

2

ENERGY FROM WASTE AIR EMISSION UPDATE

The Solid Waste Management Committee recommends the adoption of the recommendation contained in the following report, August 21, 2007, from the Director, Solid Waste and Administration:

1. RECOMMENDATION

It is recommended that this report be received for information.

2. PURPOSE

This report provides a review of the air emission guidelines related to an energy-from-waste facility and potential health risks.

3. BACKGROUND

On April 19, 2007, Council received Clause 2 of Report No. 5 of the Solid Waste Management Committee that discussed the Ministry of the Environment's *Environmental Risks of Municipal Non-Hazardous Waste Landfilling and Incineration* report from July, 1999. Staff were requested to provide a further update on the new Ministry of Environment's Guideline A-7 (*Combustion and Air Pollution Control Requirements for New Municipal Waste Incinerators*) and the health risk assessment study that was being completed for the Durham-York Residual Waste Environmental Assessment Study.

4. ANALYSIS AND OPTIONS

4.1 Ministry of the Environment's Guideline A-7

The previous report to Council discussed the July, 1999 Ministry of the Environment (MOE) study which concluded there is no evidence of adverse effects from landfills or incinerators that were well-built and well-operated. The 1999 MOE study was based on emissions from the Brampton energy from waste facility at that time. Specifically the contaminants of primary concern were dioxins and mercury. Since that time, the MOE has updated its air emission guideline for new municipal waste incinerators with more stringent requirements – referred to as Guideline A-7 – in February, 2004. The new limits for dioxins are approximately ten times less and the mercury emissions are approximately three times less. The limits set out in this guideline are similar to the stringent limits in the United States, Europe and Japan (*see Attachment 1*). As a result of the new Guideline, the Brampton facility has upgraded its air pollution control system to meet the new standards and has achieved much lower emission levels than the standard.

The MOE has not revised its 1999 report since lowering the emission limits and has given us no indication that they are planning to do so. The implied outcome is that if an incinerator was at an acceptable health risk compared to a landfill under the previous standards, the outcome of a new health risk assessment with more stringent requirements would only be better.

4.2 Durham York Environmental Assessment Implications

On June 19, 2007, Jacques Whitford and MacViro presented the *Generic Health Risk Assessment and Ecological Risk Assessment Study* to the Joint Waste Management Group for the Durham-York Residual Waste Management Environmental Assessment Study. The report has subsequently been the topic of public meetings in York and Durham and has been available on the study website at www.durhamyorkwaste.ca. The executive summary of the report is presented in *Attachment 2*.

The purpose of the report was to assess the potential health and environmental impact of siting a municipal energy-from-waste facility in York or Durham. The study was generic in nature as detailed site specific background analysis can only be completed once a final site is recommended in late September, 2007. The study did look at air emission modelling on a regional scale in York and Durham to consider the following:

- Conduct a multi-pathway risk assessment based on potential chemicals emitted from a generic energy-from-waste facility.
- Examine health risk based on different land use scenarios.
- Determine acceptability of Ministry of the Environment's Guideline A-7.
- Provide information to the public regarding health and environmental concerns from emissions.
- Generate a model for use in the future site specific risk assessment work that must be completed as part of the Environmental Assessment.

The conclusion of the study was that an energy-from-waste facility could be safely sited in York or Durham if the facility was properly designed, operated, maintained and had proper oversight and regulation.

5. FINANCIAL IMPLICATIONS

The construction of an energy-from-waste facility will be a significant investment for Durham and York Regions. It is expected that almost one third of the costs will be for the air pollution control system in the plant. Durham Region has issued a Request for Qualifications that will lead to a short-list of vendors who will be invited to submit firm price proposals next year. The results of the Request for Qualifications will be presented to Committee and Council in December of this year.

6. LOCAL MUNICIPAL IMPACT

Air emissions and potential health effects are a primary concern for our citizens and local communities. The Town of Clarington has undertaken a peer review of the Jacques Whitford and MacViro reports on potential air emissions and health risks and will be releasing the results of their review in September.

7. CONCLUSION

The MOE study of incineration and landfilling in 1999 determined that both types of waste management were acceptable if properly designed and operated. Since that time, the new Guideline A-7 for waste incineration, pollution control systems has further reduced the allowable emission limits providing for an additional reduction to any potential risks. The results of the generic health risk assessment and air emissions studies completed for the Durham York Residual Waste Environmental Assessment Study are consistent with the MOE findings.

For more information on this report contact Andrew Campbell, P.Eng., Director of the Solid Waste and Administration Branch at extension 5711 in the Transportation and Works Department.

The Senior Management Group has reviewed this report.

(The attachments referred to in this clause are attached to this report.)