

SWMS Responses to Questions/Comments from Citizens for a Safe Environment

April 30, 2003

This document provides responses to a series of questions tabled by Karen Buck on behalf of Citizens for a Safe Environment, dated April 13, 2003. Responses have been prepared by Solid Waste Management Services, City of Toronto.

Please note that this document does not contain responses to all of the questions asked by Citizens for a Safe Environment. A supplemental response will be provided that will contain a complete set of responses.

To the Co-Chairs, the Advisory Group, the Working Group and SWM Staff:

A. Citizens for a Safe Environment (CSE) is seeking clarification of Council Approval of two items that are under consideration by the Technologies Sub-Group.

1. Is there Council Approval to put out an REOI, RFQ and RFP request to incineration vendors who do not qualify as ATT for disposal technologies? This question arises as a result of SWM Staff comments that "incineration" technologies per se (that could include mass burn and energy from waste technologies) were not a part of this process and that ATT technologies only were under consideration.

Response:

City Council has directed the Commissioner of Works and Emergency Services to issue a REOI in May 2003 to the marketplace for new and emerging solid waste management technologies. Council has further directed the Commissioner to submit a report to the Works Committee by September 30, 2003, on the results of the REOI, the proposed content and requirements of the REOI and the work plan and timeframe for the environmental assessment process.

The REOI will invite expressions of interest from companies offering biological, physical and thermal means of treatment within the new and emerging field. This does not include companies offering traditional mass burn incineration technologies, such as the KMS Peel incineration facility in Malton.

The differences between traditional incineration technology and new and emerging Advanced Thermal Technologies is discussed in a report dated January 9, 2002 to Works Committee from the Commissioner.

The City's "Republic Contract" for waste haulage and disposal in Michigan negates the ability of the City to engage traditional incineration, but provides the City with the ability to engage diversion activities and engage new and emerging technologies.

A company submitting a response to the REOI for a traditional incineration technology would be recorded as such. A submission by such a company at the RFQ stage would result in the submission being declared "informal" and therefore no longer considered and not advanced to the RFP stage.

2. *Conversely, is there Council Approval to put out an REOI, RFQ and RFP request to only ATT vendors for disposal technologies?*

Response:

As noted above in the response to Question No. 1, City Council has provided direction to the Commissioner to issue a REOI to companies offering new and emerging technologies, which includes, but is not limited to, Advanced Thermal Technologies.

Would SWM Staff please provide clarification from Council documentation at the next Advisory Group meeting so that the Technologies Sub-Group continues to work in the right direction.

- B. *CSE would like to see that the following detailed technical data is provided to the Advisory Group with regard to the garbage sources and quantities being handled at Toronto's transfer sites. The best way of dealing with this topic is to pose the following questions:*

1. *How many tonnes are from the residential source separated single family sector?*

Response:

In 2002, the waste collected from the single-family sector was 350,944 tonnes.

2. *How many tonnes are from the residential source separated multi-family sector?*

Response:

In 2002, the waste collected from the multi-family residential sector was 288,499 tonnes.

3. *Was it stated at the meeting of April 2 that the commercial non-source separated wastes must be accepted at Toronto's transfer sites as a requirement of the Provincial government?*

Response:

To clarify, a response was provided at the April 2 meeting regarding recycling requirements on the part of the private sector prior to the delivery of residual waste at the City's transfer stations. There is no Provincial requirement for the City of Toronto to accept waste from the private sector. The acceptance of private sector waste is a policy of City Council.

The Provincial Government requires source separation programs for the private sector through Regulation 103/94, under the provisions of the Environmental Protection Act. Regulation 103/94 requires larger establishments in the industrial, commercial and institutional (IC&I) sector to establish and operate a source separation program for specific recyclables. Depending on the sector, materials may include aluminum, concrete, brick, drywall, fine paper, glass, newsprint, cardboard, steel, wood, and several types of plastic.

The sectors identified in Regulation 103/94 are:

- retail shopping establishments;
- large construction projects;
- large demolition projects;
- Multi-unit residential buildings;
- restaurants;
- hotels and motels;
- hospitals;
- educational institutions; and
- large manufacturing establishments.

