



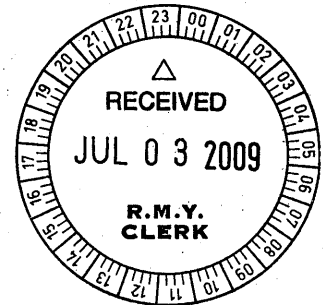
June 24, 2009

The Honourable John Gerretsen
Minister of the Environment
~~135 St. Clair Avenue West~~
12th Floor
Toronto ON M4V 1P5

REGION OF YORK
CLERK'S OFFICE

FILE No. -

P27



The Regional
Municipality
of Durham

Clerk's Department

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Pat M. Madill, A.M.C.T., CMM I
Regional Clerk

**RE: APPROVALS FOR THE DESIGN, CONSTRUCTION,
OPERATION AND MAINTENANCE OF A NEW DURHAM –
YORK ENERGY FROM WASTE (EFW) FACILITY (RFP 604-
2008): PROJECT AND RELATED FINANCING
(2009-COW-03) (Our File No.: D04)**

The Committee of the Whole of Regional Council considered the above matter and at a meeting held on June 24, 2009, Council adopted the following recommendation of the Committee:

"Environmental Assessment"

1. THAT Council endorse the Durham - York Residual Waste Study Environmental Assessment (EA) as provided in Attachment #7 to Report #2009-COW-03 and the accompanying compact disk (CD), and authorize staff to submit the EA to the Ministry of the Environment by July 31, 2009, subject to such minor adjustments as deemed necessary by the Commissioner of Works, based upon the on-going process, including preliminary review of documentation by the Ministry of the Environment.
2. THAT in accordance with Subsection 6.2(2) of the Environmental Assessment Act, the Commissioner of Works be authorized to amend or withdraw this EA at any time prior to the deadline for completion of the Ministry review in the event that issues have arisen with the EA during the inspection period which are too numerous or complex to resolve within the regulated timelines.



EFW Project Agreements

The Regional Municipality of York

3. THAT authorization be given for the Region of Durham to enter into the Memorandum of Understanding (MOU) with the Region of York, included as Attachment #1 to Report #2009-COW-03, to govern the process and cost sharing arrangement between the Regions during the design, construction, operation and maintenance of the EFW facility;
4. THAT the Regional Chair and Clerk be authorized to sign the documents necessary to give effect to recommendation 3.
5. THAT staff be directed to commence negotiations of a formal co-owners agreement with the Regional Municipality of York based upon the commitments and understandings contained within the Memorandum of Understanding (MOU) with the Region of York, included as Attachment #1 to Report #2009-COW-03.

Ontario Power Authority (OPA)

6. THAT subject to and conditional upon, (i) the acceptance of the Durham - York Residual Waste Study EA by the Minister of the Environment; (ii) the execution by York Region of the proposed MOU included as Attachment #1 to Report #2009-COW-03; and (iii) Approval of the execution of the Project Agreement by the Regional Council of the Regional Municipality of York:
 - a. THAT authorization be granted for the Region to enter into a Power Purchase Agreement (PPA) with the Ontario Power Authority (OPA), substantially on the terms described herein, including an agreed upon price for the net electricity distributed to the grid of eight (8) cents per kilowatt hour (kWh), subject to annual escalation to be applied to 35% of the per kWh price based upon changes in the Consumer Price Index (CPI) as calculated from the first anniversary of facility operations, and for each year of the 20-year term;
 - b. THAT the Commissioner of Finance be authorized to provide completion and performance security described in the PPA, up to a maximum of \$660,000, when required upon execution of said agreement, to the OPA; and,

- c. THAT the Regional Chair and Clerk be authorized to sign any and all documents necessary to give effect to this recommendation.

Project Approval, Cost and Financing Approval

- 7. THAT subject to and conditional upon, (i) the acceptance of the Durham - York Residual Waste Study EA by the Minister of the Environment; (ii) the execution by York Region of the proposed MOU, included as Attachment #1 to Report #2009-COW-03; (iii) a satisfactory conclusion to the negotiation of the Project Agreement with Covanta Energy Corporation on terms consistent with the requirements of RFP-604-2008, as determined by the Commissioners of Works and Finance; (iv) approval of the Power Purchase Agreement as per recommendation 6; and, (v) Approval of the execution of the Project Agreement by the Regional Council of the Regional Municipality of York:
 - a. THAT the Proposal submitted by Covanta Energy Corporation, in response to RFP-604-2008 to design, build, operate and maintain an Energy From Waste Facility, be accepted at a facility construction price (excludes architectural enhancements) of \$235.8 million (Durham's share \$185.3 million) and a total annual operating fee of \$14.7 million (Durham's share \$11.5 million), excluding GST and escalation;
 - b. THAT Durham's share of \$214.7 million of the total project cost of \$272.5 million for the Durham – York Energy from Waste facility be financed as follows:
 - i. Up-front financing of approximately \$100.0 million from the Region's Federal Gas Tax Reserve Fund;
 - ii. Other Revenue of approximately \$1.6 million (sale of surplus land);
 - iii. Debentures issued for the remaining financing requirements totaling approximately \$113.1 million with a term of approximately eight (8) years; and,
 - iv. The Region apply future Federal Gas Tax revenue estimated at \$17.3 million per year to retire the debt related to its share of the project cost as noted above.

- c. THAT the Region of Durham or its agents be authorized to issue debentures in the total amount not to exceed \$113.1 million to finance a portion of Durham's share of the EFW facility;
- d. THAT the Commissioner of Finance be authorized to purchase all or a portion of the required debenture issue in the amount of \$113.1 million from the Region's Reserve Funds; and
- e. THAT the Regional Chair and Clerk be authorized to execute a Project Agreement consistent with the requirements of the RFP 604-2008 and subject to agreement on outstanding contractual issues, as determined by the Commissioners of Works and Finance.

Other

- 8. THAT Regional Council approval be given to initiate expropriation proceedings with respect to the acquisition of the lands adjacent to the EFW facility in the Municipality of Clarington (see Attachment #2 Site Plan to Report #2009-COW-03) that are not acquired through negotiations, and which will be required to be serviced in accordance with the Host Community Agreement (HCA), as detailed in Report 2009-COW-02.
- 9. THAT in accordance with the Purchasing By-law 68-2000 as amended, Finance staff be authorized to negotiate a Sole Source Agreement with HDR Corporation for the Regions under a new three-year contract (2010 to 2013), with two optional one-year extension provisions, in order to provide necessary on-going technical expertise and Project Management services and ensure project specifications as developed by HDR, standards and timelines are achieved through design-build and operations start-up protocol and Acceptance Test procedures, at an upset cost not to exceed \$5.6 million (excluding applicable taxes) to be cost-shared with York Region, and with Durham's share (\$4.4 million) to be funded through the annual Solid Waste Management Business Plans and Budgets over a three to five year period and the Regional Chair and Clerk be authorized to sign any and all documents necessary to give effect to this recommendation.

10. THAT in response to requests by members of Regional Council, and/or as a supplement to the April 2009 Report 2009-J-18, Regional Council receive for information:
- a. Addendum #34 to RFP-604-2008, included as Attachment #3 to Report #2009-COW-03, as issued in January 2009 to pre-qualified vendors to provide a further breakdown of the technical, project delivery and cost and commercial elements of the evaluation criteria which was utilized by the Evaluation Team to determine the preferred vendor, as recommended to, and approved by, Regional Council in April 2009; and,
 - b. A final draft report from KPMG, the Regions' Fairness Monitor, retained by York and Durham to oversee the two-stage EFW Procurement Process and included as Attachment #4 to Report #2009-COW-03."

Please find enclosed a copy of Report #2009-COW-03 of the Commissioner's of Finance and Works for your information.



P.M. Madill, A.M.C.T., CMM III
Regional Clerk

PMM/cb

c: See Attached List

- c: W. Arthurs, MPP (Pickering/Scarborough East)
C. Elliott, MPP (Whitby/Oshawa)
J. O'Toole, MPP (Durham)
J. Ouellette, MPP (Oshawa)
R. Johnson, MPP (Haliburton/Kawartha Lakes/Brock)
J. Dickson, MPP (Ajax/Pickering)
B. Fisch, Chairman and Chief Executive Officer,
Regional Municipality of York
D. Kelly, Regional Clerk, Regional Municipality of York
M. de Rond, Clerk, Town of Ajax
T. Gettinby, Clerk, Township of Brock
P. Barrie, Clerk, Municipality of Clarington
S. Kranc, Clerk, City of Oshawa
D. Wilcox, Clerk, City of Pickering
K. Coates, Clerk, Township of Scugog
D. Leroux, Clerk, Township of Uxbridge
P. Jones, Clerk, Town of Whitby
Councillor C. Trim, Co-Chair, Joint Waste Management
Group, Regional Municipality of Durham
Councillor M. Ferri, Co-Chair, Joint Waste Management
Group, Regional Municipality of York
R. Walli, Chair, Energy-From-Waste Site Liaison
Committee
G.H. Cubitt, Chief Administrative Officer, Regional
Municipality of Durham
Dr. R.J. Kyle, Commissioner and Medical Officer of
Health, Regional Municipality of Durham
R.J. Clapp, Commissioner of Finance, Regional
Municipality of Durham
C. Curtis, Commissioner of Works, Regional
Municipality of Durham



The Regional Municipality of Durham
Report to: Committee of the Whole
From: C.R. Curtis, Commissioner of Works
R.J. Clapp, Commissioner of Finance
Report No.: 2009-COW-03
Date: June 16, 2009

SUBJECT:

Approvals for the Design, Construction, Operation and Maintenance of a new Durham - York Energy from Waste (EFW) Facility (RFP 604-2008): Project and Related Financing

RECOMMENDATIONS:

The Committee of the Whole recommends to Regional Council that:

Environmental Assessment

1. Council endorse the Durham - York Residual Waste Study Environmental Assessment (EA) as provided in Attachment #7 and the accompanying compact disk (CD), and authorize staff to submit the EA to the Ministry of the Environment by July 31, 2009, subject to such minor adjustments as deemed necessary by the Commissioner of Works, based upon the on-going process, including preliminary review of documentation by the Ministry of the Environment.
2. In accordance with Subsection 6.2(2) of the Environmental Assessment Act, the Commissioner of Works be authorized to amend or withdraw this EA at any time prior to the deadline for completion of the Ministry review in the event that issues have arisen with the EA during the inspection period which are too numerous or complex to resolve within the regulated timelines.

EFW Project Agreements

The Regional Municipality of York

3. Authorization be given for the Region of Durham to enter into the Memorandum of Understanding (MOU) with the Region of York, included as Attachment #1, to govern the process and cost sharing arrangement between the Regions during the design, construction, operation and maintenance of the EFW facility;
4. The Regional Chair and Clerk be authorized to sign the documents necessary to give effect to recommendation 3.
5. Staff be directed to commence negotiations of a formal co-owners agreement with the Regional Municipality of York based upon the commitments and understandings contained within the Memorandum of Understanding (MOU) with the Region of York, included as Attachment #1.

Ontario Power Authority (OPA)

6. Subject to and conditional upon, (i) the acceptance of the Durham - York Residual Waste Study EA by the Minister of the Environment; (ii) the execution by York Region of the proposed MOU included as Attachment #1; and (iii) Approval of the execution of the Project Agreement by the Regional Council of the Regional Municipality of York:
- a. Authorization be granted for the Region to enter into a Power Purchase Agreement (PPA) with the Ontario Power Authority (OPA), substantially on the terms described herein, including an agreed upon price for the net electricity distributed to the grid of eight (8) cents per kilowatt hour (kWh), subject to annual escalation to be applied to 35% of the per kWh price based upon changes in the Consumer Price Index (CPI) as calculated from the first anniversary of facility operations, and for each year of the 20-year term;
 - b. The Commissioner of Finance be authorized to provide completion and performance security described in the PPA, up to a maximum of \$660,000, when required upon execution of said agreement, to the OPA; and,
 - c. The Regional Chair and Clerk be authorized to sign any and all documents necessary to give effect to this recommendation.

Project Approval, Cost and Financing Approval

7. Subject to and conditional upon, (i) the acceptance of the Durham - York Residual Waste Study EA by the Minister of the Environment; (ii) the execution by York Region of the proposed MOU, included as Attachment #1; (iii) a satisfactory conclusion to the negotiation of the Project Agreement with Covanta Energy Corporation on terms consistent with the requirements of RFP-604-2008, as determined by the Commissioners of Works and Finance; (iv) approval of the Power Purchase Agreement as per recommendation b; and, (v) Approval of the execution of the Project Agreement by the Regional Council of the Regional Municipality of York:
- a. The Proposal submitted by Covanta Energy Corporation, in response to RFP-604-2008 to design, build, operate and maintain an Energy From Waste Facility, be accepted at a facility construction price (excludes architectural enhancements) of \$235.8 million (Durham's share \$185.3 million) and a total annual operating fee of \$14.7 million (Durham's share \$11.5 million), excluding GST and escalation;
 - b. Durham's share or \$214.7 million of the total project cost of \$272.5 million for the Durham – York Energy from Waste facility be financed as follows:
 - i. Up-front financing of approximately \$100.0 million from the Region's Federal Gas Tax Reserve Fund;
 - ii. Other Revenue of approximately \$1.6 million (sale of surplus land);
 - iii. Debentures issued for the remaining financing requirements totaling approximately \$113.1 million with a term of approximately eight (8) years; and,
 - iv. The Region apply future Federal Gas Tax revenue estimated at \$17.3 million per year to retire the debt related to its share of the project cost as noted above.

- c. The Region of Durham or its agents be authorized to issue debentures in the total amount not to exceed \$113.1 million to finance a portion of Durham's share of the EFW facility;
- d. The Commissioner of Finance be authorized to purchase all or a portion of the required debenture issue in the amount of \$113.1 million from the Region's Reserve Funds; and
- e. The Regional Chair and Clerk be authorized to execute a Project Agreement consistent with the requirements of the RFP 604-2008 and subject to agreement on outstanding contractual issues, as determined by the Commissioners of Works and Finance.

Other

- 8. Regional Council approval be given to initiate expropriation proceedings with respect to the acquisition of the lands adjacent to the EFW facility in the Municipality of Clarington (see Attachment #2 Site Plan) that are not acquired through negotiations, and which will be required to be serviced in accordance with the Host Community Agreement (HCA), as detailed in Report 2009-COW-02.
- 9. In accordance with the Purchasing By-law 68-2000 as amended, Finance staff be authorized to negotiate a Sole Source Agreement with HDR Corporation for the Regions under a new three-year contract (2010 to 2013), with two optional one-year extension provisions, in order to provide necessary on-going technical expertise and Project Management services and ensure project specifications as developed by HDR, standards and timelines are achieved through design-build and operations start-up protocol and Acceptance Test procedures, at an upset cost not to exceed \$5.6 million (excluding applicable taxes) to be cost-shared with York Region, and with Durham's share (\$4.4 million) to be funded through the annual Solid Waste Management Business Plans and Budgets over a three to five year period and the Regional Chair and Clerk be authorized to sign any and all documents necessary to give effect to this recommendation.
- 10. In response to requests by members of Regional Council, and/or as a supplement to the April 2009 Report 2009-J-18, Regional Council receive for information:
 - a. Addendum #34 to RFP-604-2008, included as Attachment #3 to this report, as issued in January 2009 to pre-qualified vendors to provide a further breakdown of the technical, project delivery and cost and commercial elements of the evaluation criteria which was utilized by the Evaluation Team to determine the preferred vendor, as recommended to, and approved by, Regional Council in April 2009; and,
 - b. A final draft report from KPMG, the Regions' Fairness Monitor, retained by York and Durham to oversee the two-stage EFW Procurement Process and included as Attachment #4 to this report.

