



**The Regional Municipality of Durham**  
**To: The Works Committee**  
**From: Commissioner of Works**  
**Report: 2009-WR-8**  
**Date: April 29, 2009**

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**SUBJECT:**

Implications of MOE Regulation 217/08 Requiring Mandatory Collection of Landfill Gas

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**RECOMMENDATION:**

THAT the Works Committee recommends to Regional Council that staff be authorized to retain a consultant to prepare a report for submission to the Ministry of the Environment by June 30, 2009, outlining the reasons why the Brock Landfill should be exempt from Regulation 217/08.

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**REPORT:**

**1. BACKGROUND**

The Regional Municipality of Durham (Region) assumed the Brock Landfill in 1974 from the Township of Brock and has been operating the site under Provisional Certificate of Approval (C of A) No. 390602 issued by the Ministry of Environment (MOE). The C of A approves an area of 40.5 hectares for use and operation of a landfill. Based on a filling depth of 4.3 metres over the entire property area, the total waste capacity of the landfill is about 1.7 million cubic metres. The existing waste volume is estimated to be 0.6 million cubic metres, with 1.1 million cubic metres approved capacity remaining for waste disposal. The landfill is considered to be a naturally attenuated site with no engineering controls in place for landfill gas collection.

Regulation 347 is the principal legislation governing waste management under Part V of the Environmental Protection Act. In June 2008, the MOE introduced Regulation 217/08 to amend Section 11 of Regulation 347. The legislation required that a report be submitted to the MOE on or before June 30, 2009 with respect to the design, operation, maintenance and monitoring of the facilities for the collection, and for the burning or use, of landfill gas generated by the site during site operation and following site closure. Section 11 applies to sites that will have a total waste disposal volume of more than 1.5 million cubic metres.

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However, as per subsection 5, Section 11 does not apply to a landfill site if a written report is submitted to the MOE before June 30, 2009 showing that the nature and quantity of landfill gas generated by the site is not likely to be of significant concern, based on the following factors:

1. The characteristics of the site.
2. The type of waste to be deposited.
3. The rate at which waste is deposited at the site.

Staff has determined that based on site capacity, this legislation applies to the Brock Landfill and have proposed the following steps in response.

## **2. DISCUSSION**

### **2.1 Proposed Responses to Legislation**

#### **Step 1: Obtain an Exemption from the Regulation**

The Region can retain a consultant to prepare a report to the MOE prior to the June 30, 2009 deadline, proposing that the nature and quantity of landfill gas generated at the Brock Landfill is not likely to be of significant concern, based on the following reference to the exemption criteria:

1. As stated in the Site Operations Report (SOR), the physical characteristics of the site minimize gas migration. The wetland located to the south and east represents a natural barrier to landfill gas migration, the Region owns the adjacent property to the north of the site, and the majority of the landfill gas can be assumed to be oxidized in the landfill cover.
2. The Region's Green Bin organics collection program, in effect since February 2003, along with yard waste and wood waste diversion programs, effectively ensures that the type of waste deposited at the Brock Landfill is low in the organic content that normally contributes to the generation of landfill gas.
3. In addition, the landfill receives a low annual volume of waste, and only from Brock Township. At the historical rate of waste disposal of 6,000 tonnes per year, it is expected that the landfill would not reach its total approved capacity for approximately 90 years.

Staff has obtained a quote of approximately \$4,000 plus applicable taxes from Conestoga Rovers & Associates to prepare a report, for which funding is available from the current budget.

#### Step 2: Adjust Footprint of the Brock Landfill

The Brock Landfill C of A is based on an area that incorporates a provincially significant wetland, which cannot be used for waste disposal. If the MOE does not exempt the Brock site based on the initial request from the Region, then staff proposes to approach the MOE with a position that the area of the Gibson Hill Swamp should not be used to calculate the landfill's capacity.

#### Step 3: Install a Gas Collection System

If the Region is not successful in the pursuit of steps 1 and 2, then it would be required to submit plans for the design, operation, maintenance and monitoring of the facilities for the collection, and for the burning or use, of landfill gas generated by the site.

### **3. FINANCIAL IMPLICATIONS**

The cost of the construction of a landfill gas collection system was not included as part of the remediation estimates for the Brock Landfill, and is unknown at this time. Legislation in place when the remedial plans were prepared affected only landfills whose capacity exceeded 3 million cubic metres of waste disposal capacity, and the Brock site did not meet that criteria.

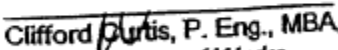
### **4. CONCLUSION**

In 2008, the Ministry of the Environment introduced legislation that requires the mandatory collection of landfill gas from designated facilities. Based on the criteria established, the Brock Landfill is affected by this legislation.

Staff has identified three steps to respond to the legislation:

1. Pursuing an exemption based on MOE provided criteria;
2. Amending the footprint of the site to reflect a more realistic scenario and thereby negate legislative applicability; and
3. Install a gas collection system.

Based on the current filling rate, the characteristics of the site, and the reduced organic content of the waste due to Regional Municipality of Durham's Organics Collection Program, it is anticipated that the Brock Landfill qualifies for an exemption from the legislation. However, in the event that an exemption is not granted or the site footprint cannot be adjusted, the Regional Municipality of Durham will have to plan for the implementation of a gas collection system.

  
Clifford Curtis, P. Eng., MBA,  
Commissioner of Works

Recommended for Presentation to Committee

G. H. Cubitt, M.S.W.,  
Chief Administrative Officer

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