. The PID number is 40225591. The following schematic and star provides the proposed general location.



Attachment number one provides an overview of the test turbine proposed.

## Attachment Number One – Wind Turbine Description

Following is a description of the proposed test turbine. The turbine is identical to the turbine installed by Nova Scotia Power in Little Brook Nova Scotia as shown below:



Specifications:

### Manufacturer Turbowinds T 600 - 48

#### Test Turbine Specifications

- Hub height - 50 m
- Blade diameter - 48 m
- Power output - 600 kw
- Tower base area - 5 m x 5 m
- Operating range - 2.5 m/s to 25 m/s



Attachment 2:

Photos of West Pubnico Wind Energy Park

