



City of
Peterborough

To: Members of the Waste Management Steering Committee

From: Tara Stephen, Manager, County Waste Management
Virginia Swinson, City Waste Division Section Manager

Meeting Date: March 14, 2016

Subject: Report WMC16-005
Alternative Options for Management of Polystyrene and Durable Plastics

Purpose

A report to provide the Committee information on alternative options for management of polystyrene and durable plastics, as requested at the January 25, 2016 Waste Management Steering Committee meeting.

Recommendation

That the Waste Management Committee approve the recommendation as outlined in Report WMC16-005 dated March 14, 2016, of the Manager, County Waste Management and City Waste Division Section Manager as follows:

That Report WMC16-005 providing alternative options for the management of Polystyrene and durable plastics be received for information.

Budget and Financial Implications

There are no additional budget or financial implications to receiving this report.

Background

At the January 25, 2016 Waste Management Committee meeting, staff was requested to provide a report, “indicating the various possibilities for recycling Styrofoam and heavy plastics...”. This report presents information on the management of these materials.

Expanded Polystyrene (Styrofoam)

Historically, the City of Peterborough has included Styrofoam as part of its regular Blue Box curbside collection and depot drop-off programs. The County of Peterborough has not allowed Styrofoam to be placed in the Blue Box, but has collected it at special “Environment Day” events throughout the summer. Styrofoam was also collected at the Pido Road Drop-Off Depot (Pido Rd.).

Styrofoam has always been an expensive material to ship; the low density of the material limits the amount that can be transported in each shipment, resulting in high per tonne transport costs. Styrofoam must be transported from the Peterborough Material Recycling Facility (MRF) to an alternate facility to be condensed and marketed. The cost to ship this material is rising.

To compound the transportation challenges, the low price of oil has reduced the value of Styrofoam as a commodity (presently, it is less expensive to use raw materials in manufacturing than to use recycled Styrofoam), and the MRF operator, HGC Management, is struggling to find viable, long-term markets.

Large Durable Plastics (Durables)

Large durable plastics are plastics that have potential for recycling, but cannot be recycled using the traditional Blue Box program. This category includes materials such as lawn furniture, children’s wading pools, broken blue boxes and plastic dishes. Recycling of these materials has only started occurring recently, and markets for these materials are still unstable. Durable markets are also being negatively affected by the low price of oil. When markets are available, bins are placed at the Pido Rd. and residents may drop materials off at the depot. In addition, the County collects these materials at Environment Day Events and at select Township depots. If the material cannot be marketed, collection must cease, as the MRF is only permitted to store limited quantities on site.

Durables are sorted at the MRF using a technology known as “optical sorting”. A laser is used to scan materials running through the facility on a conveyor belt. The laser collects information on the chemical composition and density of the material to determine how this material should be categorized. Blasts of air then “shoot” the materials into different streams based on the information the laser collects.

The MRF is encountering difficulties using the optical sort technology to sort black materials; the conveyor belt is black and the laser cannot differentiate between the plastics and the conveyor. The result is that all black plastics, regardless of the material composition (i.e. PVC, HDPE, LDPE, etc.), end up mixed at the end of the process. This material is extremely difficult to market, and ends up being stockpiled on site, counting against the on-site storage quantity limit for the MRF.

In addition, the low price of oil has dramatically limited the market for this material, and there are no “end-users” available to ship the materials to at present.

The City and County, with input from the MRF operator, assessed the costs and challenges associated with them, and determined that recycling of these materials was no longer viable.

Other Options for Materials Management

1. Durham-York Energy-from-Waste Facility (EFW)

A review of the Environmental Compliance Approval (ECA) for the Durham-York EFW indicates that the City and County would not be eligible to dispose of any materials at this facility. The ECA restricts receipt of waste to materials generated only within Durham and York Regions. The ECA would have to be amended to remove this condition before the City or County could consider use of the facility.

2. Stockpiling

Styrofoam and plastics have become difficult materials to market, due largely to the lack of viable market created by the low cost of oil. The less expensive oil becomes, the more producers choose to use raw oil in manufacturing as opposed to recycled materials. Market forecasters do not anticipate an increase to the price of oil within the year, meaning that this material will be problematic for some time. Stockpiling, therefore, becomes risky. There are limitations to the amount of material that can be stockpiled at waste management facilities, and the length of time that it can be stored. If the price does not rise, and one (or both) of these limits are reached, the material has to then be either:

- a. Marketed at a loss, affecting cash flow for both the Municipality and the Processing Contractor
- b. Placed in a landfill negatively impacting operations (it is difficult to landfill large quantities of one material type in one location).

It is recommended that stockpiling be avoided to prevent potential regulatory compliance issues, operational disruption or budget impacts.

Conclusion

City and County Staff will work with the HGC to continue to seek out viable options for the management of Styrofoam and durables. These services are valued by residents; when a viable, cost-effective, long-term solution becomes available, these services will be offered again.

Submitted by,

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