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Section 3 Summary

Over the past few decades, Durham and York Regions have spent considerable time and money attempting to establish and site new long-term waste disposal capacity to manage their post-diversion residual waste within their respective Regional boundaries.

As a result of continued failed attempts to establish new landfill disposal capacity, Durham and York entered into contracts with the private sector to export residual waste primarily to Michigan, U.S.A. However, in December 2010, the border will be closed to municipal waste from Canada, which includes residual waste from Durham and York Regions. As a result, the Regions do not currently have sufficient long-term waste disposal capacity.

In accordance with Subsection 6.1(2)(a) of the *Environmental Assessment Act*, the purpose of the undertaking for the EA is:

"to process - physically, biologically and/or thermally - the waste that remains after the application of both Regions' at-source waste diversion programs in order to recover resources - both material and energy - and to minimize the amount of material requiring landfill disposal.

In proceeding with this undertaking only those approaches that will meet or exceed all regulatory requirements will be considered."

Specifically, the waste to be managed by this Undertaking is:

- Municipal Solid Waste (MSW) from residential sources generated within Durham and York remaining after at-source diversion;
- A portion of post-diversion Industrial, Commercial and Institutional (IC&I) waste traditionally managed by the respective Regions at Regional waste disposal facilities; and,
- Municipal post-diversion residual waste from neighbouring non-Greater Toronto Area (GTA) municipalities that may provide disposal capacity for processing residues. For example, the City of Peterborough, the County of Peterborough and the County of Northumberland. A condition for including waste from neighbouring non-GTA municipalities in the total amount of material that would be managed by this undertaking, is the ability of these municipalities to provide disposal capacity (landfill space) for processing residues as neither Durham nor York currently have sufficient long-term disposal capacity for such residues.

3. Statement of Purpose

To understand the reasoning for the completion of the EA Study, it is important to first understand the challenges and opportunities faced by the Regions in managing their respective waste streams. These challenges and opportunities form the basis for the purpose of the Undertaking as described in the Approved EA Terms of Reference and have resulted in the completion of this EA Study in which they have been addressed.

3.1 The Challenges

Over the past few decades, Durham and York have spent considerable time and resources in attempting to establish and site new long-term waste disposal capacity to manage their post-diversion residual waste within their respective Regional boundaries. The most recent effort was the GTA IWA EA process that in total was reported to have cost in excess of \$100 million, caused significant social disruption and failed to yield any new landfill disposal capacity.

As a result of continued failed attempts to establish new landfill disposal capacity, Durham and York, along with other GTA municipalities, entered into contracts with the private sector to export residual waste primarily to Michigan. However, through negotiations completed at the provincial and federal levels, in December 2010, the Michigan border will be closed to municipal waste from Canada, which includes residential residual waste from Durham and York Regions. As a result, the Regions do not currently have sufficient long-term waste disposal capacity within their Regional boundaries or the direct control required to support their current waste management responsibilities.

Both Regions remain committed to investigating technically feasible waste reduction, reuse, recycling and disposal opportunities. Durham is dedicated to reaching their goal of diverting 70% of their waste from disposal by December 2013 and will look for opportunities to increase diversion even more in the future. Similarly, York is committed to designing a waste management system that will divert approximately 65% of waste from disposal in the short-term and hopes to increase this rate to over 70% in the 10-year planning horizon (2016). Moreover, both Regions are committed to developing strategies that will promote reducing and reusing waste so that managing the material may one day be avoided altogether.

This very real and apparent risk was demonstrated by the following recent events:

- In 2006, U.S. legislation was introduced to ban the disposal of Canadian waste in Michigan landfills. If supported and passed by the U.S. House of Representatives and Senate, U.S. legislation of this nature could close the Michigan border to the disposal of Canadian waste within 90 days of passage; and,
- In response to this threat, Ontario reached an agreement with Senators from Michigan to phase out and terminate the disposal of municipal waste from Ontario in Michigan landfills by the end of 2010. In return, Michigan has agreed not to pursue amendments to the bill, or pursue similar current or future measures consistent with their constitutional duties.

Section 3: Statement of Purpose

Durham and York have both set aggressive targets to divert waste from landfill and developed comprehensive plans to reduce, reuse and recycle waste produced in both Regions. These initiatives, along with responsible decision making, will assist both Regions in becoming leaders in sustainable waste management practices. As part of this EA Study, the Regions have both committed to continuing their current waste diversion programs (recognized as best-in-class by Waste Diversion Ontario) and to continually investigate opportunities to further increase waste diversion and decrease waste generation.

3.2 The Opportunity

A lack of landfill disposal capacity can be considered an opportunity to explore other alternatives for waste disposal that could support Durham and York's waste management systems. In addition it presents an opportunity to consider waste as a resource consisting of additional materials that could be captured and recycled or given due consideration to the energy content of waste materials and their ability to offset other forms of energy generation.

Durham and York recognize that Ontario does not have sufficient energy capacity to meet its growing needs. Both Regions recognize, as an opportunity, the potential to use the residual waste stream as a fuel source to produce energy. This approach is being used within the GTA, in Peel Region, in other Canadian jurisdictions such as Burnaby, British Columbia at many sites throughout the United States, and worldwide, particularly in Europe and Japan.