4. *Why is this commercial sector exempt from source separation requirements?*

Response:

Please see response to Question No. 3, provided immediately above.

5. *What would be required to have this commercial sector carry out source separation of its wastes?*

Response:

Please see response to Question No. 3, provided above.

There really are two scenarios to the above questions – the current situation and the projected 2006 scenario that need addressing.

On April 9, 2003 four of my other questions were answered by Geoff Rathbone in his presentation comparing Halifax with Toronto. That presentation, however, doesn't address the 2006 scenario.

- 6. What percentages of the total resource-waste stream are represented by the residual MSW estimates for 2003 and 2010 in the presentation (and 2006 with its addition to the estimates presented)?*

Response:

Based on a tonnage estimate scenario that assumes the City can achieve the 60% source separation based diversion/40% New and Emerging Technology proposed split, the residual MSW percentage estimates, as a proportion of total Residential/ABC&D/Yellow Bag generation are as follows:

2003	681,000 tonnes of residual MSW of total “resource-waste stream” of 990,000 tonnes
2006/07	419,000 tonnes of residual MSW of total “resource-waste stream” of 1,047,000 tonnes
2010/11	427,000 tonnes of residual MSW of total “resource-waste stream” of 1,065,000 tonnes

C. CSE would like to see that the following detailed costing information is provided to the Advisory Group with regards to Toronto's collection, processing, transfer and landfilling costs. See the questions below:

- 1. What is the cost for the collection of recyclables?*

Response:

- 2. What is the cost of processing of different recyclable streams?*

Response:

- 3. What is the cost of positive revenue for the marketing of different recyclable streams?*

Response:

4. *What is the cost for the collection of compostables?*

Response:

5. *What is the cost for the processing of source-separated compostables?*

Response:

The City's long-term plan to process source separated organic materials (SSO) has not yet been finalized. In May, the City will issue a request for proposals seeking to secure long-term processing capacity from public or private sector vendors. The general terms of the RFP document were described in Report # 3 of the Works Committee and were approved by City Council at its meeting of April 14 – 16, 2003. The total costs of SSO processing will not be known until such time as contracts are awarded to the successful vendors.

6. *What is the cost or positive revenue for the marketing of compost?*

Response:

Compost produced from the City's leaf and yard waste is the property of the composting contractor. The composting contractor incurs all costs and retains all revenues resulting from the processing and marketing of compost. Compost products can be designed to suit a variety of end uses, each with a different market value. Therefore, it is not useful to estimate a market value for a compost product without knowing the intended use.

The City's long-term plan for processing its source separated organic material (SSO) will likely adopt the same approach where the processing contractor assumes all responsibilities, costs and revenues associated with SSO processing.

7. *What is the cost for the collection of waste?*

Response:

8. *What is the cost for the acceptance and handling of waste at Toronto transfer sites for City of Toronto wastes? For the non-City of Toronto Commercial wastes?*

Response:

9. *What is the cost for the haulage of waste to Michigan?*

Response:

The cost for the haulage of waste to Republic Services' Carleton Farms Landfill, located in Michigan, by the haulage firm Wilson Logistics Inc. is \$32.44 per tonne.

10. *What is the cost for the landfilling of waste in the Michigan landfill? Does the cost of landfilling in Michigan reflect the tonnages that are being sent by Toronto? Is Toronto allowed to pursue other disposal technologies while landfilling in Michigan (as part of the Michigan contract)?*

Response:

The cost for the disposal of waste from Toronto at Republic Services' Carleton Farms Landfill in 2003 is \$19.15 per tonne.

The cost to the City of Toronto for the haulage and disposal of residual waste in Michigan reflects a competitive market rate.

As noted in our response to Question # A. 1, the City's "Republic Contract" for waste haulage and disposal in Michigan negates the ability of the City to engage traditional incineration, but provides the City with the ability to engage diversion activities and engage new and emerging technologies. Engagement of another landfill for the disposal of residual solid waste would also be in contravention of the Republic Contract.