REPORT**1.0 DURHAM – YORK RESIDUAL WASTE STUDY ENVIRONMENTAL ASSESSMENT****1.1 Background**

- In 2005, the Regions of Durham and York partnered in a full Environmental Assessment (EA) process in order to establish an Energy from Waste (EFW) facility. The Ontario Ministry of Environment (MOE) approved the terms of Reference for the EA Study on March 31, 2006.
- The Undertaking, as defined by the EA, is a Thermal Treatment Facility capable of processing post-diversion residual waste and recovering materials and energy of sufficient quality and quantity to export to the marketplace (recovered metals, electricity and eventually the possibility of district heating and cooling), with a maximum capacity of 400,000 tpy. The Facility will be designed, built and operated on the Clarington 01 site, located in the Municipality of Clarington, Regional Municipality of Durham.
- Through the on-going EA process the Regions have to date selected a preferred technology, a preferred site, and a preferred vendor for the EFW facility. The release of the draft EA study documentation has been completed in a phased manner, maximizing concurrent activities and facilitating government, peer, and public review, while adhering to the schedule for submission to the MOE.
- The first set of Site Specific Reports were released on February 20, 2009, followed by distribution of the Interim draft EA on April 24, 2009. On May 9, 2009, the next set of Site Specific Reports, including site and technology (vendor) specific documentation, was released. On May 15, 2009, the remaining two Site Specific reports, Air Quality Impact Assessment and Human Health and Ecological Risk Assessment were distributed, followed by the final draft EA released May 26, 2009 and including comments from MOE staff, the Government Review Team and members of the general public, as appropriate.

1.2 EA Results

- The environmental assessment planning process consists of a systematic evaluation of the potential environmental effects of alternatives, and weighing the advantages and disadvantages of proceeding with the proposed undertaking.
- Throughout the EA process there has been an attempt to prevent, avoid or minimize potential adverse environmental effects through the application of impact management measures.
- There are both potential advantages and disadvantages associated with the Undertaking. These advantages and disadvantages reflect the net effects that may exist after the application of impact management measures which would likely last throughout the operational period until closure of the Facility. There are no unmanageable net negative environmental impacts.

- The following is a summary of the aspects of the environment for which minimal to no effects are anticipated:
 - No adverse effects at offsite locations are expected from Facility-based odour given the proposed Facility design;
 - Provisions included in the Facility design for stormwater management on the Site will meet enhanced design guidance criteria found in the MOE Stormwater Management Planning and Design Manual;
 - Effects to local wildlife and habitat are anticipated to be minimal given that: no populations of species of special concern, threatened and/or endangered species; no Areas of Natural and Scientific Interest, and, no significant wildlife habitat, woodlands or wetlands are potentially affected by the Facility. In addition, no permanent watercourses are located onsite and no fish habitat or species are located onsite;
 - The Facility is compatible with existing and planned land uses;
 - Stage 2 Archaeological Assessment identified no archaeological artifacts or sites of significance on the Site and there are no significant built heritage features on or near the Site;
 - the Facility is anticipated to result in minimal disruption to the local traffic network; and,
 - The Facility has the potential to have either a neutral or positive effect on property value in the immediate vicinity of the Site within the Clarington Energy Business Park (CEBP), given investment in infrastructure (e.g. road access, district heating etc.) associated with the Facility.
- The overall positive impacts are associated with the net reduction in overall GHG emissions. Considering both direct emissions, indirect emissions/offsets associated with recovery of energy and metals, and avoided emissions from trucking and methane emissions from landfill, the following are anticipated:
 - An overall net reduction in emissions of acid gases and smog precursors;
 - A net reduction in emissions to water; and,
 - Annual energy benefits of between 94,000 MWh and 107,000 MWh of electricity generated/saved and approximately 7.8 million cubic metres (m³) of natural gas saved if/when the Facility provides heating or heating/cooling to the Clarington Energy Business Park (CEBP).
- In addition, the Facility is anticipated to have a positive effect on the economic environment in the Region during construction and operations as:
 - During construction, the Facility will result in an increase in full-time employment for the labour force directly employed to construct the Facility, and the local capital investment in the Facility could result in 1,000 or more full-time equivalent positions and induced employment, resulting from the purchase of goods and services by the labour force;
 - During operations, the Facility will result in an increase in full-time employment for an estimated 33 full-time positions required to manage and operate the Facility and the 100 to 114 indirect/induced full-time equivalent employment positions resulting from the \$10 to \$14 million per year that

- would potentially be spent on local/regionally sourced labour, goods and services;
- The Municipality of Clarington and the entire Region could benefit from the investment in infrastructure to, and around, the Facility in the CEBP, and the Municipality of Clarington will also benefit from payment in lieu of taxes generated by the facility; and,
 - There is minimal potential for the Facility to disrupt the use and enjoyment of local businesses or agriculture, with the only anticipated effect being short-term noise and visual effects during the construction period. Local businesses stand to benefit from the up to \$118 million that is anticipated to be spent during construction and the \$10 to \$14 million per annum that would be spent during operations on local/regionally sourced labour, goods and services.
- Potential disadvantages of the Undertaking include:
 - There is some potential for short-term construction related net effects from noise levels associated with pile driving (if required), increased short-term offsite vehicle traffic and some short-term visual disturbances that could affect receptors within approximately one kilometre of the site; and,
 - The presence of the Facility cannot be readily shielded from the adjacent roadways, and could result in a change to the existing landscape. It is anticipated the Facility would have a minimal visual effect on the landscape, while having an overall medium level visual effect on some receptors within proximity to the Facility. While the stack could be visible from various vantages in the region, the dimensions of the stack and the surrounding topography make it unlikely it would be visible in areas of higher population densities.

1.3 Air Quality Assessment

1.3.1 Comparison to Ambient Air Quality Criteria, Objectives, and Standards

- Emissions from the Facility alone and in combination with existing air quality levels were assessed and compared to applicable provincial/federal criteria.
- During normal operations, emissions from the Facility in combination with existing air quality levels are predicted to meet all applicable provincial/federal air quality criteria for all contaminants (continuous operation at maximum capacity).
- During process upsets, (including start-up and shut-downs) emissions from the Facility in combination with existing air quality levels are predicted to meet all applicable provincial/federal air quality criteria for all contaminants.

1.3.2 Changes in Ground Level Ozone

- Based on the magnitudes of the NO_x and VOC (ozone pre-cursor), emissions from the Facility relative to the existing emission levels in the region (1.4% and 0.5% respectively), changes in ground level ozone are expected to be minimal.

1.4 Site Specific Human Health Risk Assessment

- The risks to human receptors were evaluated in two ways:
 - Inhalation Assessment: The risks associated with inhaling EFW air emissions.
 - Multi-Pathway Assessment: The risks associated with exposure to EFW emissions through dermal contact or ingestion of exposed media
- Results indicate that no acute (1-hour or 24-hour) or chronic (annual) risk estimates at the maximum ground level concentration exceeded the regulatory benchmark for all Project Scenarios.
- The results of the multi-pathway assessment indicate that exposure to Facility-related air emissions will result in no adverse health effects to human receptors living or visiting the Local Risk Assessment Study Area.

1.5 Site Specific Ecological Risk Assessment

- **No undue risk was predicted for ecological receptor for any of the Project-related scenarios modeled. No undue risk was predicted for any Species at Risk that would be found within the area.**

1.6 EA Conclusion

- Throughout the EA process there has been an attempt to prevent, avoid or minimize adverse environmental effects through the application of impact management measures. As a result, there are no unmanageable net negative environmental impacts. The overall positive impacts are associated with the net reduction in overall GHG emissions and the Facility is expected to have a positive effect on the economic environment during construction and operations phases.
- Overall, this Environmental Assessment study has concluded that the proposed Energy-from-Waste facility can be constructed, operated and closed in an environmentally safe and acceptable manner in the Municipality of Clarington, Region of Durham.

2.0 FINANCIAL DUE DILIGENCE

- As part of the Regions' financial due diligence process, Deloitte & Touche LLP (Deloitte) has been retained since 2006 as a financial advisor to the EFW project.

2.1 2007 Service Delivery Analysis, Preliminary Business Case, and RFQ Issuance

- In the 2006 annual Solid Waste Servicing and Financing Study, it was noted that "...Any consideration around the construction of such a large-scale (EFW) facility would include a business case analysis with full consideration of alternatives, including potential for a privately contracted service, and the potential for public-private partnerships."
- In April 2007, as part of the Request for Qualifications (RFQ) approval process, Deloitte completed two studies subsequently adopted by Regional Council:
 - A service delivery analysis completed for both York and Durham Regions (Durham Report 2007-J-14), "Analysis of Public sector Involvement for an Energy From Waste Facility," which provided a detailed analysis of potential roles for the private sector, and a recommended approach subsequently approved as the basis for the procurement process; and,
 - The preliminary EFW business case analysis (Durham Report 2007-J-13), "Preliminary Business Case and Financial Impact Assessment," which compared three landfill options and two energy from waste options, and utilized financial, degree of control, and lifecycle considerations as major criteria for the evaluation of Durham's disposal options, concluded that a Regionally owned EFW Facility would provide the greatest benefit to the Region of Durham.
- In the short term, a municipally owned EFW was recognized in the preliminary business case as being more costly than landfill. However, in the longer-term as debt incurred to construct the facility is paid off, a significant reduction in the cost per tonne of disposing waste is realized. Further, Durham could retain ownership and control of the facility to meet long-term waste management and diversion requirements, and an EFW would meet these needs for a longer period of time, with an ability to expand the facility should it be required, subject to the terms of the EA.
- Regional Council received the results of the 2007 preliminary business case with recognition that:

"...Energy From Waste (EFW) will cost under a best case scenario approximately 55% to 90% higher on a per unit basis than current Michigan landfill disposal costs..." (Report 2007-J-13)
- Based upon the Deloitte service delivery analysis, including analyses of six models for public private partnerships, Regional Council approved a public ownership model for the EFW facility including a contract of up to 25 years with the private sector to design, build and operate the facility. (RFP 604-2008 was for a term of 20 years plus two five-year optional terms.)
- These options covered the full spectrum of Governance / Ownership Models and Project Delivery Mechanisms available to the Region. Each of these options were assessed against criteria which covered ownership and control, fiscal capacity,

experience with projects of similar scope and size, consistency with industry practices for ownership and operations, per tonnage costs, risk transfer, and minimization of retained risks.

- As a result of this analysis, the Regions concluded based on Deloitte's recommendation that Public Ownership with the combined Design-Build-Operate Contract, was the most suitable option for the following reasons:
 - The Region would own the facility, take advantage of its financing capabilities, retain control on its use, and receive the benefits of revenue from electricity generation and recyclables - a consideration that was key in the decision making process; and,
 - Since the design, build, or operational elements of the project do not fit within the Region's core business capabilities and would require separate contracts to cover each of the design, build and operational phases, the key advantage of the Design-Build-Operate option is that it bundles each of these contracts under one competitively tendered and negotiated contract. According to Deloitte, this approach applies industry best practices currently applied by infrastructure procurement agencies throughout Canada and results in a contract that is developed on commercial terms with a clear definition of performance based output specifications to ensure transfer of lifecycle performance risk to a third party with a demonstrated track record and experience.
- In receiving the results of the preliminary business case and directing staff to complete the RFQ process, Regional Council formally recognized the thermal treatment of residual waste to be "...a viable potential option to secure a future long-term local solution for Durham residual waste disposal."
- The Request for Qualifications (RFQ) process was subsequently launched based upon Regional Council direction of June 20, 2007, which authorized staff to issue the RFQ to establish a short-list of qualified vendors capable of the "...design, construction and operation of a facility of up to 250,000 tonnes in size...(and) accommodate future expansion (scalability) as required to accommodate post-diversion residual waste volume growth to 2036, and that vendors will be required to demonstrate an ability to fulfil requirements of a 25 year facility operating agreement."

2.2 2008 Detailed Business Case and RFP Issuance

- When Durham Region's preliminary business case was completed in 2007, there were several key unknowns identified. At that time a commitment was made to conduct a more detailed business case as part of the subsequent RFP approvals process and issuance, once key variables were confirmed, including facility location, sizing and waste supply commitments.
- The more detailed EFW business case was completed in May 2008, after conclusion of the RFQ process, and post Council approval of the pre-qualified short-list of EFW vendors. The pre-qualified vendors approved to participate in the subsequent RFP process were:

- i. Veolia Environmental Services Waste to Energy Inc.; AMEC/Black & McDonald;
 - ii. Covanta Energy Corporation;
 - iii. Green Conversions Systems LLC;
 - iv. Wheelabrator Technologies Inc. (A Waste Management Company); and,
 - v. Urbaser SA.
- Clarington 01 had also been approved as the preferred site and the Regions had committed to protecting the health and safety of the residents of Clarington and Durham by incorporating Maximum Achievable Control Technology (MACT) for both the emission standards and monitoring of the EFW facility. Emission control technologies would meet or exceed the European Union (EU) monitoring and measurement standards, including limits for HCl (hydrochloric acid), lead, and NOx (nitrogen oxide).
 - Consistent with the conclusions of the 2007 preliminary business case, in May 2008, Regional Council reconfirmed that over the long-term paying a higher up-front capital cost for EFW is preferable to the longer-term costs and greater risk exposure from available landfill options.
 - This conclusion was based on the following:
 - Landfill options have significantly higher exposure to haulage fuel costs and prices, which are volatile and anticipated to trend higher over the long-term;
 - Compared to landfill in Michigan, EFW represents a reduction of approximately 1.4 million truck kilometres per year;
 - Constrained and decreasing landfill capacity in Ontario will put upward price pressure on tipping fees as capacity is depleted, particularly for long-term disposal capacity, which may not even be available;
 - There are risks relying on the construction of new landfill capacity in Ontario to accommodate the longer-term capacity shortage, with prospects future U.S. border obstruction could exacerbate the issue;
 - EFW provides a stable long-term, secure, and local waste disposal option, with potential for certainty in municipal waste disposal for over 50 years;
 - EFW is consistent with the Region's commitment to honour the agreement between the Ontario Minister of the Environment, GTA leaders and Michigan State to stop the shipment of waste to Michigan;
 - EFW represents an approximate 44% reduction in greenhouse gases as compared to status quo Michigan landfill including consideration of trucking and emissions from landfill and EFW facilities;

- EFW was estimated to have a net economic cost of between \$1.4 million to \$8.2 million above the Ontario landfill option over a 25-year analysis, with the range based upon a 5% to 6% discount rate, reflecting the Region's long-term borrowing rate, even including added costs for enhanced architectural treatment, site works, odour control, a public education centre, public viewing gallery, district heating capability, and MACT for emissions and monitoring;
- In addition to lower operating costs over time, EFW positions the Region to capitalize on revenue opportunities associated with district heating for the CEBP (the business case included district heating costs assumed no revenues from this investment);
- EFW enables the productive recovery of energy from residual waste to generate electricity; and,
- With the application of Federal Gas Tax funding, the Region can pay off the EFW facility debt early, mitigating property tax impacts.

