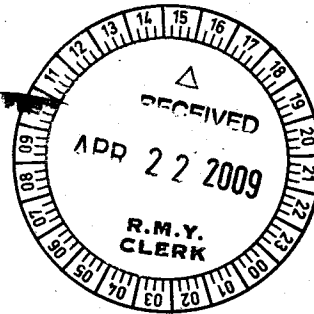




April 17, 2009



D. Kelly, Regional Clerk  
The Regional Municipality of York  
17250 Yonge Street  
Newmarket, ON L3Y 6Z1

REGION OF YORK  
CLERK'S OFFICE

FILE No. - 827

The Regional  
Municipality  
of Durham

Clerk's Department

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Pat M. Madill, A.M.C.T., CMM I  
Regional Clerk

**RE: ENERGY-FROM-WASTE (EFW) FACILITY  
ENVIRONMENTAL SURVEILLANCE BEST PRACTICES  
REVIEW (WORKS DEPARTMENT) (2009-J-16)  
(Our File No.: D04)**

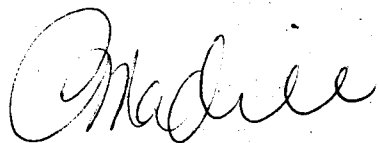
Please be advised the Joint Health and Social Services and Works Committee of Regional Council considered the above matter and at a meeting held on April 1, 2009 Council adopted the following recommendations of the Committee, as amended:

- "a) THAT Jacques Whitford's report entitled "Review of International Best Practices of Environmental Surveillance for Energy-From-Waste Facilities" be received for information; and
- b) THAT the consultant recommendation be used for development of an environmental surveillance program in consultation with the Ministry of the Environment as part of the Environmental Protection Act permitting process.
- c) THAT when the preferred vendor is selected and the technology is known, a Site Specific Risk Assessment (SSRA) be conducted and that Dr. Kyle, Medical Officer of Health, ensures that a peer review of the SSRA is conducted, with regard for all other reports prepared to date.

AND further that the Region of Durham reserves the right to add to the environmental surveillance program and monitoring to be determined at the end of the process with a majority vote."



Please find enclosed a copy of Report #2009-J-16 of C. Curtis,  
Commissioner of Works, for your information.



**P.M. Madill, AMCT, CMM I**  
**Regional Clerk**

**PMM/cb**

**Enclosure**

**c: C. Curtis, Commissioner of Works, Region of Durham**  
**R.J. Kyle, Commissioner and Medical Officer of Health,**  
**Region of Durham**



**The Regional Municipality of Durham**  
**To: The Joint Works and Health and Social Services Committee**  
**From: Commissioner of Works**  
**Report: 2009-J-16**  
**Date: March 24, 2009**

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**SUBJECT:**

Energy-from-waste (EFW) Facility Environmental Surveillance Best Practices Review

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**RECOMMENDATIONS:**

THAT the Joint Works and Health and Social Services Committee recommends to Regional Council that:

- a) Jacques Whitford's report entitled "Review of International Best Practices of Environmental Surveillance for Energy-From-Waste Facilities" be received for information; and
  - b) The consultant recommendation be used for development of an environmental surveillance program in consultation with the Ministry of the Environment as part of the Environmental Protection Act permitting process.
- 

**REPORT**

**Attachment No. 1: Consultant's Report - Final Report - Review of International Best Practices of Environmental Surveillance for Energy-From-Waste Facilities and Appendices (provided on CD)**

**1. BACKGROUND**

On May 28, 2008, Regional Council passed the following resolution:

- "g) i) THAT staff review the best practices of environmental monitoring programs which include environmental surveillance, health surveys, biological monitoring, health studies, and any other pertinent studies as determined through the review and consultation regarding environmental monitoring programs; and***

**ii) THAT an environmental monitoring program be developed based on best practices which will provide for ongoing studies during the life cycle of the facility"**

In response to Regional Council direction, staff retained Jacques Whitford to investigate the best practices for similar incineration facilities worldwide, and to recommend an appropriate environmental monitoring program to be implemented during the life cycle of the energy-from-waste (EFW) facility. Furthermore, the consultant was directed to ensure that the proposed Durham/York Residual EFW facility's environmental monitoring be based on the fundamental tenant that the program must ensure the protection of public and environmental health.

The consultant's scope of work included conducting a detailed systematic scientific literature review based on the general methodology of the Cochrane Handbook for Systematic Reviews of Interventions (2008). In addition to the scientific literature review, the consultant also conducted a grey literature search and contacted experts in the field of environmental surveillance around incineration facilities. (The consultants contacted experts in Portugal, Spain, Germany, Italy and England.)

The entire report underwent a subject matter expert and internal study review by Dr. Christofer Balram (formerly the Chief Epidemiologist for the Province of New Brunswick). In addition, the Regional Municipality of Durham's (Region) Health Department engaged Dr. Lesbia Smith to conduct an external peer review of the report.

## **2. DISCUSSION**

The scientific literature search identified 189 articles relevant to the study objectives of which 66 were categorized as human biomonitoring studies, and 118 as environmental monitoring studies. An additional five (5) were categorized as "Other".

The review of grey literature identified 51 documents that were possibly relevant to the review of environmental surveillance programs. Once exclusion criteria and quality assessment were applied, 35 documents were excluded from further evaluation.

In addition to the literature search, a review was undertaken of legislated environmental surveillance programs associated with incinerators.

Interviews were conducted with individuals directly associated with the EFW industry and involved with the environmental surveillance field of work.

Upon completion of the scientific literature review, the grey literature review, and the external contact review, the consultant was able to interpret collected data

and prepare a synopsis of the best environmental monitoring programs for EFW facilities. The obtained data was used by the consultant to evaluate the available options and recommend a program for environmental surveillance which will provide for ongoing studies during the life cycle of the Regional EFW facility.

The consultant's recommendation which ensures the protection of the public and environmental health are:

- Compliance with legislatively required stack monitoring and with Ontario Guideline A-7 Combustion and Air Pollution Control Requirements for New Municipal Waste Incinerators.
- Establishment of emission standards more stringent than those currently found in Guideline A-7. Regional Council approved and adopted European Union air emissions standards.
- Implement a continuous stack sampling program for dioxin and furans.

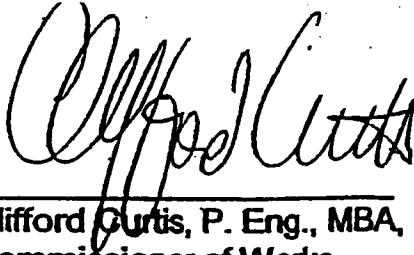
### **3. CONCLUSION**

The consultant completed the detailed systematic scientific literature review of the scientific, grey literature and interviewed external experts. The resulting report was peer reviewed internally and externally by experts.

The recommended program is based on the most scientifically defensible and justifiable option evaluated which ensures the protection of the public and environmental health. The recommended program includes the legislatively required stack monitoring, enhanced emission standards adherence and continuous sampling for dioxins and furans.

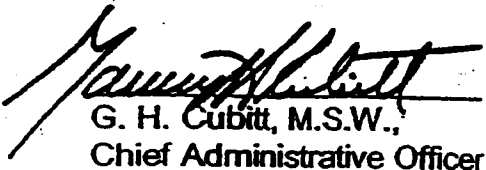
Regional Council already had approved enhanced emission standards adherence (EU) and continuous sampling for dioxins and furans.

The final environmental surveillance program will be developed in cooperation with the Ministry of the Environment as part of the Environmental Protection Act permitting process.



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

Recommended for Presentation to Committee



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

WM1/WM4/ms/em