D. *CSE would like to have SWM staff present the following information to the Advisory Group on truck haulage emissions and number of truckloads by sector.*

1. *What are the emissions from one truck hauling garbage to the Michigan landfill?*

Response:

2. *Is haulage occurring seven days a week?*

Response:

Standard haulage operations are five days a week (Monday to Friday). During peak periods we operate six days a week (Monday to Saturday).

3. *Are the trucks contracted to haul Toronto wastes involved in a back-haul contract on the return trip to Toronto? Are they returning empty? What is the reduction on the return trip?*

Response:

Wilson Logistics Inc. is the company contracted to haul the City of Toronto’s residual solid waste to Michigan. Wilson’s tractor-trailers make the return trip empty. This is because of the need to maintain the availability of empty trailers for loading at our transfer stations and ensure trailers are potentially made unavailable to the City while they are engaged in servicing another client (due for example to logistical delays) and due to the unsuitable interior conditions of the trailers for the transport of other materials.

The cost of the backhaul portion of the haulage trip is factored into the cost per tonne of waste hauled. There is no additional charge to the City of Toronto.

4. *(Part i) What is the breakdown in truckloads for each of the sectors of waste?*

Response:

Of the approximate 125 truckloads of residual waste transported to Michigan per business day the breakdown per sector is as follows:

Municipal	91
Commercial	<u>34</u>
Total	125

(Part ii) How many trucks haul other GTA regions’ waste?

The following chart contains the approximate number of trucks utilized by other GTA Regions to haul waste to external landfill sites.

<u>Regional Municipality</u>	<u>Approximate Number of Trucks Required per Business Day</u>
Durham	14
York	33
Peel	7
Halton	No export outside of its borders

(Part iii) How many trucks haul non-source separated commercial waste from Toronto?

Response:

Please see response to Question # B. 3, listed above.

(Part iv) How many trucks haul Toronto residential/commercial source separated wastes?

Response:

As noted above, the City currently requires approximately 125 truck trips per business day to transport its residential waste and waste accepted from the commercial sector.

E. CSE would like to raise the following questions to the Advisory Group:

When we have provided prior comments “on the projected quantity and composition of the residual MSW” why hasn’t SWM Staff provided the Advisory Group with the 2003 audit information outcomes and how the new 2003 audit differs in the collection of information from the prior auditing of residual MSW?

Response:

The Etobicoke waste audit began on April 22 on schedule and as announced at previous meetings of the Advisory Group. Four consecutive weeks of auditing are scheduled. The audit will be complete on May 16 and the results will be available before the end of the month and will be made available to the Advisory Group at that time.

Is the advisory Group in complete agreement that the 2003 Audit is securing the information that will be required to estimate the quantity and composition of the residual MSW?

Why SWM Staff is still showing no interest in the calculation of the energy recovery from an anaerobic digestion process applied to the residual MSW that could be used to illustrate a comparison of energy recovery from two competing processes – thermal recovery and anaerobic/methane recovery?

Response:

Staff understand that the evaluation of potential residual waste processing technologies must not be biased by inequalities in the amounts or qualities of information available. Therefore, staff intend to develop and provide to the Advisory Group information on the characteristics of the residual waste stream relevant to treatment by either thermal or biological means.

Standard laboratory methods exist to measure the physical and characteristics of residual waste relevant to treatment by thermal means. These tests were presented to the Advisory Group and Staff is proceeding to have these tests performed on samples of residual waste.

Unfortunately, the biodegradability of a complex material such as residual waste cannot be measured directly by laboratory methods. Typically, the biodegradability of waste materials is measured by conducting bench-scale trials where samples of the waste material are encouraged to biologically degrade under either aerobic or anaerobic conditions. The total conversion of carbonaceous materials to CO₂, in the case of aerobic processes, or CH₄ in the case of anaerobic processes, is measured and used as an indication of the overall biodegradability. Staff are researching proper methods of conducting the bench-scale degradability tests and have established a new waste laboratory at the Dufferin transfer station site for this purpose.

F. With reference to the SWM Staff presentations on technologies (the “eye-glazing specials”) on April 9, 2003 the application of ATT Technologies (and Incineration) to residual MSW resulted in the reporting of a considerable list of emissions (acid gases, particulate matter, heavy metals and dioxins and furans) while the application of Digestion and Composting Technologies to the same MSW residuals did not result in a comparable and equally considerable list of process emissions.