3.0 FROM BUSINESS CASE TO CONSIDERATION OF A TANGIBLE PROJECT

- The detailed business case analysis was approved by Regional Council in May of 2008 and, as noted at the time, key matters were still progressing but could still impact projected costs. These matters included the Power Purchase Agreement with the OPA, the Community Host Agreement with Clarington, the Memorandum of Understanding with York Region and the design, build, operate and maintain contract (Project Agreement), the latter which would be developed and then refined through the subsequent RFP process.
- Making conservative assumptions within the 2008 Business Case, both in regards to technical team costing and assumptions for financial analyses proved to be prudent as the business case assessment was able to withstand a subsequent very dramatic shift in the economic environment.
- Despite very significant negative impacts to the economic and capital market environments, which would impact the risk assessments and costing for all bidders, the April 2009 Report 2009-J-18 "Recommendation of a Preferred EFW Proponent: Request for Proposals 604-2008" noted: "Although not considered as part of the formal RFP evaluation, the Covanta submission did fall within the scope of the May 2008 Durham Business Case evaluation (Report 2008-J-13) conducted by Deloitte & Touche LLP."
- This statement was based upon the utilization of submitted Covanta costs and escalators within the Deloitte Business Case model subsequent to the RFP Evaluation. Regional staff estimated that despite the higher facility construction cost and with consideration of higher guaranteed revenues and lower operating costs in the Covanta proposal, Covanta represented an estimated savings on a net present value basis compared to the previous 25-year business case analysis presented over a year ago as Disposal Option Five.

- In the Covanta analysis herein, adjustments were made to the Covanta bid model to add to their bid costs, additional costs previously included in the detailed Deloitte business case, including Host Community Agreement (HCA) costs and site servicing, \$9 million of enhanced architectural costs, the existing EFW site land value (considered only in the economic analysis since this cost is sunk, and not part of future cash flows), and all haulage and transfer costs required to deliver solid waste to the EFW facility from Durham's eight local area municipalities.
- Deloitte has peer reviewed the analysis reported herein, and their conclusions are noted within a letter to the Commissioner of Finance included as Attachment #5.

3.1 Capital and Annual Operating Costs: Business Case versus Covanta

- The capital and operating cost estimates utilized in the 2008 business case model were based upon a technical 'basis of design' established by the EFW technical team, including staff of York and Durham Regions and HDR Corporation, the Region's EFW technical advisor with significant experience in the industry.
- It is well understood that the movement of capital and operating costs over time are a function of many factors, including market risk assessments by cost evaluators, and assumptions/trends for inflation, schedule and timing of costs incurred, interest rate and exchange rates, and consideration of risk transfer (who will assume which risks, and when will risks be assumed or transferred through milestone completions and/or contract terms amongst parties).
- The greatest differences in the Covanta proposal as compared to the Region's May 2008 Business Case related to the following:

Higher facility construction costs which reflect –

- Any impacts from the 19% drop in the Canada - U.S. exchange rate between May 2008 and the close of RFP 604-2008 on February 19, 2009, which would represent a significant impact on costs for specialized equipment purchased outside of Canada;
- Covanta's specific construction cost structure, which would include specific costs related to detailed engineering work, sub-contractor payments, pre-ordering of major equipment and procurement, equipment vendor pricing, project management and schedule timing;
- Covanta's assessment of their place in the current market environment and their deemed costs from assuming risks and obligations, as outlined within the Project Agreement, including guarantees and securities to protect the Region and its investment throughout the contract term.

Lower construction escalation up to Notice to Proceed, which reflects –

- Covanta's specific construction schedule and construction milestone payment schedule and Covanta-specific financing costs between 10 milestone payments, as set within the competitive process, and as committed to by Covanta upon Notice to Proceed being granted to Covanta by the Regions (the business case assumed three equally spaced milestones);
- Construction cost escalation factors which were fixed through the competitive RFP process, including Covanta's bid based on construction cost escalation geared to the Engineering News Record and 0% of the Construction Cost Index (CCI), 70% of the Building Cost Index (BCI) and 30% of the Materials Cost Index (MCI) (whereas the 2008 Business Case assumed 100% of CCI).

Lower Operating Costs and Escalation which reflects –

- The significantly lower Total Annual Operating Cost bid by Covanta, based upon their specific operations and cost structure and other factors, including potential influence from a very competitive environment and world-class competitors;
- Annual escalation adjustments to the Total Annual Operating Cost for the labour, maintenance, residue disposal, major equipment refurbishment, and contract, rental or lease services components based on CPI; no escalation of administrative costs, and separate adjustments for diesel and chemical reagents/consumables.

Higher Net Annual Revenues to Off-set Operating Costs, which reflects –

- Electricity and ferrous and non-ferrous recovery guarantees specific to the Covanta proposal, including a net electricity production guarantee of 767 kWh per tonne of reference waste (compared to 665 kWh per tonne assumed within the business case), resulting in a minimum \$1.1 million revenue increase compared to the business case (assuming a fixed 8 cents per kWh);
- A drop in market prices available for ferrous and non-ferrous recyclables since May 2008, which reduces estimated annual recyclables revenues; and,
- An incentive in the RFP to maximize diversion of ferrous and non-ferrous which cost-shares recyclable revenues 85%/15% (the Business Case assumed all revenues to the Region but the change to share a portion of revenues provides a financial incentive to maximize diversion of these commodities and provides potential for additional revenues to the Region).

- The May 2008 Business Case represented an assessment at a point in time, and was conducted to support Council's decision-making process, as to whether or not to issue the RFP. It was not based upon "fixed" terms and conditions and prices gained through a competitive bid process or detailed commercial terms as provided through the RFP.
- On the other hand, a bid proposal represents a real, tangible and executable fixed proposal, with bid capital and operating costs subject to fluctuation through defined processes, timelines and indices. Further, RFP 604-2008 included a detailed Project Agreement setting out parties' obligations, and assigning risks and timing as defined through the RFP process.

Project Cost Summary: Business Case versus Covanta

	Business Case	Covanta
<u>CAPITAL COST SUMMARY</u>		
EFW Capital Cost (Cdn \$2009) ⁽¹⁾	180,938,160	235,759,000 ⁽²⁾
Capital Escalation to NTP ⁽³⁾	19,293,539	6,272,000
Additional Provision for Escalation	-	1,880,000
Construction Financing	8,467,989	<i>included</i>
Total Construction Costs	208,699,688	243,911,000
<u>OTHER PROJECT COSTS</u>		
Architectural Enhancements	9,000,000	9,000,000
HCA and Other Site Servicing (incls utility connects)	10,200,000	13,982,000
Technical Expertise & Project Management Services	-	5,600,000
District Heat piping costs ⁽⁴⁾	<i>removed</i>	<i>not included</i>
District Heat Capable - extraction boiler ⁽⁴⁾	2,662,400	<i>included</i>
Other Project Costs	21,862,400	28,582,000
TOTAL PROJECT COST	230,562,088	272,493,000
Durham Share of Total Project Capital Costs	181,221,801	214,733,600
<u>NET OPERATING COST SUMMARY</u>		
Total Annual Operating Fee (\$2009) ⁽¹⁾	17,261,016	14,665,000 ⁽⁵⁾
Less: Total Annual Revenues:		
Electricity ⁽⁶⁾	(7,448,000)	(8,590,400) ⁽⁷⁾
Materials Recovery ⁽⁸⁾	(1,270,080)	(550,970)
Total Net Facility Operating Cost	8,542,936	5,523,630
Durham Share	6,714,747	4,341,573
<u>OTHER ANNUAL PROJECT COSTS (100% Durham unless otherwise noted)</u>		
Durham only Waste Haulage to EFW ⁽⁹⁾	1,351,659	1,351,659
HHW Depot	<i>not included</i>	186,000
78.6% of Site Liaison Committee	<i>not included</i>	20,000
78.6% of Ambient Air Monitoring (HCA years 1-3)	<i>not included</i>	250,000
TOTAL OTHER OPERATING COSTS	1,351,659	1,807,659
TOTAL PROJECT OPERATIONS COSTS	9,894,595	7,331,289
Durham Share of Total Project Operating Costs	8,066,406	6,091,452
After 3 years operations		5,894,952

Notes to table:

1. The \$197.6 million capital cost reported in the 2008 Business Case was adjusted to reflect 2009 dollars, including the removal of district heat piping costs as per note 3 below. The figure is also net of site enhancements and architectural and district heating costs (identified separately). The \$16.9 million operating costs reported in the 2008 Business Case was also adjusted to reflect 2009 dollars.
2. As reported in Report 2009-J-18.
3. Assumed Notice to Proceed (NTP) for comparison is January 1, 2010. Escalation indexes differ, with the Business Case escalated at an assumed 100% of CCI, versus fixed escalators within Covanta's actual bid which would be contracted at 70% of BCI and 30% of MCI.
4. Although district heating costs estimated for an exchanger and initial pipe within and outside the EFW site was included in the 2008 business case (\$1,229,000 + \$650,000 capital on page 14 and \$11,000 + \$13,000 annual maintenance cost on page 15), these costs have been removed for comparative purposes from the business case. RFP 604-2008 did not ask for piping costs, and bids were required to ensure future district heating capability, anticipating a district heating business case would be completed once customers, heat loads and potential revenues could be properly assessed. The Covanta proposal includes essential design, construction and equipment to support a future local district heating system, including extraction capability and space to incorporate future requirements. The business case cost for extraction capability was escalated to 2009 dollars.
5. As reported in Report 2009-J-18.
6. Significantly higher guaranteed annual electricity production in the Covanta bid than was anticipated in the 2008 business case (net 767 kWh per tonne versus 665 kWh/tonne).
7. As reported in Report 2009-J-18.
8. The economic downturn led to a decrease in market prices available for recyclables in 2009, which is reflected in the revised assumption for ferrous and non-ferrous. The business case also assumed 100% of recycling revenues to the Regions, while the commercial terms within the RFP provide for a shared revenues as an on-going financial incentive to increase diversion (85% Region).
9. Costs incurred by Durham to deliver Durham's municipal solid waste to the EFW facility. The May 2008 cost estimate (\$1,288,479) was escalated to reflect 2009 dollars.

4.0 **ECONOMIC ANALYSIS, AND FINANCIAL AND TAX IMPLICATIONS**

- Total Project Costs have been further refined since Report 2009-J-18 was presented to Joint Committee and Regional Council in April 2009, with the most significant refinements coming from the completion of the MOU with York Region and the Host Community Agreement (HCA) with the Municipality of Clarington.
- Total Project costs are summarized as follows:

Covanta Facility Construction Price	\$235,759,000
Architectural Enhancements	9,000,000
HCA / Site Servicing Costs	13,082,000
Projected Construction Cost escalation	6,272,000
Additional Provision for Inflation	1,880,000
Natural Gas and Hydro One Connections	900,000
Technical Expertise & Project Mgmt. Services	5,600,000
Total Project Costs	<u>\$272,493,000</u>
York Region Share	<u>57,759,400</u>
Durham Region Share	<u><u>\$214,733,600</u></u>

- Durham's share of the total project cost reflects 100% ownership of lands recommended to be acquired in Clarington, as well as a 50/50 cost sharing arrangement on some oversized components as per the MOU with York Region.
- For operating costs, a major change is the escalation adjustment to the Power Purchase Agreement (PPA) which has been negotiated and which is equivalent to an annual adjustment to 35% of the PPA price (\$0.08 per kWh) based upon 100% of Consumer Price Index (CPI).
- Recycling revenue assumptions were also revisited given the recent market decline and market price impact. Furthermore, the commercial terms of the RFP provide for 85% of recycling revenues received coming to the Regions, versus 100% in the Business Case, a revenue sharing mechanism to provide an incentive to increase diversion. These revenues are subject to price volatility as is our current recycling materials marketing program.
- It is estimated that construction escalation could total up to \$6.3 million. An additional provision of \$1,880,000 is included in project costs to accommodate potential escalation beyond current expectations. The construction escalation under the RFP is calculated based upon fixed benchmark indices up to Notice to Proceed (NTP) being granted by the Regions, or up to two years, whichever occurs first. While, with a depressed market, and reduced demand side economics, current construction indexes included as benchmarks to be applied to the Covanta proposal are favourable to the Regions, (relatively flat for May and June), some market recovery is anticipated. The estimates included in the Project Costs are meant to accommodate market recovery should this occur earlier than anticipated. NTP is anticipated in 2010.

4.1 Economic Analysis: Covanta's Preferred Bid

- Consistent with the 2008 detailed Deloitte Business Case, previously approved by Regional Council, the economic analysis was revisited to determine the net benefit/cost associated with development of the Covanta-specific proposal, at the Clarington 01 site, and subject to the obligations specified within the commercial terms of the RFP.
- The economic analysis calculates the economic cost/benefits from the perspective of Durham taxpayers (i.e. excludes York Region's share of the project). Further, the economic analysis, as opposed to the subsequent analysis of cash flows, budget and tax implications, excludes consideration of how the EFW will be financed by Durham, and focuses on the totality of costs to be incurred for EFW, regardless of method of financing. The financing recommendation, including the recommended use of Federal Gas Tax monies for Durham's share of the project costs, is analyzed separate from the economic analysis.
- Opportunity costs are considered within the economic analysis through the process of applying a suitable discount rate, based upon the Region's opportunity cost of capital. Also, opportunity costs are measured through comparison of the Covanta

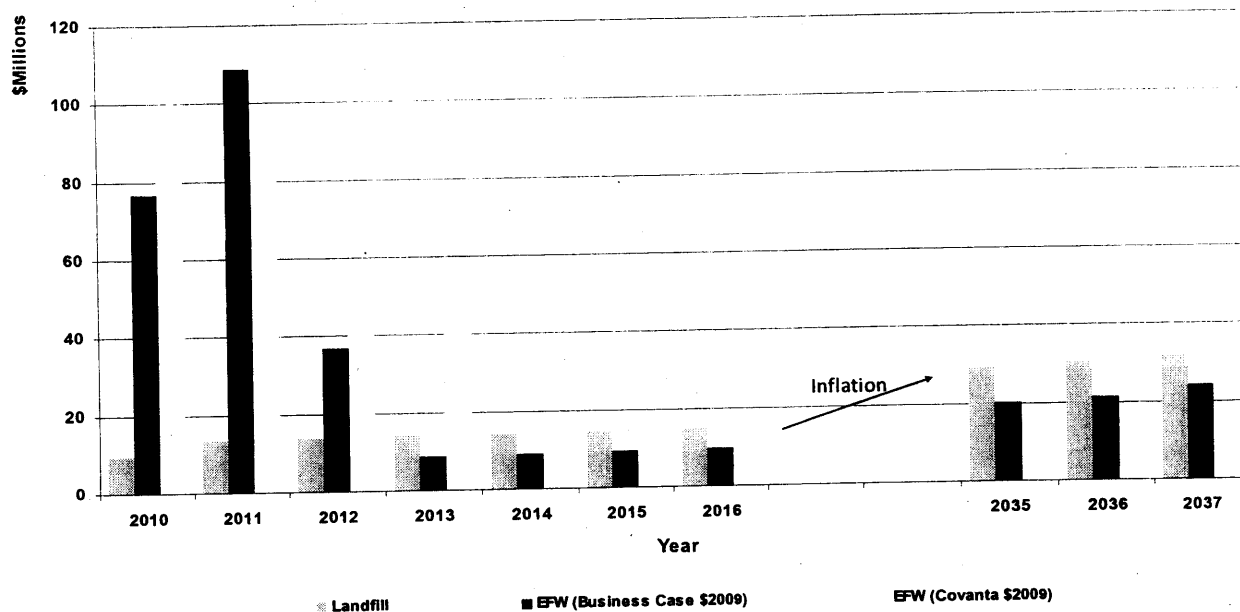
proposal to the next best alternative for waste disposal, previously identified as landfill located outside of Durham Region within Ontario.