In many parts of Europe, waste management includes reduction, reuse, recycling and recovery of both recyclable material and energy. Only small amounts of residual material is landfilled. Typically, the jurisdictions with the highest diversion rates - via recycling and composting programs, also recover substantial amounts of energy from the residual materials remaining after these diversion programs. The European Union has enacted a regulation that bans the landfilling of untreated wastes. Acceptable residual waste treatment options include mechanical, biological and thermal processes. Sweden, for example, has incorporated the recovery of energy-from-waste, often coupled with district heating, as an integral part of its energy policy and has banned the landfilling of combustible wastes.

Accordingly, Durham and York pursued, as part of this EA Study, the opportunity of generating EFW. However, it is important for the reader to understand that this study has been undertaken, first and foremost to identify a long-term waste management alternative for post-diversion residual waste. The generation of energy is a beneficial by-product of the technologies being considered, not the purpose of the Undertaking.

3.3 Purpose of the Undertaking

In order to address the challenges of waste disposal and to take advantage of opportunities afforded by considering waste as a resource, the Regions initiated the EA Study. The Undertaking, defined by way of this study, is subject to approval under the Ontario EAA. As a result, in 2005 and 2006 Durham and York prepared an EA Terms of Reference to guide the EA Study. These EA Terms of Reference were approved by the Minister of the Environment on March 31, 2006.

Section 3: Statement of Purpose

In accordance with Subsection 6.1(2)(a) of the EAA, the purpose of the Undertaking for the EA is described as follows and was outlined in Section 3.1 of the approved EA Terms of Reference:

The purpose of the undertaking is:

“to process - physically, biologically and/or thermally - the waste that remains after the application of both Regions’ at-source waste diversion programs in order to recover resources - both material and energy - and to minimize the amount of material requiring landfill disposal.

In proceeding with this undertaking only those approaches that will meet or exceed all regulatory requirements will be considered.”

Durham and York developed the Approved EA Terms of Reference and have undertaken this EA to resolve the problem/challenges identified above and address the purpose of the Undertaking. In completing this EA Study, the following factors were identified as preexisting opportunities or constraints:

- Durham and York’s strong desire to implement a safe and effective local solution as quickly as possible;
- Durham and York’s commitment to aggressive source separated waste diversion programs and plans;
- Durham and York’s historic experience associated with attempting to site new landfill capacity within the Regions and direction from both Regional Councils preventing the siting of new landfill capacity within either Region;
- The direction provided in the Durham’s “*Long Term Waste Management Strategy Plan: 2000 to 2020*” and York’s “*Vision 2026*”;
- The inability to export waste for disposal to Michigan after 2010; and,
- Other potential opportunities including the opportunity for additional materials recovery to further increase waste diversion efforts and energy generation potential.

3.4 Waste to be Managed

The waste to be managed is outlined in Section 3.1 Purpose of the Undertaking in the Approved EA Terms of Reference:

Section 3: Statement of Purpose

“Specifically, the waste to be managed will be:

- *Municipal Solid Waste (MSW) from residential sources generated within Durham and York Regions remaining after at-source diversion;*
- *A portion of post-diversion Industrial, Commercial and Institutional (IC&I) waste traditionally managed by the respective Regions at Regional waste disposal facilities; and,*
- *Municipal post-diversion residual waste from neighbouring non-Greater Toronto Area (GTA) municipalities that may provide disposal capacity for processing residues. For example, the City of Peterborough, the County of Peterborough and the County of Northumberland. A condition for including waste from neighbouring non-GTA municipalities in the total amount of material that would be managed by this undertaking, is the ability of these municipalities to provide disposal capacity (landfill space) for processing residues as neither Durham nor York currently have sufficient long-term disposal capacity for such residues.”*

At-source programs refer to those initiatives undertaken at the source of waste generation (e.g. at home or work/business) to eliminate the generation of waste, manage it at the source, or to divert wastes to an appropriate facility (e.g., separation of recyclable materials from the waste stream by the home owner and placement of the recyclable material in a blue box for curbside collection or backyard composting).

3.5 Role of Waste Diversion in the Regional Waste Management Systems

The role of at-source diversion and landfill disposal is established in the statement of purpose, stated above, which clearly expresses the intention of Durham and York to minimize the amount of material requiring landfill disposal. Both Regions have adopted a waste management hierarchy placing waste reuse, reduction and recycling as priorities in their systems.

The Regions’ Integrated Waste Management Systems, and comprehensive waste diversion programs are discussed in Sections 1.2 and 1.3 of this EA Study document.

3.6 Role of Landfill in the Regional Waste Management Systems

It was been clearly identified by Durham and York in the approved EA Terms of Reference that there is a desire to identify a preferred long term alternative that maximizes the recovery of resources and minimizes the reliance on landfill as a primary method of disposal. Landfill facilities will be assumed to continue to play a role for the disposal of certain materials that cannot be otherwise processed or diverted. A landfill only system, whereby a new landfill site

Section 3: Statement of Purpose

capable of managing all waste that remains after at-source diversion would not meet the stated purpose of the Undertaking, and thus has not been considered in this EA Study.

For the purpose of comparison and evaluation of the “Alternatives to”, a “Do Nothing” system is required as a component of the EA process. For this study the “Do Nothing” system would be the continuation of the current method of disposal of the residual waste that remains after diversion, namely, the continued export of waste from Durham and York to landfill facilities outside of the study area with the knowledge that the landfills being used for disposal in Michigan will not be available after 2010.

Each of the proposed processing alternatives will require landfill disposal capacity for process residues. Responsibility for identification of this capacity will be borne by the successful Vendor of the preferred technology.