1. Does this suggest that the application of heat through ATT and Incineration Technologies to residual MSW presents a greater risk to the health of the environment and public health than the Digestion and Composting Technologies?

Response:

For all treatment processes, elements and compounds of environmental concern present in the incoming waste material, that are not destroyed converted to benign forms by the treatment process, will be present in the process emissions. Also, under certain conditions treatment processes can create compounds of concern by combining other less hazardous elements and compounds. Therefore, for all treatment processes, it is necessary to understand the extent to which the process conserves, destroys, converts and creates elements and compounds of concern, and how they partition between the gaseous, liquid and solid process emissions. With this information it may also be possible to estimate and evaluate the efficacy of environmental control technologies and practices for each emission.

The residual waste characterization projects currently underway will provide useful information on the characteristics of the process feedstock material. Information on process emissions and environmental control technology performance is also required. Limited general information can be obtained from published sources. Technology specific information can only be obtained from the technology vendor.

Until this information is available and the emissions resulting from residual waste management systems based on various processing technologies are compared, it is not useful to speculate on the relative environmental impacts of processing technologies.

2. *What factors are considered when a regulation is set?*

Response:

3. *Does meeting the regulations rule out harm to the environment?*

Response:

4. *Does meeting the regulations protect public health?*

Response:

There is a need to look at the planning process and the method of decision-making that is being pursued by the City of Toronto. It became obvious from the Niagara vendor response to their REOI (and the latest vendor responses to a recent Toronto source-separated organics processing RFP) that an REOI, RFQ and RFP process does not take the place of planning nor does it take the place of setting decision-making priorities. (Principles identified in Halifax steered decision-making, set goals and laid out technology choices.)

The REOI and RFQ release is only one way to research what technologies are available. Sole reliance on an REOI, RFQ and RFP process is allowing technology vendors to decide what will be implemented in Toronto (and, perhaps, Niagara) without any consideration of what SWM Staff or the Toronto public may prefer to implement. What if SWM Staff were to follow a different path that is based on what most of us do when we want to make large purchases?

EXAMPLE: We want to buy a house. We need to know what cash we have to purchase. If we are selling a house we make enquiries of a number of real estate agents who might represent our best interests. We choose areas where we want to live. We narrow the

areas by seeing what is on the market and what meets our requirements. We decide to buy first and well or we decide to sell and then buy. Our decision-making is not based on the vendor of [a] single house telling us what we have to buy. We choose what we want, what meets our financial limits and what is best for us.

By taking another path or augmenting the REOI process Toronto could seek out already successfully implemented technologies, vendors and operators and in the end put out a tender or tenders for technologies and processing by reputable and successful vendors and operators and that would represent choices that would be be (sic) totally acceptable to the public. This approach would allow for “ball park” costing and timely implementation.

“Ball park” estimating raises another issue. It must be evident to SWM Staff already that to be cost effective (or to spend the same amount of money), to lower risks to the environment and to be protective of public health there are some choices that can already be made that would include successful technologies and exclude others. Why isn't Toronto taking this approach?

Response:

One of the goals of an RFP process is to provide a fair and open procurement process that generates a competitive process. We do not agree that it allows “technology vendors to decide what will be implemented in Toronto...without any consideration of what SWM Staff or the Toronto public may prefer to implement.” The content of the RFP directs the options that can be offered from the marketplace, not the other way around, through such mechanisms as setting specifications. The eventual content of the RFP will be arrived at through input by the Advisory Group, general public input and direction provided by City Council.

City staff are working under City Council direction, that has provided a policy of 100 percent diversion from landfill by 2010. That policy was arrived at following the debate over the potential use of the closed Adams Mine as a landfill site for Toronto and through the adoption of the Task Force 2010 report, which was based on an extensive public consultation process.

The lengthy individual Environmental Assessment process is applicable to disposal options only. If the City of Toronto is thorough in its planning it would be including and pursuing interim stabilized landfill options in order to reach the real goal of ZERO WASTE from disposal not ZERO WASTE from landfill.