- External/secondary benefits were dealt with separately within the 2008 Deloitte Business Case contained as attachment #1 to Report 2008-J-13, rather than being quantified or readdressed as part of this analysis.
- The economic analysis includes:
 - EFW land value, already owned by Durham Region, but assumed as an EFW cost based on an estimated value of \$80,000 per acre;
 - A 6% discount rate to reflect the opportunity cost of utilizing Durham Region capital for EFW as opposed to other uses, and set higher than the Region's current cost of long-term borrowing or investment rate;
 - A residual value for the asset based upon the Covanta proposal and a commercial approach, including consideration of initial facility construction cost, depreciation, annual investments in maintenance and major equipment replacement and repair, lifecycle costing and the remaining value of the asset at the end of the period under analysis; and,
 - Haulage and transfer costs required to deliver Durham's municipal solid waste to the EFW facility (the RFP shifts 100% of the obligation for haulage, transfer and disposal of residue/ash from the EFW facility to the contractor for the duration of the contract).
- The economic analysis remains conservative in that it excludes:
 - Any quantitative valuation of intangible benefits resulting from investment in higher than current regulatory emission controls being included in the EFW project, or greenhouse gas (GHG) benefits;
 - Any quantitative valuation of intangible financial or environmental benefits resulting from the sale of district or industrial heat to the proposed new OPG office building, Courtice Water Pollution Control Plant, or other industrial or commercial neighbours already adjacent to, or that locate in the future, within the Clarington Energy Business Park;
 - Methods of financing available to Durham Region to lessen the impact of EFW capital investment, neither Federal Government Gas Tax, nor debenture costs; and,
 - Any quantitative valuation of the benefits to the Municipality of Clarington from property taxes, the enhanced architectural treatment of the facility, Energy Business Park infrastructure servicing, roads infrastructure, HHW diversion or green space recommended as part of the project to promote and assist in marketing the development of Clarington's new Energy Business Park.

4.2 Approved Project Enhancements Included in the Analysis

- Between the 2007 preliminary business case and 2008 detailed business case, significant enhancements were approved by Regional Council in order to ensure that the Durham-York EFW facility was a state-of-the-art facility, based upon international standards of technical quality and emission control, including:
 - Implementation of a Maximum Achievable Control Technology (MACT) solution surpassing A-7 guidelines;
 - State-of-the-art emission control technologies that meet or exceed the European Union (EU) monitoring and measurement standards;
 - District heating compatibility for the Clarington Energy Business Park;
 - \$9 million for enhanced architectural features;
 - Contingency odour control enhancements, in addition to base odour control measures;
 - Site infrastructure design for future capacity;
 - Construction of a private truck access lane next to the rail line on the EFW site;
 - An Education Centre;
 - A Public Viewing Gallery; and,
 - Servicing and site improvements for the benefit the broader Clarington Energy Business Park adjacent to the facility.
- In addition to incorporating previous additions to technical specifications, the results which follow also include incremental costs associated with updated estimates since May 2008 for fulfilling the HCA, including:
 - Construct Energy Drive from Courtice Road to Osbourne Road within the Clarington Energy Business Park;
 - Construct an expanded storm water management system also to service the broader Clarington Energy Park;
 - Transfer to Clarington an approximate 22 acre land parcel surplus to the Courtice Water Pollution Control Plant;
 - Construct an HHW facility in Clarington; and,
 - Construct a waterfront trail from Courtice Road to the eastern limit of Regionally owned lands. (the construction of a private truck access lane next to the rail line on the EFW site was contemplated in the 2008 business case as noted above and remains in the analysis).
- **The economic analysis summarized in this section demonstrates Durham's cost streams without consideration of financing. As demonstrated in the figure below, while the capital is higher for Covanta than was estimated in May 2008, the nominal operating costs associated with the Covanta EFW, are more favourable.**

Nominal EFW Economic Cost Streams
Project and Operating Costs Before Financing



- In May of 2008, it was estimated that EFW (2008 Business Case) would cost a net (\$2008) \$8.2 million (3.8%) more than landfill, based upon a 6% discount rate and a residual value of \$80.25 million. At a 5% discount rate the net cost (\$2008) was estimated at \$1.4 million.
- Utilizing a 6% discount rate and without adjusting the residual value for the higher valued capital asset proposed by Covanta, the EFW (Covanta \$2009) with the commercial terms contained within the RFP and the updated Project Costs as recommended, has a net cost of \$2.2 million (-1.0%) on a net present value basis (\$2009) when compared to landfill. At a 5% discount rate, EFW is a benefit compared to landfill of \$11.2 million or 4%. These results are more favourable than the 2008 Business case despite the addition of more project and operating costs in 2009, as per recommendations herein.
- As anticipated over a year ago, the EFW option represents a greater up-front cost, as the investment in a long-term asset is made. While long-term costs of landfill and EFW are comparable, the benefit of EFW compared to landfill continues to be the decreased exposure to escalating and volatile haulage/fuel costs because hauling distances are minimized. The EFW also represents a reduction compared to landfill of 1.4 million truck kilometres per year as noted in the 2008 business case.

- The disposal risk is further addressed through the commercial terms within the RFP, which make residue haulage and disposal the full responsibility of the contractor. This provides for a significant and on-going financial incentive to not only minimize ash production, but to promote and engage Provincial authorities and local industry in finding local beneficial uses for the ash from the facility.
- Staff have reconfirmed their original analysis and continue to recommend EFW for disposing of Durham's post-diversion residual waste. EFW provides for a stable and viable long-term solution that can significantly reduce exposure to market uncertainties, particularly rising fuel costs and tipping fees for the long haul of waste to landfills in Ontario or other cross-border states. Landfill availability risk will be increasingly significant as landfill space is depleted, particularly in Ontario.
- The EFW, while subject to a higher up-front cost, is deemed beneficial compared to the Other Ontario Landfill option given the following:
 - The advantage of a stable long-term secure and local waste disposal option with certainty in municipal solid waste disposal for a period possibly exceeding 50 years;
 - The commitment to honour the agreement between the Ontario Minister of the Environment and GTA leaders and Michigan State Senators to stop the shipment of waste to Michigan by December 31, 2010;
 - The risks associated with relying on the construction of new landfill capacity in Ontario to accommodate the current long-term landfill shortage and the prospect of the shortage that could be caused by a future U.S. border obstruction or closure;
 - The price risks associated with the shortage of Ontario landfill options; and,
 - Significantly higher exposure to fuel/haulage costs in the absence of a local waste disposal solution.
- Further, the potential for higher annual revenues than currently reported is significant in the case of EFW, despite not being considered in this analysis or the analysis of budget and tax implications. Higher revenues are likely in the future both from a market recovery and higher ferrous and non-ferrous revenues and from future district heating revenues or higher electricity production revenues.
- In reality, inclusion of district heating capability allows stakeholders to capitalize on future opportunities associated with the district heating initiative for the Clarington Energy Business Park (CEBP). Not only will the up-front investment provide for future additional project revenues, the availability of cost-effective district heating is an attractive feature for enterprises looking to locate their businesses in the CEBP. It also provides local industries an opportunity to reduce their carbon footprint by reducing reliance on fossil fuels for heating and/or industrial processes. Any future revenues from district heating would be in addition to those from producing electricity (approximately \$8.6 million per annum under the Covanta proposal).

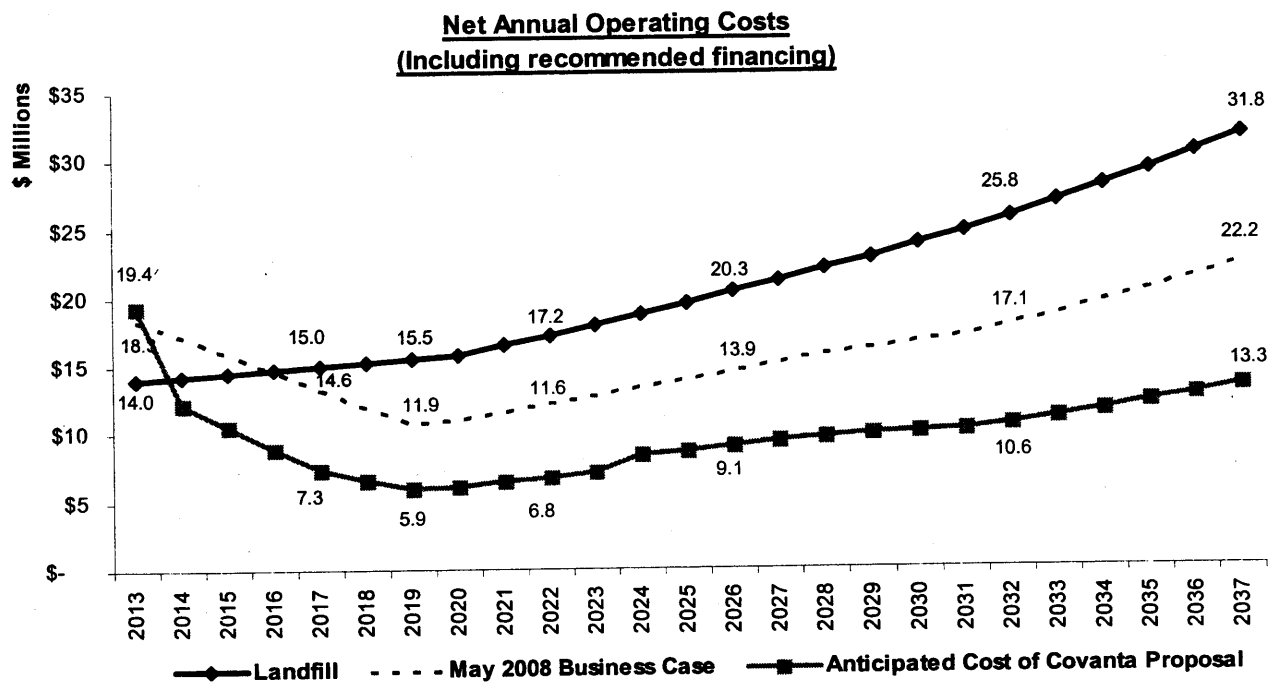
- The securities package required by the commercial terms within the RFP, which was priced by Covanta in submitting their proposal, was designed to protect the Region throughout the 20 to 30 year term of the contract. The commercial terms of the RFP also ensure a facility at industry standard at the end of the initial contract term with significant financial remedy to the Region should the facility not be handed back to the Regions at industry standard. Securities priced into the Covanta proposal, but not analyzed as part of the May 2008 Business Case analysis, include:
 - A Parent Company Guarantee providing immediate recourse to the Regions in the event of breach of contract, based on 50% of the lump sum construction price for design/build work, and 25% of the lump sum construction price for operations;
 - Recognized Surety Bonds for 50% of the lump sum construction price for performance of the design/build work, and for labour and materials and, a renewable performance bond for the operations component equal to 150% of the total annual operating fee;
 - Milestone payments as bid by Covanta, subject to work being certified by the Region's technical consultant, a project manager's certificate and subject to a standard 10% holdback under the Ontario *Construction Lien Act*;
 - Stringent facility Acceptance Test procedures to ensure a facility capable of meeting performance guarantees;
 - Liquidated Damages capable of application to non-performance, schedule delays, failure to meet Acceptance Test criteria or performance guarantees, throughput capacity or electricity production guarantees;
 - An operations performance holdback or Letter of Credit equivalent to 5% of the lump sum price (representing one-half of the Ontario *Construction Lien Act* holdback) to be released by the Regions two-years after Acceptance Test is granted and only if no issues are identified which could extend the holdback;
 - An operations performance security/renewable letter of credit equal to 50% of the annual operating fee;
 - Positive or negative adjustments to the annual operating fee for environmental performance and service level achievements, including air emissions, labour and safety issues, permits and approvals, resolution of complaints and implementation of an environmental management system consistent with ISO 14001;
 - Handback requirements, including a Letter of Credit at the end of the term equal to the amount of any deficiencies found (through an inspection and survey process), which commences three years prior to contract expiry;
 - Monthly reporting, annual inspection and service plan, and 5-year maintenance plan requirements throughout the contract term to also ensure a facility at industry standard at the end of the 20-year operating agreement; and,
 - Appropriate insurance requirements during both construction and operations.

4.3 Revisiting the Landfill Option

- Despite recent fluctuations and volatility in fuel prices, no changes were made to original transfer, haulage and disposal assumption utilized in the May 2008 business case. The assumptions utilized in the May 2008 business case are still considered conservative for long-term disposal, and are deemed to continue to be relevant to analyses for this report.
- The 2008 business case assumed current waste transfer costs based upon Durham contracts secured in 2002, and annual haulage escalation was assumed based upon Durham Region's five-year historical average escalation prior to the May 2008 business case being presented (2003 to 2007). Average Ontario diesel prices between 2003 and 2007 rose from an annual average of 66.2 cents per litre in 2003 to an annual average 95.9 cents per litre in 2007. In 2009, the average Ontario diesel price has fluctuated within this range, between 80.6 cents per litre and 90.7 cents per litre. Despite the current economic downturn, there is an anticipation going forward that we will see continuing higher energy prices and possibly even carbon taxes on fossil fuels.
- Further, haulage fuel escalation in the 2008 business case was based upon 20% of the annual diesel price index, resulting in escalation of 5.22% per year based upon the five-year historical escalation paid by the Region to contractors. Going forward, haulage contractors anticipate and price their bids based upon market risk assessment, including volatility in energy prices, and market expectations are that annual adjustments should be based upon 100% of the diesel fuel index to assist in covering this market risk. The average annual change in the diesel index between 2003 and 2007 was close to 15%, while the 2008 business case assumption for the 25-year analysis assumed 5.2% on the haulage portion and 0.75% on disposal and transfer.
- Staff have revisited the 2008 business case assumptions for transfer, haulage and disposal costs and are confident that the 2008 business case landfill cost assumptions remain conservative, particularly given current long-term forecasts for diesel and available landfill capacity.
- While noting that municipal decisions related to waste management are often challenging, Deloitte noted within their 2008 business case that the Region is to be commended for its commitment to find a local solution that ensures that its residents have control over future waste management strategies, while simultaneously promoting more progressive and environmentally sustainable behaviour. Deloitte states, the EFW option is the best option available to the Region in its efforts to reduce and divert waste and to bring stability to its waste management planning.

