



**TORONTO** STAFF REPORT

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December 14, 2004

To: Works Committee

From: David C. Kaufman, Acting Commissioner, Works and Emergency Services

Subject: Electronics Recycling

Purpose:

To report to Works Committee on the recycling of waste electronics.

Financial Implications and Impact Statement:

There are no financial implications arising from this report.

Recommendations:

It is recommended that this report be received for information.

Background:

At its meeting of November 9, 2004, Works Committee requested “the Acting Commissioner of Works and Emergency Services to report to the Committee on the collection of electronic waste material.” At its meeting of September 8, 2004, Works Committee requested that “the Acting Commissioner of Works and Emergency Services and appropriate City staff engage in discussions with Noranda for the purpose of dealing with computer parts recycling, and report back to a future meeting of the Works Committee.”

Comments:

Computers and peripheral equipment such as printers and scanners are currently accepted at the City's computer recycling depots located at five transfer stations. Computers and peripheral equipment and other electronics are also accepted at the City's 44 Environment Days. In 2003, the City diverted approximately 120 tonnes of electronic waste.

City's Current Recycling Markets for Residential Electronics

The collected electronics are sent to two companies for recycling, Electronics Recycling Canada and Arlen Scrap Metals (in cases where a working computer in good condition is brought to an Environment Day, staff will often re-direct the resident to the Goodwill trailer on-site where it is accepted for re-use).

Electronics Recycling Canada (ERC), located in Toronto, received waste electronics from our Environment Days in 2004, and presently collects from three of the City's depots. The City is not charged for the recycling service, nor does it receive revenue. ERC sends the electronic waste to one of its three ERC owned facilities in Asia. ERC refurbishes components for resale where possible and the remaining materials are dismantled manually and mechanically and then sorted into various material streams such as plastic, metals, silver, etc, for sale to recycling markets.

Arlen Scrap Metals, a computer and electronics recycling company located in Toronto, collects the waste electronics from two of the City's recycling depots. The City is not charged for the recycling service, nor does it receive revenue. The electronics are manually disassembled at their Toronto facility into various components such as circuit boards, metals, plastics, toner cartridges, etc. Arlen warrants they have markets for all of the materials, the majority being in North America although they do deal with some global markets.

Noranda

Solid Waste Management Services staff have engaged in discussions with Noranda, another potential market for the City's waste electronics. Noranda operates an electronics waste processing facility located in Brampton. The first stage in Noranda's recycling process is to manually remove the hazardous waste such as batteries, fluorescent tubes, toners etc. The hazardous waste is sent to either recycling markets or to hazardous waste treatment facilities, depending on the type of material. In the next processing stage, all the waste is shredded and separated mechanically into the following material streams; aluminum, fines (copper and precious metals), mixed copper and plastics, and lead. The materials are then sent to various smelters in North America, which capture the various metals for recycling. In the smelting process, plastic waste is burned off and the energy is recovered.

Depending on the type of electronic waste, Noranda charges between \$0.30-\$0.45 per lb., equalling \$660-\$990 per tonne. This price does not include delivery and Noranda does not accept materials delivered in bulk in roll-off containers; the electronics must be shipped on pallets and shrink-wrapped or in small totes. If we were to have delivered the 120 tonnes of

electronics collected by the City in 2003 to Noranda, the cost would have been approximately \$100,000 plus shipping and extra handling costs.

We will be formally requesting competitive bids for the recycling of waste electronics collected at our Environment Days and depots commencing April 1, 2005 and environmental considerations will be taken into account.

#### Electronics Product Stewardship and Future Recovery Plans

The Ontario Minister of the Environment has issued a draft regulation designating electronics as a type of waste under the Waste Diversion Act that requires manufacturers to set up a recovery system to meet recycling targets and share with municipalities the cost of diverting this material from landfill. The next step in the process for the Ontario Minister of the Environment will likely be to send a letter to Stewardship Ontario designating electronics under the Waste Diversion Act and requesting that an Industry Funding Organization be established and a plan developed for the recovery of waste electronics. The plan would determine whether industry is responsible for the recovery of their products, whether municipalities operate the recovery system and receive funding to offset some of their costs (i.e., similar to the current Blue Box funding model), or whether there is shared responsibility (e.g., municipalities responsible for collection, industry responsible for processing). It is expected that it will be 12 to 24 months before the plan is finalized and stewardship funding is available.

Solid Waste Management Services' Business Plan has proposed that the City establish reuse centres for durable goods complemented with a curbside recycling program on scheduled collection days for some of the large, bulkier items such as mattresses, furniture and carpets, should recycling markets for these items emerge. Electronics could be accepted at the reuse centres and consideration could be given to piggybacking electronics on to one of the bulky item collections.

The timing in the Business Plan is to have a reuse centre fully operational by 2006 and consider expanding to additional reuse centres across the City by 2007. Collection of large, bulky items for recycling, including electronics if feasible, could also potentially commence in 2007. This timing would coincide with Stewardship Ontario funding, which would likely be available sometime in 2006. Reuse centres and special collections are costly and Stewardship Ontario funding would help offset some or all of the City's cost to implement these electronics recovery programs. Alternatively, industry may decide to set up their own electronics recovery system.

#### Conclusions:

Waste electronics could be accepted at reuse centres and consideration could be given to collecting electronics with other special bulky item recycling collections. Reuse centres and bulky item recycling collections have been identified in the Business Plan as potentially commencing in 2006/2007. It appears that an electronics product stewardship plan and funding program could possibly be in place by 2006. The plan will define the role of municipalities and

industry in the collection and processing of waste electronics and what level of funding municipalities will receive.

Product stewardship funding would help offset some or all of the City's cost to implement electronics recovery programs, which are costly, but need to be implemented if the City is to meet its waste diversion goals. For 2005, we will increase recovery of waste electronics at Environment Days and depots through increased promotion.

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