Response:

As noted in the previous response, landfilling after 2010 has been deemed by City Council as an unacceptable means of managing waste. The above statement suggests that an interim stabilized landfill option would not be subject to the Environmental Assessment Act. We do not believe this to be the case, nor would we advise that an

exemption be sought for this form of landfill technology as it requires an integrated engineered landfill design including leachate and gas management systems.

The residual MSW is made up of packaging and products that cannot be reused, recycled or composted. By pursuing a ZERO WASTE from landfill strategy (as set out in Task Force 2010) the City of Toronto is forced to pursue the other disposal method, burning. Burying and burning this waste will never see the City accomplish ZERO WASTE and burning will perpetuate the need for hazardous waste landfills to bury the fly ash as a minimum (and both the fly ash at a hazardous waste landfill and the additional bottom ash in a regular landfill as a maximum).

The SWM Staff (or our Advisory Group) should be thinking of changing this strategy. The City should be pursuing ZERO WASTE from disposal. It is the only way to eventually shift the responsibility of waste going to disposal from the public sector (who cannot solve this part of the equation) to the industrial sector by requiring waste reduction, waste take back programs and by promoting new industrial design that means that all packaging and products in the long term will be designed to be reusable, recyclable and compostable and not require disposal.

Why is SWM Staff excluding itself from the industrial responsibility of waste management by:

- 1. setting a goal of ZERO WASTE from landfill not ZERO WASTE from disposal? And,*
- 2. setting very narrow policies and practices criteria that would only include policies and practices as the sole initiative of the City of Toronto? This is short term thinking being applied to a waste management problem that involves all levels of government over a long period of time in addressing both local and global interests of waste reduction, of responsible resource/energy use and of pollution reduction.*

Response:

1. SWM staff are not excluding itself from the industrial responsibility of waste management. On the contrary, staff have carried through with the recommendations of Task Force 2010 that address industrial responsibility, including the establishment of Waste Diversion Ontario and development of “Take-it-Back Programs”. In addition, SWMS has implemented the Yellow Bag program which provides small commercial businesses with disposal on a cost recovery basis, but provides no charge recycling for containers, fibre and organics in order to provide this sector with the tools to increase their diversion rate.

2. To clarify, our input has been based on reflecting the implementation of policies and programs within the City’s legislated ability to do so in order to be able to reach the

100 percent diversion from landfill objective without dependence on other governments to change their policies and practices. The Policies and Practices Sub-Group is reviewing policies and practices that are within the legislative authority of other governments and will consider making recommendations to those bodies to make amendments that would assist Toronto reach its diversion goals as Council has done on numerous occasions in the past.

The following four questions have also been received from Amanda Stappells, Secretary, Citizens for a Safe Environment, dated April 4, 2003.

1. *Multi-residential buildings are not included in this Audit. Why not? They are a large sector that needs to fully participate in the City's programs.*

Response:

Multi-residential buildings will be included in a future waste audit.

2. *The Audit document that I reviewed was missing the Residual Waste Audit Work Sheet.*

Response:

The audit logs and worksheets will be posted on the website.

3. *The Audit timeframe for collection and analysis is too short.*

Response:

The Etobicoke waste audit is only intended to provide a snapshot of participation and material recovery rates and of the composition of the residual waste stream. Subsequent audits in Etobicoke and other locations in the City will be required to develop a more comprehensive understanding of the City's solid waste stream.

4. *On the Source Separated Organics Audit Worksheet the list of actual organics is not as inclusive as it should be when compared to the Recycle Materials Works Sheet. Why? Why is tissue paper not listed?*

Response:

It is not possible to separate the source separated organic material (SSO) stream to the same extent as the recyclable material and residual waste streams. Organic materials, including animal and vegetable materials and many paper fibre materials such as tissues, paper towels, boxboard, etc., become blended and inseparable. Therefore, the SSO material audit worksheet combines several organic material sub-categories into the “Processible Organics” category.

Geoff Rathbone
Director, Policy and Planning
Solid Waste Management Services
City of Toronto