4.4 Budget and Property Tax Implications

- It is recommended that Federal Government Gas Tax funding be utilized to finance the EFW facility project costs. By 2010, the annual amount of Federal Gas Tax funding will be approximately \$17 million per year.
- As previously reported, use of the Federal Gas Tax money to up-front a portion of project costs will provide a faster pay down of the principle portion of the debenture costs each year. Over the long-term, with the application of energy revenues generated by the facility and potential district heating revenues in the future (excluded from the analysis), the EFW proposed by Covanta is a cost effective option not exposed to the public policy and capacity risks of a landfill option.
- Based upon the costs and financing as recommended, the following demonstrates the cash flows to the Region of Durham and compares cash flows and property tax impacts to Durham for landfill versus Covanta, including financing as recommended.



4.5 Budget and Property Tax Impacts

- The following chart compares the 2009 approved Durham Solid Waste Management disposal costs to estimated future budget disposal costs for the proposed EFW facility versus landfill, assuming application of the Region's Federal Gas Tax allocation to debt principle as recommended herein.

Disposal Cost Comparison Between EFW and Landfill

		\$ millions				Regional Tax Impact	
Year		Landfill	Covanta	Annual Variance	Cumulative Variance	Landfill	Covanta
Michigan ↓ Short Term Landfill	2009	9.5	9.5	0.0	0.0		
	2010	9.3	9.3	0.0	0.0	0.00%	0.00%
	2011	13.5	13.5	0.0	0.0	0.96%	0.96%
	2012	13.7	13.7	0.0	0.0	0.04%	0.04%
EFW ↓	2013	13.9	19.4	(5.5)	(5.5)	0.04%	1.18%
	2014	14.2	12.2	2.0	(3.5)	0.04%	-1.50%
	2015	14.5	10.6	3.9	0.4	0.07%	-0.36%
	2016	14.7	8.9	5.8	6.2	0.04%	-0.36%
	2017	15.0	7.3	7.7	13.9	0.07%	-0.32%
	2018	15.3	6.6	8.7	22.6	0.07%	-0.15%
	2019	15.5	5.9	9.6	32.2	0.07%	-0.15%
	2020	15.8	6.1	9.7	41.9	0.07%	0.04%
	2021 - 2025	89.8	37.4	52.4	94.3		
	2026 - 2030	110.0	48.1	61.9	156.2		
	2031 - 2035	134.5	55.8	78.7	234.9		
	2036 - 2037	62.0	26.1	35.9	270.8		

5.0 THE DESIGN, BUILD, OPERATE AND MAINTAIN AGREEMENT WITH COVANTA

- Subsequent to approval of Report 2009-J-18, and the identification of Covanta Energy Corporation ("Covanta") as the preferred vendor by the Regions, Staff have been actively engaged in negotiating with Covanta the final terms of a Project Agreement.
- Many of the substantive terms and conditions of the draft Project Agreement contained within the RFP-604-2008 have been agreed to by Covanta. The finalization of the Project Agreement is subject to a negotiation process between the parties to refine the document to reflect the specifics of the accepted proposal and any changes necessitated as a result of the events or decisions made subsequent to the proposal submission.
- The substantive terms of the proposed Project Agreement contained within RFP-604-2008 are set forth in the Term Sheet attached as Attachment #6.
- As noted above, staff is actively engaged in negotiating the final terms of a Project Agreement with Covanta. A number of issues remain unresolved with Covanta at the time of printing of this report. These issues include concerns expressed regarding cost escalation issues and the termination for convenience provisions contained within the draft Project Agreement. Staff continue to negotiate in good faith with Covanta with a view to reaching agreement upon the terms of a Project Agreement which is consistent with RFP-604-2008. In the event that agreement cannot be reached with Covanta on the terms of a Project Agreement, then staff will report back to Regional Council at the first Council meeting after the summer recess.

- As per the terms and conditions of the RFP, Covanta shall develop three architectural design concepts for consideration by the Regions, which will include an iterative consultation process with stakeholders, including the Regions and the Municipality of Clarington.
- Execution of the Project Agreement is legally subject to, and conditional upon, the acceptance of the Durham - York Residual Waste Study EA by the Minister of the Environment. In the event that the Durham - York Residual Waste Study EA or the facility permitting process is not successfully concluded, then notice to proceed under the Project Agreement will not be given to Covanta by the Regions.
- Upon completion of the Early Works Phase, resulting in Certificates of Approval, the project will enter in the second phase and the Regions will be in a position to provide Notice to Proceed direction to Covanta. Phase 2 will include detailed design, ordering of equipment and construction of the facility.
- Staff recommend to Regional Council that authorization to execute a Project Agreement with Covanta, substantially on the terms set out in Attachment #6 be given subject to, and conditional upon,:
 - The satisfactory approval of the Durham - York Residual Waste Study Environmental Assessment by the Minister of the Environment;
 - The execution by York Region of the proposed MOU included as Attachment #1;
 - The satisfactory conclusion to the negotiation of a final Project Agreement with Covanta on terms consistent with the requirements of RFP-604-2008, as determined by the Commissioners of Works and Finance; and,
 - The approval of the execution of the final Project Agreement by the Regional Council of the Regional Municipality of York.

5.1 Clarington Host Community Agreement (HCA)

- Regional Council directed that the Region's Chief Administrative Officer (CAO) bring forward a HCA, upon agreement by the CAO of the Municipality of Clarington, for the consideration and approval of Regional Council by June 16, 2009. For additional information on the HCA, please reference Report 2009-COW-01 "Host Community Agreement – The Regional Municipality of Durham and the Corporation of the Municipality of Clarington" included in the same agenda. It is estimated that the HCA will add \$10.8 million to Durham's share of the Project Costs.

5.2 Payment in Lieu of Taxes

- Municipal Property Assessment Corporation (MPAC) will not guarantee a future classification and will only determine the property tax classification and assessment when the EFW facility is in operation and ready to be assessed. However, staff are confident that the EFW property will be subject to payment in lieu of taxes (PIL) as contemplated by the Regions and Clarington, given that the ownership, use and occupancy of the facility are deemed to meet all requirements of section 3.(1)9 and section 27 of the Assessment Act.

- It is proposed that the EFW land will be owned by Durham as an upper-tier municipality. Section 3.(1)9 of the Assessment Act provides property tax exemption for land owned by upper-tier municipalities. The exemption is subject to section 27 that outlines the criteria under which land owned by a municipality is subject to a PIL with respect to public utility land.
- An Energy From Waste facility is a public utility within the meaning of the Municipal Affairs Act (ref. subsection (1)) which includes "a site for the disposal, transfer, reduction, reuse or recycling of waste." Based on this, the Regions will be required to pay annually to Clarington, "an amount equal to the taxes for municipal and school purposes that would be payable if the land and buildings were taxable and classified in the commercial property class."
- Staff see no reason why the PIL arrangement (full commercial classification) should not result from the EFW facility as recommended.

6.0 EXPROPRIATION OF LANDS NECESSARY FOR SERVICING

- Service land surrounding the proposed EFW facility, more particularly described in Attachment #2, is required to prevent incompatible development from occurring in the immediate vicinity of the site.
- Acquisition of service land will also allow Durham to comply with several of the tentative commitments contained within the draft HCA. The required property has been identified and appraisals have been ordered to determine the fair market value of the parcels.
- Staff will negotiate with the property owner(s) in an attempt to acquire the necessary lands by way of agreement. However, should these negotiations fail, this approval will permit staff to commence expropriation proceedings to ensure that the timelines are met to allow the acquisition to proceed. Staff will report further prior to the Regional Municipality of Durham's publication of the Notice of Intention to Expropriate, pursuant to the Expropriations Act R.S.O. 1990 Chapter E.26.
- Staff recommend to Regional Council that approval be granted to initiate expropriation proceedings for the above described lands.

7.0 POWER PURCHASE AGREEMENT

- One of the attributes for the proposed Energy From Waste (EFW) Facility, is the ability to generate electricity which can be sold back into the provincial energy distribution grid. The benefits of doing so are self-evident. This provides a revenue stream from the EFW Facility offsetting, to an extent, the annual costs. In addition, this provides the ability to generate needed baseload electricity for the Province of Ontario from a product which would otherwise be trucked long distances and buried in landfill.

- Staff pursued the issuance of a Ministerial Directive from the Ministry of Energy and Infrastructure for the purchase of the power from the proposed EFW Facility. On December 19, 2008, Minister Smitherman, signed a Directive to the Ontario Power Authority (OPA) to enter into negotiations with the Regions for the purchase of electricity generated by the proposed EFW Facility at the rate of Eight Cents per kilowatt/hour (\$0.08/KWhs).
- Subsequent to the issuance of the Directive, staff and consultants have been negotiating the terms of a power purchase agreement with the OPA for the EFW Facility. These negotiations have recently resulted in a tentative agreement between the staff of the OPA and staff on the substantive terms of the power purchase agreement. The agreement must be approved by the Board of Directors for the OPA prior to execution. Approval and execution of the power purchase agreement by the Regions is subject to approval of the Durham-York Residual Waste Study Environmental Assessment.
- The relevant terms of the proposed power purchase agreement with the OPA are as follows:
 - The Regions shall be paid the sum of eight cents (\$0.08) per kWh for net electricity generated by the EFW Facility (the "Contract Price");
 - 35% of the Contract Price shall be indexed to the percentage increase or decrease of the Consumer Price Index. The Contract Price for any given year shall be the sum of the indexed portion and the un-indexed portion of the Contract Price;
 - The Regions are permitted to generate and sell between 10 and 45 MW of electricity to the OPA under this power purchase agreement;
 - Permissible fuel use for the EFW Facility is restricted to the scope of permissible waste set out in the Durham - York Residual Waste Study Environmental Assessment, providing that natural gas may be used during start-up or shut-down for the EFW Facility and when required to maintain furnace stability and temperature;
 - Any financial incentive received from any program from any federal or provincial governmental authority which provides a payment directly related to the production of kWhs of electricity will be shared equally with the OPA;
 - The EFW Facility be located at Clarington Site 01 in the Municipality of Clarington;
 - No change to the generation facility (as that term is defined in the agreement) may be made without notification and approval of OPA;
 - The OPA must be notified and consulted prior to any material change to the EFW Design, Build, Operations agreement, the Operator or any event or circumstance that could reasonably be expected to have a material effect on the Project Agreement;
 - The OPA must consent to any change of the electricity output of the EFW Facility resulting in generation capacity of the facility being less than 10 MW or in excess of 45 MW, which consent may not be unreasonably withheld;
 - The Regions commit to attain commercial operation of the generation facility within five years of the date of execution of the power purchase agreement failing which liquidated damages in the amount of \$65/MW multiplied by the nameplate capacity of the EFW Facility for each day after the fifth anniversary until commercial operation is achieved;

- Liquidated damages related to a failure to attain commercial operation are capped at \$33,000/MW ($33,000 \times 20 = \$660,000$);
 - The EFW Facility is to be owned only by Regions of York and Durham and/or any wholly owned municipal utility or municipal business corporation;
 - Any environmental attributes allocated or credited to the generation portion, as opposed to the waste portion, of the EFW facility shall be qualified and registered by the Regions at their cost and shall be the entitlement of the OPA;
 - The Regions must post with the OPA on or before the date of execution to the date of commercial operation Completion and Performance Security in an amount equal to \$33,000 per MW of nameplate capacity for the EFW Facility ($\$33,000 \times 20 \text{ MW} = \$660,000$). Upon the date of Commercial Operation the Completion and Performance Security in an amount equal to \$25,000 per MW of nameplate capacity for the EFW Facility ($\$25,000 \times 20 \text{ MW} = \$500,000$). The Completion and Performance Security may be satisfied by the production of an irrevocable letter of credit or other security acceptable to the OPA;
 - A detailed list of events of default entitle the OPA to exercise a variety of remedies up to, and including termination of the power purchase agreement; and
 - The Regions each indemnify and hold the OPA, Province of Ontario from any liability and/or costs or expenses arising out of the operation of the EFW Facility.
- Regional Staff and Consultants are satisfied that the substantive terms of the power purchase agreement described above meet the requirements of the Minister's Directive. Staff recommend to Regional Council that authorization to execute the power purchase agreement with the OPA be given to the Regional Chair and Clerk subject to the satisfactory approval of the Durham - York Residual Waste Study Environmental Assessment by the Minister of the Environment.
 - As the Regions are required to post completion and performance security with the OPA upon the execution of the power purchase agreement, it is recommended that the Commissioner of Finance be authorized to obtain and provide said security, as and when required, to the OPA.

8.0 DURHAM - YORK MEMORANDUM OF UNDERSTANDING

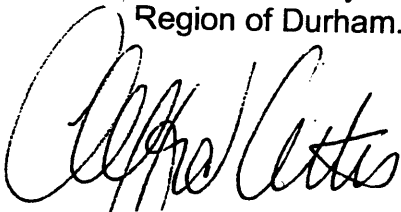
- Durham and York Regions agreed to partner in 2005 upon an Individual Environmental Assessment, the Durham - York Residual Waste Study Environmental Assessment, to study residual waste management options for the two Regions. As a result of that decision the two Regions executed a Memorandum of Understanding ("MOU") regarding their respective roles in regards to the conduct of the Durham - York Residual Waste Study Environmental Assessment.
- In order to complete the Durham - York Residual Waste Study Environmental Assessment, it was necessary to identify and retain a preferred technology vendor in order to obtain access to the details of the proprietary technology required to complete the site specific studies and analysis. Durham and York Regions agreed that the procurement process would be conducted by Durham Region. Additional details regarding the process have previously been provided to Regional Council in Report 2009-J-18.

- The identification of Covanta Energy Corporation as the preferred technology vendor has enabled the Regions' staff and consultants to complete the draft Durham - York Residual Waste Study EA. In light of the anticipated direction to submit the EA documentation to the Ministry of the Environment, it is now the appropriate time for the Regions to review their respective obligations in the next phase of this project. This will be done through the execution of a new MOU addressing each of the Regions rights and obligations with respect to the ownership, design, construction and operation of the EFW Facility.
- As reported previously, senior staff from both Regions have met on numerous occasions to discuss the proposed terms of a new MOU. Recently, a tentative agreement was reached which is being submitted for approval to both Regional Councils. Attachment #1 is the draft MOU with the Regional Municipality of York for review and approval by Regional Council. This same document is being submitted for review and approval to the Council of the Regional Municipality of York on June 25th, 2009.
- The relevant terms of the proposed MOU are as follows:
 - Ownership of the processing capacity of the EFW Facility shall be split between Durham and York on the basis of their respective waste tonnage commitments. Durham is responsible for the provision of 100,000 tonnes of waste per year and York is responsible for 20,000 tonnes per year. The additional 20,000 tonnes of surplus processing capacity shall be owned and shared equally by Durham and York. Therefore the anticipated total interest of each of the parties in the EFW Facility itself shall be Durham - 11/14ths and York - 3/14ths;
 - The capital contribution of each Region to the costs for the design and construction of the EFW Facility shall be determined by expressing the Regions' ownership as a percentage of the total processing capacity of the EFW Facility as of the commencement of its operations (i.e York 21.4%, Durham 78.6%). Each Region shall be responsible for payment of its respective share of the capital costs;
 - The cost of oversizing capital infrastructure for the EFW Facility shall be shared equally;
 - Annual revenues and net operating costs for the EFW Facility shall likewise be shared on the basis of the overall ownership of processing capacity of the EFW Facility as of the commencement of its operations (i.e York 21.4%, Durham 78.6%). Each Region shall be responsible for payment of its respective share of the net operating costs;
 - York Region shall not be entitled to send waste pellets or waste derived fuel to the EFW Facility;
 - Expansion of the EFW Facility shall be generally paid for by the party requiring said expansion and it shall be subject to a number of requirements.
 - Any party contributing to the capital cost of expanding the EFW Facility shall be entitled to an increase in its ownership interest commensurate with the percentage increase in processing capacity of the EFW Facility which it is funding;
 - At no time may York Region's interest in the EFW Facility exceed 50% unless agreed to by the Councils for both Regions;

- Oversight of the EFW Facility shall be undertaken through a Management Committee made up of senior staff members from both Regions;
 - Host community costs are generally to be shared between the Regions on the basis of their proportionate contribution towards the capital costs of the EFW Facility; and,
 - A more detailed Co-Owner's Agreement shall be developed governing the relationship between the Regions in relation to the EFW Facility.
- Staff recommend that the aforementioned draft MOU be approved for execution by the Regional Chair and Clerk.

9.0 **CONCLUSIONS AND NEXT STEPS**

- Since the May 2008 Business case was presented and the RFP process approved, staff have successfully attained:
 - A preferred bidder and technology;
 - Tentative agreement on a Power Purchase Agreement with the OPA at a price better than the estimated fixed 8 cents per kWh;
 - A HCA with the Municipality of Clarington; and,
 - An MOU with York Region based upon previous Regional Council direction.
- These key steps have been achieved within the scope of the 2008 business case.
- Regional staff reconfirm the previous recommendation to proceed with the EFW project. Staff continue to negotiate in good faith with Covanta with a view to reaching agreement upon the terms of a Project Agreement which is consistent with RFP-604-2008. In the event that agreement cannot be reached with Covanta on the terms of a Project Agreement, then staff will report back to Regional Council at the first Council meeting after the summer recess.
- Overall, the Environmental Assessment study has concluded that the proposed Energy-from-Waste facility can be constructed, operated and closed in an environmentally safe and acceptable manner in the Municipality of Clarington, Region of Durham.



C.R. Curtis, P.Eng. M.B.A.
Commissioner of Works



R.J. Clapp, CA
Commissioner of Finance

Recommended for Presentation to Committee



G.H. Cubitt, MSW
Chief Administrative Officer

Attmts.

ATTACHMENTS

Attachment #1 – Memorandum of Understanding (MOU) with the Region of York

Attachment #2 – Site Plan

Attachment #3 – RFP-604-2008 Addendum #34

Attachment #4 – Report of the Fairness Monitor KPMG

Attachment #5 – Deloitte Peer Review Letter

Attachment #6 – Project Agreement Term Sheet

Attachment #7 – Durham -York Residual Waste Study Environmental Assessment



**ENERGY FROM WASTE ("EFW")
MEMORANDUM OF UNDERSTANDING**



This Memorandum of Agreement dated the day of

2009 is made

B E T W E E N:

THE REGIONAL MUNICIPALITY OF DURHAM

("Durham")

-and-

THE REGIONAL MUNICIPALITY OF YORK

("York")

RECITALS

WHEREAS:

- (a) Durham and York have jointly agreed to participate in an individual environmental assessment (the "EA") to identify a preferred method or methods for processing the waste that remains after the application of Durham's and York's at-source waste diversion programs in order to recover resources and to minimize the amount of waste requiring landfill; and
- (b) Durham and York entered into a memorandum of understanding regarding the conduct of the Durham/York Residual Waste Environmental Assessment Study; and
- (c) The EA process is at a stage where the preferred technologies have now been identified as being the Thermal Treatment of Mixed Solid Waste and Recovery of Energy followed by the recovery of Materials from the Ash/Char; and
- (d) The EA process is now at a stage where additional matters are required to be evaluated by the Regions in order to assess the merits in proceeding with the EFW project; and
- (e) Durham and York wish to enter into a new memorandum of understanding governing the next steps in the EFW project including (i) the preparation and issuance of a request for proposals designed to select a technology provider to implement the preferred technologies/systems identified in the EA; (ii) defining the processes through which the necessary approvals for a functioning EFW

Facility will be obtained; and, (iii) defining the ownership model for the EFW Facility and the future contractual arrangements between the Regions regarding capacity.

NOW THEREFORE Durham and York agree as follows:

INTERPRETATION

Definitions

1. In this Memorandum of Understanding and in the recitals above,
 - (a) **"Change of Law"** means the enactment or amendment of any law on or after the date of execution of this Memorandum of Understanding which imposes requirements respecting the design, construction or operation of the EFW Facility contemplated by this Memorandum of Understanding which are materially more stringent than the requirements which existed immediately before the change;
 - (b) **"Co-Owners' Agreement"** means the agreement to be negotiated between York and Durham governing all aspects of the operations of the EFW Facility;
 - (c) **"Durham"** means The Regional Municipality of Durham acting as a body corporate and, where the context requires, includes all employees, officers, servants and agents of The Regional Municipality of Durham;
 - (d) **"EA MOU"** means the Residual Waste Management Environmental Assessment Study Memorandum of Understanding previously executed by the parties;
 - (e) **"Energy From Waste"** ("EFW ") means the thermal treatment of mixed solid waste and the subsequent recovery of energy followed by the recovery of materials from the ash/char for processing;
 - (f) **"Facility"** means the buildings, structures and equipment to be constructed for the thermal treatment of mixed solid waste;
 - (g) **"Host Community Agreement"** means an agreement with the lower tier municipality where the EFW Facility is proposed to be sited, which agreement is designed to address their concerns;
 - (h) **"Host Region"** means the Region within which the Facility is determined to be sited;
 - (i) **"Law"** means a statute or regulation of Ontario, or a statute or regulation of Canada applicable in Ontario;

- (j) **"Management Committee"** means the Management Committee as further described in Section 28;
- (k) **"Memorandum of Understanding"** means this Memorandum of Understanding;
- (l) **"Milestone"** means a project milestone set out in Section 26;
- (m) **"Municipal Solid Waste"** means that waste which remains subsequent to the Regions' at-source waste diversion programs;
- (n) **"Nameplate Capacity"** means the maximum capacity of the EFW Facility before taking into account the actual operational limitations (i.e. maintenance downtime);
- (o) **"Net Operating Cost"** means the total annual operating cost of the EFW Facility, including contributions to any capital replacement reserve, less all revenue including revenues from the sale of capacity, electricity, steam and recovered materials;
- (p) **"Processing Capacity"** means the annualized throughput processing capacity of the EFW Facility which is typically 88% of the Nameplate Capacity;
- (q) **"Project"** means all processes leading up to, and including, the design, construction, and operation of an EFW Facility;
- (r) **"Study"** means the Durham/York Residual Waste Environmental Assessment Study or such other environmental screening process as may be undertaken by the parties;
- (s) **"Surplus Capacity"** means the additional capacity of 20,000 tonnes as further defined in Section 10; and
- (t) **"York"** means The Regional Municipality of York acting as a body corporate and, where the context requires, includes all employees, officers, servants and agents of The Regional Municipality of York.

References

- 2. Unless otherwise specified, references in this Memorandum of Understanding to Sections and Schedules are to Sections and Schedules in this Memorandum of Understanding.
- 3. Reference to any statute or statutory provision includes reference to that statute or statutory provision as from time to time amended, extended or re-enacted.

PURPOSE OF THE MEMORANDUM OF UNDERSTANDING

4. Durham and York jointly share the belief that there is the interest, ability and capacity within the two Regions sufficient to establish and operate an EFW Facility to service the waste generation needs of the Regions and possibly other communities in the future.
5. York and Durham recognize that despite their different interests and needs with respect to the construction and operation of an EFW Facility, they both have an interest in seeing the EA process successfully concluded leading to the approval for the construction and operation of an EFW Facility.
6. Durham and York have entered into this Memorandum of Understanding in order to recognize their partnership in the conduct of the EA process for the EFW Facility, and to recognize the arrangements between them with respect to the approvals, construction, ownership, use and operation of the EFW Facility.
7. Durham and York agree that this Memorandum of Understanding is contemporaneous with, and does not derogate from, the provisions of the EA MOU which address the conduct of the Study. In the event of conflict between this Memorandum of Understanding and the EA MOU, then the provisions of the EA MOU shall be deemed to be paramount.

PARTNERSHIP PRINCIPLES

8. Durham and York acknowledge and agree that the EA identifies a maximum potential Processing Capacity for the EFW Facility of 400,000 tonnes a year of Municipal Solid Waste.
9. Durham and York agree that the capital infrastructure servicing the EFW Facility shall be sufficiently oversized during construction of the initial Processing Capacity of the EFW Facility with a view to ensuring, where deemed financially prudent, that it is capable of servicing the maximum Processing Capacity of the Facility as set out in Section 8. The parties agree that the cost of any capital infrastructure servicing the EFW Facility oversized during the construction of the initial Processing Capacity to accommodate future expansion shall be shared equally. Without limiting the generality of the foregoing, it is agreed that the cost of oversizing water and sewer connections to the EFW Facility and installing a tip floor/storage pit for a minimum of four days storage, will be shared equally by Durham and York.
10. Durham and York agree that the initial Processing Capacity required by the Regions for the EFW Facility is an annual throughput of 140,000 tonnes of Municipal Solid Waste (the "Base Tonnage"). Durham and York acknowledge that in order to achieve the initial Processing Capacity, it is necessary to design and construct a facility with a Nameplate Capacity of approximately 160,000

tonnes per year. Durham and York agree that a ownership of the initial Processing Capacity in the EFW Facility shall be as follows:

- (a) 20,000 tonnes per year by York;
- (b) 100,000 tonnes per year by Durham; and,
- (c) An additional 20,000 tonnes per year of surplus capacity to be owned and shared equally by York and Durham (the Surplus Capacity”).

As a result, the parties shall endeavour to construct a Facility sufficient to meet these requirements based upon the cost sharing principles set forth herein.

- 11. York shall not deliver waste pellets or waste derived fuel to the EFW Facility.

CAPITAL COSTS

- 12. It is a principle of the partnership between Durham and York that they shall own the Facility, in partnership with one another, and shall contribute to the capital cost of the design and construction of the Facility based on their respective shares of the Base Tonnage and Surplus Capacity. York and Durham’s initial ownership interests and capital contribution shall be determined by expressing their ownership interests in Section 10 as a percentage of the total Processing Capacity of the EFW Facility as of its commencement of operations (i.e. York: 21.4%, Durham 78.6%). Any adjustment to each Region’s proportionate ownership in the EFW Facility shall be made only on the basis of additional capital contributions, if any.
- 13. It is a principle of this Memorandum of Understanding that the cost of any upgrades to the equipment or processes of the existing operations of the EFW Facility, or any additional costs necessary to maintain the ongoing capability of the EFW Facility which are necessitated by virtue of a change in law shall be shared by the parties on the basis of their then existing respective ownership interests in the EFW Facility.
- 14. Neither party hereto shall sell, assign, encumber or transfer its ownership interest in the EFW Facility without the prior written consent of the other party.
- 15. Neither party shall encumber the EFW Facility as security for any of its obligations herein.

OPERATING COSTS

- 16. York shall be responsible for paying the operating costs for a minimum of 30,000 tonnes per year of Processing Capacity in the EFW Facility during its 25 year operating term and Durham shall be responsible for paying the operating costs for

a minimum of 110,000 tonnes per year of Processing Capacity in the EFW Facility during its 25 year operating term.

17. deleted
18. It is a principle of this Memorandum of Understanding that each party shall have the right to use any Base Tonnage or Surplus Capacity not reasonably required by the other party. If either Region borrows any Base Tonnage or Surplus Capacity from the other party, the parties' respective proportionate share of operating costs for the EFW Facility as set out in Section 16 shall be adjusted accordingly for the period of time that the Processing Capacity is borrowed. Durham and York shall address in the Co-Owners' Agreement the mechanism and terms upon which the borrowing of any capacity in the EFW Facility shall be equitably determined.

EXPANSION OF THE EFW FACILITY

19. The parties agree that in the future either party hereto may require access to, and use of, additional capacity in the EFW Facility up to the maximum potential Processing Capacity of the Facility. The principles set out in Section 20 below shall govern how such expansions of the Processing Capacity of the EFW Facility shall be undertaken by the parties.
20. The parties agree that the Co-Owners' Agreement shall address the expansion of the Processing Capacity of the EFW Facility in the future (an "Expansion"). Any Expansion shall, at a minimum, be based upon the following principles:
 - (a) The Expansion shall be premised upon the requirements of the party seeking to expand the EFW Facility to dispose of its own Municipal Solid Waste and not the requirements for the disposal of waste from any other municipality or entity;
 - (b) An Expansion shall not be permitted if such Expansion would prejudice the ongoing capability of the EFW Facility to service the requirements of the other party hereto, or any entity which may have a service contract with either Region;
 - (c) The party seeking the Expansion shall be solely responsible for the conduct, and cost of, any and all processes necessary to obtain regulatory approvals for the Expansion, provided, however, that the other party shall be entitled to status as a co-proponent in connection therewith and provided that the Expansion is for the exclusive benefit of the initiating party, failing which costs shall be shared based on each party's proportionate share of the increased capacity;
 - (d) The party seeking the Expansion shall be solely responsible for all costs related to the Expansion including, without limitation, capital construction costs, equipment, land acquisitions, consultants' costs, additional host

community costs and impacts upon energy revenues, provided that the Expansion is for the exclusive benefit of the initiating party, failing which costs shall be shared based on each party's proportionate share of the increased capacity;

- (e) Any upgrades to the equipment or processes of the existing operations of the EFW Facility, or any additional costs necessary to maintain the ongoing capability of the EFW Facility which are necessitated by an Expansion which would not otherwise have been required at that time, shall be solely borne by the party seeking the Expansion. Provided that :
 - (i) should the upgrades subsequently become a requirement by virtue of a change of law within five (5) years of the completion of construction of the upgrade; or, (ii) should the non-contributing party undertake any expansion or activity which would have necessitated the upgrade within five (5) years of the completion of construction of the upgrade; or, (iii) should the non-contributing party derive any financial benefit which is directly attributable to the upgrade, the non-contributing party shall then contribute its proportionate share of the capital cost of the upgrade.
- (f) Any party contributing to the capital cost of the Expansion shall be entitled to an increase in its ownership interest in the EFW Facility commensurate with the percentage size of the increased capacity which it is funding.
- (g) Unless otherwise agreed by the Councils for Durham and York, at no time shall York's interest in the EFW Facility exceed 50%.

GENERAL

- 21. The parties recognize that Durham is the lead partner in the design, construction and approval of the initial Processing Capacity of the EFW Facility. As such, unless otherwise agreed between the parties, Durham shall be the primary decision maker with respect to issues concerning the Project including, without limitation, directing consultants, communications, discussions regarding power purchase arrangements, negotiations for a Host Community Agreement, and siting of the EFW Facility. Provided that Durham undertakes to consult with York if any proposed term of the Host Community Agreement would result in additional costs to York.
- 22. Subject to York Council's decision regarding its continuing involvement in the Project, York shall continue to be publicly supportive of the Project and shall assist Durham in its endeavours in proceeding with the Project, and ensuring necessary approvals.
- 23. The parties hereto agree that Durham will be responsible for the issuance and conduct of the Request for Proposals.

24. York and Durham shall be entitled to have equal representation upon the technical evaluation committee charged with evaluating the submissions to the Request for Proposals, commensurate with its commitment set out in Section 29.
25. The parties agree that the Host Region will be responsible for executing a Host Community Agreement with the lower-tier municipality in which the EFW Facility is to be sited.

PROJECT MILESTONES

26. Set forth below are those significant Milestones wherein representatives from each Region will seek direction from their respective Councils regarding their continued participation in the Project:
 - (a) The staff recommendation to the respective Regional Councils of the execution of a negotiated contract with the preferred Proponent for the design, construction and operation of the EFW Facility.
27. Contemporaneous with the reports to the respective Regional Councils triggered by the achievement of a Milestone set forth above, the senior Works or Environmental Services Department representative for each respective Region will identify to their Councils that said Milestone represents an opportunity to decide whether to continue with the arrangements envisioned herein or to terminate the Memorandum of Understanding and proceed otherwise.

FACILITY MANAGEMENT

28. The development and operations of the EFW Facility shall be overseen by a management committee (the "Management Committee") comprised of the Durham and York Chief Administrative Officers, Commissioners of Works or Environmental Services, Commissioners of Finance and Regional Solicitors, or their designates. The Management Committee's role and responsibilities shall be more particularly set out in the Co-Owners' Agreement. The parties agree that the general principles governing the Management Committee shall include the following:
 - (a) The Management Committee shall be empowered to establish such working groups or sub-committees as deemed necessary to address specific issues. All such working groups, or sub-committees, will report back to the Management Committee.
 - (b) The quorum for meetings of the Management Committee shall be six, with a minimum of three members from each Region being present.

- (c) Meetings of the Management Committee shall take place quarterly, or otherwise in accordance with a schedule established from time to time by the Management Committee, commencing after the date of execution of this Memorandum of Understanding. The location of the meetings of the Management Committee shall be in Durham unless otherwise agreed.
- (d) The Management Committee shall act by consensus. In the event that the Management Committee cannot achieve a consensus on any issue then either party may exercise the Dispute Resolution processes set out herein in order to achieve a decision.
- (e) The Management Committee shall ensure that appropriate procedures are implemented to ensure that meeting agendas and all relevant background material are circulated to all members of the Management Committee a sufficient time in advance of a meeting date in order to ensure that each Region has had sufficient time to give due and appropriate consideration in advance of the meeting to the issues on the agenda.
- (f) Any decision made by the Management Committee having financial ramifications, will require approval by York and Durham pursuant to their own budget management policies and procedures.
- (g) The Management Committee will work to develop the fundamental principles upon which the Co-Owners' Agreement will be based for a term of 25 years.
- (h) The Management Committee shall meet on or before September 1, 2009.

FINANCIAL

- 29. It is a fundamental principle of this Memorandum of Understanding that, for its duration, all costs incurred by either Region related to the EA, and other costs as agreed between the parties, shall be shared equally between the parties. For greater clarity, these costs shall include the cost of conducting public EA meetings, consultants for EA meetings, all environmental studies required by the Ministry of the Environment as part of the EA submission, negotiation of power purchase agreements, development and evaluation of the RFP, negotiation of the form and content of the design build agreement and development of community host agreements. The Regions shall participate equally in establishing the scope and budget for all external consultants.
- 30. Except as otherwise provided herein, all costs related to the site preparation and development, including all infrastructure and services ancillary to the Facility, the construction of the Facility and the cost of any capital works on or off site of the Facility which are required as a term of the Host Community Agreement or as a condition of obtaining political support or municipal approvals from the Municipality of Clarington, shall be shared by the Regions according to their

proportionate contribution to the capital cost of the Facility. Notwithstanding the aforesaid, the Regions agree to share equally the cost of the following capital costs; the cost for constructing a watermain loop to service the EFW Facility, the costs related to a storm water management pond sufficient to accommodate the requirements for the Clarington Energy Park, and the costs related to the private laneway on site to accommodate truck access.

31. The parties agree that any costs which relate to the detailed design of the EFW Facility which are incurred in advance of the site preparation and development and construction thereof shall be shared by the Regions according to their proportionate contribution to the capital cost of the Facility.
32. The parties agree that host community costs, which shall be deemed to include any peer review costs incurred subsequent to the execution of a Host Community Agreement, shall be shared by the Regions according to their proportionate contribution to the capital cost of the Facility.
33. Durham and York staff time and in-house resources spent on the EFW Project shall be the sole responsibility of each respective Region.
34. York shall be consulted by Durham in the retention of all consultants related to the EFW Project. Durham shall ensure that a York has an equal opportunity to communicate with and receive work product from all consultants related to the EFW Project.

GENERAL MATTERS

Term

35. This Memorandum of Understanding shall commence on the date that it is last signed by one of the parties hereto.
36. This Memorandum of Understanding shall terminate upon the happening of one of the following:
 - (a) the execution of a Co-Owners' Agreement between the Regions which specifically indicates that it governs the relationship between them in connection with the Project and that it supersedes this Memorandum of Understanding;
 - (b) upon either party providing written notice to the other within 60 days after the achievement of a Milestone indicating their intention to terminate.
37. Notwithstanding the foregoing, nothing herein shall change the obligation imposed in the EA MOU upon the terminating party to be responsible for all costs incurred in amending the EA's Terms of Reference in order to permit the environmental assessment to continue post termination. In the event that this

Memorandum of Understanding is terminated and both Regions choose to continue with an individual EA process or other screening process, then both Regions shall bear their own costs related thereto.

General

38. This Memorandum of Understanding shall not be assigned by either party without the prior approval of the other.
39. This Memorandum of Understanding enures to the benefit of and binds the parties and their respective successors and permitted assigns.
40. No amendment to this Memorandum of Understanding shall be effective unless it is in writing and signed by both parties.
41. Any collection, use, disclosure, retention and destruction of personal information under this Memorandum of Understanding will be in conformity with the requirements of the *Municipal Freedom of Information and Protection of Privacy Act*, R.S.O. 1990, c.M.56 and the *Personal Information and Protection of Electronic Documents Act*, S.C. 2000, c.5.

Dispute Resolution

42. Any disputes or differences of opinion arising between the parties which concern or touch upon the validity, construction, meaning, performance or effect of this Memorandum of Understanding, shall first be mediated within a sixty (60) day time period prior to any dispute proceeding to arbitration. The parties shall determine a mutually agreeable location for the mediation to be conducted. The parties shall make all reasonable efforts to resolve their disputes by amicable negotiations and agree to provide, without prejudice, frank, candid, and timely disclosure of relevant facts, information, and documents to facilitate these negotiations. Any resolution of the dispute in mediation shall be kept confidential by all parties.
43. By giving a notice in writing to the other party, not later than ten (10) working days after the date of termination of the mediated negotiations, all matters remaining in dispute between the parties shall then be referred to the arbitration of a single arbitrator, if the parties agree upon one, otherwise to three arbitrators, one to be appointed by each party and a third to be chosen by the first two named before they enter upon an arbitration. The award and determination of the arbitrator or arbitrators or two of the three arbitrators shall be binding upon the parties and their respective heirs, executors, successors, administrators and assigns.

Notices

44. Any notice required herein shall be in writing and shall be delivered to the following addresses:

The Regional Municipality of Durham
605 Rossland Road East
Whitby, Ontario
L1N 6A3

Attention: Regional Clerk
Fax No. (905) 668-9963

The Regional Municipality of York
17250 Yonge St.
Newmarket, Ontario
L3Y 6Z1

Attention: Regional Clerk
Fax No. (905) 895-3031

IN WITNESS WHEREOF Durham and York have executed this Memorandum of Understanding.

) **THE REGIONAL MUNICIPALITY OF**
) **DURHAM**
)
)

) _____
) Name: Roger Anderson
) Title: Regional Chair
)
)

) _____
) Name: Pat Madill
) Title: Regional Clerk
)
)

) I/We have authority to bind the
) Corporation
)
)

) **THE REGIONAL MUNICIPALITY OF YORK**
)
)

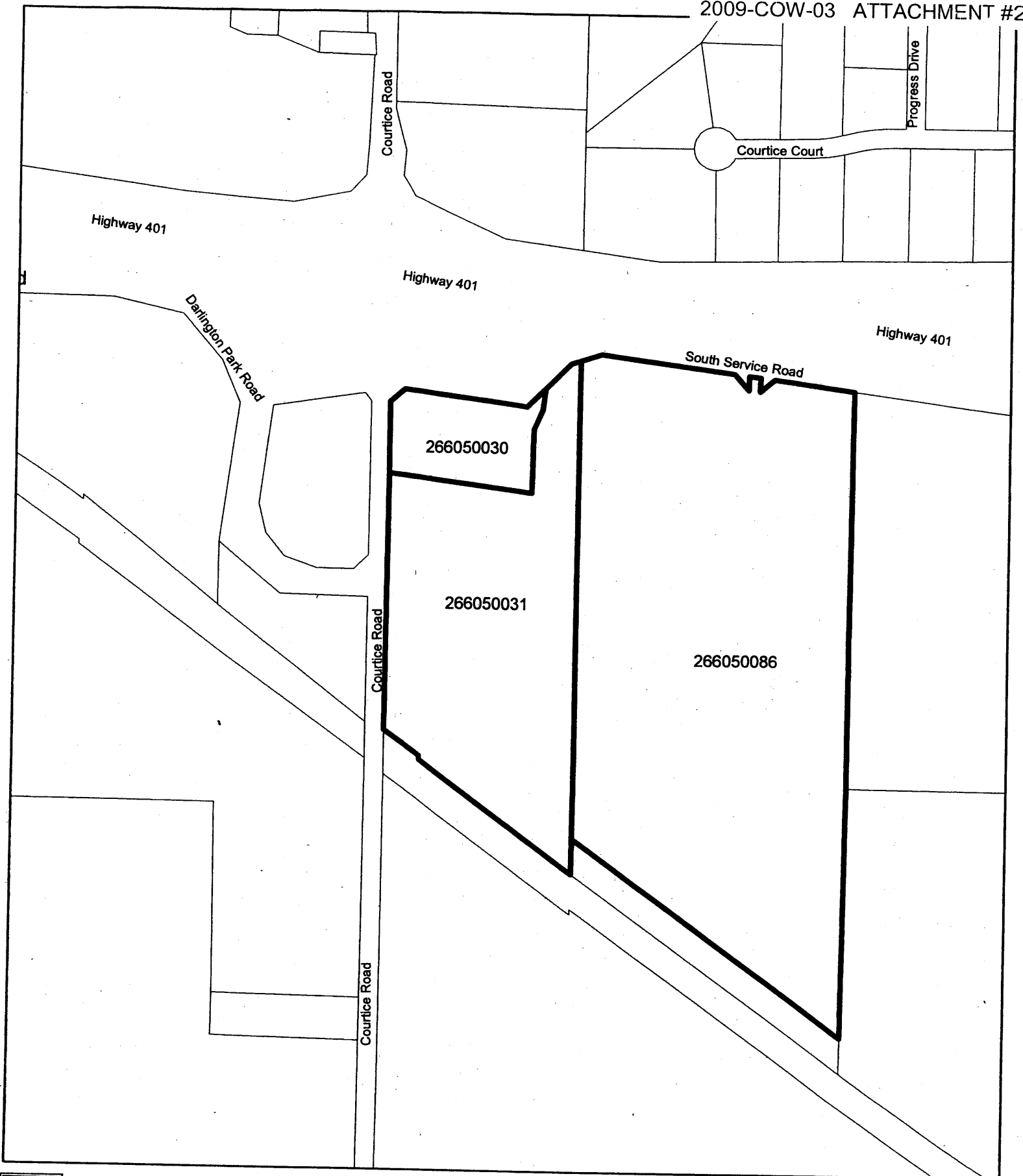
) _____
) Name: Bill Fisch
) Title: Regional Chair
)
)

) _____
) Name: Denis Kelly
) Title: Regional Clerk
)
)

) I/We have authority to bind the
) Corporation
)

Authorized by Private Report of the
Commissioner of Environmental Services
adopted by Regional Council at its meeting on
, 2009.

Solicitor Approved:



**The Regional Municipality of Durham
Works Department**
This map has been produced from a variety of sources.
The Region of Durham does not make any representations
concerning the accuracy, timeliness, or reliability of the use
of the materials. The Region hereby disclaims all representations
and warranties.
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ORTHOPHOTOGRAPHY, 2008 provided by
the Regional Municipality of Durham

**Properties of Interest
South Service Road and Courtice Road
Municipality of Clarington**



1:5,000



THE REGIONAL MUNICIPALITY OF DURHAM
AND
THE REGIONAL MUNICIPALITY OF YORK

REQUEST FOR PROPOSALS RFP-604-2008

TO DESIGN, BUILD, OPERATE AND MAINTAIN AN ENERGY FROM WASTE
FACILITY

ADDENDUM #34 – JANUARY 19, 2009

This addendum will form a part of the Proposal Documents for the above-noted proposal and shall be read in conjunction therewith. This addendum will take precedence over all requirements of the original Proposal Documents and any addenda issued previously. Bidders shall acknowledge receipt of this addendum by signing and returning it with the completed Proposal submitted. If, in the opinion of the Regions, the addendum issued affects the price of the proposal and the addendum is not returned or acknowledged, then the proposal submitted will be deemed non-compliant and rejected. If, in the opinion of the Regions, the addendum does not affect the proposal price and it is not submitted with the proposal or acknowledged, the bidder will be allowed two working days to submit the missing signed addendum to the Region of Durham Purchasing Section.

Please note the following changes/clarifications:

Remove: Section 5.3.3 - Evaluation of Technical Elements
Section 5.3.4 - Evaluation of Project Delivery Elements
Section 5.3.5 - Evaluation of Cost and Commercial Elements

Replace With: Section 5.3.3 (Revised) - Evaluation of Technical Elements
Section 5.3.4 (Revised) - Evaluation of Project Delivery Elements
Section 5.3.5 (Revised) - Evaluation of Cost and Commercial Elements

I/we hereby acknowledge receipt of this addendum.

Signed (Must be Signing Officer of Firm)

Position

Name of Firm

REGIONAL MUNICIPALITIES OF DURHAM AND YORK **RFP-604-2008**
TO DESIGN, BUILD, OPERATE AND MAINTAIN AN ENERGY FROM WASTE FACILITY
SECTION 5

5.3.3 (Revised) - Evaluation of Technical Elements:

TECHNICAL ELEMENTS

TOTAL OF 45 POINTS

Environmental & Performance Considerations

25 Points

- Air – RFP Form 4 section 8 - points awarded based on number of pollutant elements and the degree of reduction below with guaranteed emission limits below those defined in Table 4-1 of Appendix 1 and Appendix C-2
- Water – points awarded based on decreased use of potable water for facility processes - e.g. less reliance on purchased potable water for process make-up water
- Ash Management – points awarded based on bottom ash quality and increased diversion through the beneficial reuse and/or stabilization of process residues (i.e. less reliance on landfill and greater marketability of bottom ash up to and including and price guarantees) Substantive evidence required to support claims
- Odour – points awarded based on comprehensive detailed plans for i) odour control during both construction and operation phases. Defined process for managing (receiving, logging, investigating and resolving) complaints
- Noise – points awarded based on comprehensive detailed plans for i) noise control during both construction and operation phases and ii) defined process for managing (receiving, logging, investigating and resolving) complaints
- Energy Recovery – points awarded based on energy recovery above the minimum design criteria – e.g. higher electrical generation while still meeting the minimum district heat requirements
- Recovered Materials Management – points awarded based on improved methods and efficiencies of recovery and comprehensive marketing plans, up to and including potential guaranteed floor pricing
- Capacity and Expansion Capability – points awarded based on ease of incremental expandability to ultimate 400,000 tpy facility

REGIONAL MUNICIPALITIES OF DURHAM AND YORK
TO DESIGN, BUILD, OPERATE AND MAINTAIN AN ENERGY FROM WASTE FACILITY
SECTION 5

capacity.

Design, Construction and Operational Considerations **15 Points**

- Guarantees – points awarded based on the extent that the reduced project Construction Period Guarantee (Form 4 Section 1) and increased points for greater Guaranteed Facility Availability guarantee (Form 4 Section 7)
- Facility design – points awarded based on the extent that the facility design proposal exceeds the minimum Technical Requirements, and for additional details/clarity of the design concept – i.e. level of detail in the basis of design and in required drawings
- Facility operations and maintenance – points awarded based on the level of detail and extent to which Annual, Five Year and Life Cycle O&M plans meet or exceed the Technical Requirements and generally accepted industry standards

Innovation in Environmental Performance, Design, Construction and/or Operational Considerations – points awarded based on innovation elements based on degree of identification and control of risks; environmental, economic, and social benefits; added value and demonstrated ability within the proposal to actually implement. **5 points**

5.3.4 (Revised) - Evaluation of Project Delivery Elements

PROJECT DELIVERY ELEMENTS **TOTAL OF 20 POINTS**

Schedule and Cost Control **6 points**

- Critical path management - points awarded based on comprehensive details and reasonableness of plans for maintaining construction schedule and meeting schedule guarantee
- Budget forecasting and cost control measures - points awarded based on comprehensive detail of plan for maintaining cost control and meeting milestone targets

Methods – points awarded based on comprehensive detail in each of the following plans and their integration within **6 points**

REGIONAL MUNICIPALITIES OF DURHAM AND YORK
TO DESIGN, BUILD, OPERATE AND MAINTAIN AN ENERGY FROM WASTE FACILITY
SECTION 5

the submission

- Quality Assurance/Quality Control plans
- Construction impact mitigation, complaint mitigation methods
- Environmental and Management plan consistent with ISO 14001:2004
- Health and Safety plan
- Community relations plan

Team Organization and Qualifications – points awarded based on completeness and clarity of organizational plan, roles and responsibilities

2 Points

- Project management qualifications
- Experience and track record
- Accountability framework

Permits/Approval Plan - points awarded based on demonstrated understanding of Early Works Agreement schedule and plan; increased points for clarity and input in the four areas below

6 Points

- Permitting schedule
- Coordination with project schedule
- Understanding and experience with local approval requirements
- Minimized reliance on Regional Staffing resources

RFP-604-2008

REGIONAL MUNICIPALITIES OF DURHAM AND YORK
TO DESIGN, BUILD, OPERATE AND MAINTAIN AN ENERGY FROM WASTE FACILITY
SECTION 5

5.3.5 (Revised) - Evaluation of Cost and Commercial Elements

The evaluation of cost and commercial elements will be completed based on a collective assessment of evaluation factors to determine a single collective score under each element of RFP "Section 4.6 Part 3 - Cost and Commercial Considerations," i.e. Section 4.6.1: Capital and Operating Costs, Section 4.6.2 Value for Money, and Section 4.6.3 Guarantees. Because the assessment includes qualitative and quantitative analyses, the lowest priced proposal may not necessarily be awarded the highest score. Proponents should also not assume that just meeting minimum RFP requirements under section 4.6 will result in the highest score. Since it is assumed that all proposals will meet minimum requirements, proposals which exceed minimum requirements will be awarded the highest scores.

COST AND COMMERCIAL ELEMENTS	TOTAL OF 35 POINTS
-------------------------------------	---------------------------

Capital and Operating Costs

- Evaluation Factors:
 - Reasonableness of all cost inputs, including methodology and approach used to determine Unitary Major Equipment Repair and Facility Refurbishment Costs
 - Integrity of the Model

5 points

- Considerations:
 - A qualitative assessment of the factors will be completed on a collective basis by assessing the degree to which capital costs, maintenance costs, life-cycle costs and operating costs included in the Model are consistent with:
 1. RFP requirements;
 2. Proposal details; and
 3. Projects of a similar scope and magnitude.

Value for Money

- Evaluation Factors:
 - Magnitude of NPV costs to the Regions
 - Timing of cash flows and costs to the Regions
 - Sensitivity of costs to the Regions

20 points

- Considerations:
 - An assessment of the factors will be completed on a collective basis by assessing the stability and magnitude of both nominal and NPV costs, including:
 1. Comparison to the lowest NPV Proposal;
 2. Comparison to the lowest Total Annual Operating Fee;
 3. Degrees of fluctuation in nominal and NPV costs due to sensitivity analyses; and,
 4. Impacts to value for money considerations, based upon alternative/innovative options provided by the Proponent (only considered where a new and complete model is provided for any and each alternative proposal as per section 4.6.2.4).

REGIONAL MUNICIPALITIES OF DURHAM AND YORK
TO DESIGN, BUILD, OPERATE AND MAINTAIN AN ENERGY FROM WASTE FACILITY
SECTION 5

Guarantees

10 points

- **Evaluation Factors:**
 - Financial capacity and condition of the Project Guarantor
 - Construction inflation
 - Other guarantees
- **Considerations:**
 - A qualitative assessment of the factors will be completed on a collective basis by assessing:
 1. The condition and capacity of the Parent Guarantor;
 2. The degree to which the Proponents construction costs are fixed in the Proposal; and
 3. The degree to which the guarantees in Form 4 will benefit the Regions.

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DRAFT**KPMG LLP**

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 PO Box 31 Stn Commerce Court
 Toronto ON M5L 1B2

Telephone (416) 777-8500
 Fax (416) 777-8818
 Internet www.kpmg.ca

Ms. LouAnn Birkett
 Purchasing Manager
 Region of Durham Supply and Services Division
 605 Rossland Rd. East
 Whitby, Ontario
 L1N 6A3

April 21, 2009

Re: Draft Report – Fairness Monitor for Durham/York Residual Waste Treatment Facility

Dear Ms. Birkett:

The Regional Municipality of Durham (the “Region”) retained KPMG LLP (“KPMG”) to monitor from a fairness perspective the Region’s Request for Proposals (“RFP”) process whereby Proponents identified through a Request for Qualifications (“RFQ”) were invited to submit proposals to design, build and operate a residual waste treatment facility (the “EFW Facility”) and a Preferred Proponent would be identified who would then be invited to enter into legal agreements to develop the facilities. The RFP process was managed by the Region on behalf of the Region and the Regional Municipality of York (jointly referred to as “the Regions”).

This draft report summarizes KPMG’s findings and conclusions regarding the RFP phase of the procurement. In accordance with the terms of our engagement, KPMG will conclude with the Council approval of the preferred proponent. The current draft presents an overview of the process, KPMG’s scope of work, KPMG’s methodology to assess fairness, and KPMG’s observations during the RFP phase of the procurement process, which serve as the basis for our findings and conclusion.

The scope of the review addressed in this draft letter is limited to the RFP phase, which commenced in August 2008 and will conclude with the announcement of the preferred proponent by the Region. The procurement of a vendor to design, build and operate the facility was undertaken concurrently with the environmental approval process for the EFW facility. KPMG’s review has been limited to the question of whether the procurement of a vendor to design, build and operate the EFW Facility has been undertaken in accordance with the fairness principles described later in this letter.

Capitalized terms in this letter, if not defined herein, have the meaning ascribed to them in the Request for Proposals (“RFP”), the RFP Selection Framework or the Process and Principles for Evaluation of RFP-604-2008 Proposals.

I Overview of the Procurement Process

The procurement process for the EFW Facility involved two phases, an RFQ phase and an RFP phase. The RFQ phase is described in our letter of August 1, 2008, which presents an overview of the RFQ process, KPMG’s observations during the RFQ phase, and our findings and conclusion

regarding the RFQ process. The RFQ phase resulted in the short listing of five Proponents. For a complete understanding of the matters which took place during the RFQ phase, the reader may wish to refer to the August 1 letter.

The RFP phase commenced with the issuance of the RFP and led to the receipt of Proposals on February 19, 2009. During the period of time from the issuance of the RFP to the receipt of the Proposals, it is our understanding that the following took place:

- On August 22nd, 2008, the Region issued the RFP to the five short listed Proponents.
- As a precondition for participating in the RFP process, Proponents and any consultant or advisor to a Proponent to which it intended to grant access to the Data Room were required to enter into a Participation Agreement which set out the terms and conditions for access to the Data Room and confirmed their agreement to abide by the provisions of the procurement process, including the RFP. All five Proponents together with various consultants and advisors did so.
- In early September a letter was sent to the councilors and staff of the Region and its municipalities, with a copy to York Region, reminding them that that until further notice, all pre-qualified respondents to Durham's RFP-604-2008, including all vendor team members, are subject to stringent rules regarding communications and lobbying. Additionally the letter directed councilors and staff to notify the procurement lead of any potential violations of these restrictions.
- A process framework (the RFP Selection Framework") and "Process and Principles for Evaluation" were developed, which documented the process to be followed in the soliciting, receiving, and evaluating proposals.
- RFP information (such as addenda to the RFP, questions from potential respondents together with the answers from the Regions) was provided to qualified Proponents via the Region's Data Room. Access to the Data Room was limited to members of Proponent team members, consultants and advisors that had signed the Participation Agreement.
- Except as described in the following bullet, questions and answers were posted to the Data Room. As questions were received, they were reviewed by the Procurement Team Leader and distributed to technical, legal and/or financial personnel to draft a proposed answer. Draft answers were reviewed by the Procurement Team Leader for clarity, completeness and consistency. Questions and answers were then assembled periodically but on a frequent basis into question and answer sets, and posted to the Data Room.
- In accordance with the provisions of Section 2.9.2 of the RFP, the Regions considered various questions from Proponents that were marked by the Proponents as "commercial in confidence" and determined based on the nature of the question and the supporting justification whether the question warranted confidential treatment. Where the request to treat the question as confidential was justified, the response was circulated only to the Proponent that had made the inquiry. When the Region did not believe that confidential treatment was warranted, as provided for in the RFP, the Proponent was given an

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opportunity to withdraw the question and if the question was not withdrawn, the question and the answer were posted to the Data Room.

- Commercial in confidence meetings were held with each Proponent to (a) provide the Regions' representatives with familiarity of the designs and concepts proposed by Proponents; (b) providing Proponents with some comments and feedback from the Regions on the general acceptability of particular solutions Proponents might have been considering for various aspects of their Proposals, and (c) provide an opportunity to each Proponent to raise issues or concerns. An initial meeting was held with each Proponent for one day each from October 5 to October 9, 2008 inclusive. A second round of commercial in confidence meetings was offered to the Proponents, and four of the teams (Green Conversion, Covanta, Wheelabrator and Veolia) elected to participate. These meetings were held on November 4th and 5th.
- A process document outlining the process and rules for commercial in confidence meetings was developed and followed for these meetings. In accordance with the RFP document Section 2.10, the Regions used reasonable efforts to distribute to all Proponents any new information provided by the Regions to any Proponent during the meeting, save and except information that was considered by the Regions to qualify as "Commercial in Confidence" according to the provisions of the RFP Selection Framework.
- Proponents submitted two rounds of comments on the draft Project Agreement and Early Works Agreement. The first round of comments was received by November 28, 2008 and a second draft of the project agreement was issued on December 5, 2008. Proponents were then given to December 12, 2008 to make additional comments and a final draft of the Project Agreement and Early Works Agreement was issued on December 19, 2008. The Regions made changes to the second and final draft of the Project Agreement and Early Works Agreement based on consideration of comments received from the Proponents both in the form of mark-ups of the first draft Project agreement, and in the form of comments received during the commercially confidential meetings and through the question and answer process. Amendments were also made in the second and final drafts of the agreements to improve the drafting and to reflect changes in the project definition and development plan.
- On February 9, 2009, members of the project team tasked with the work to evaluate Proposals (the "Evaluation Team") attended a briefing session, which provided an overview of the Process and Principles for Evaluation of RFP-604-2008 Proposals, submission evaluation guidelines and the logistics and rules for the conduct of the evaluation within the evaluation office. Additionally the meeting provided an opportunity to review any questions the members of the teams might have had regarding the evaluation.
- Detailed evaluation scoresheets were developed and finalized by the Evaluation Team prior to the review of Proposals.

On February 19, 2009, four Proposals were received from the following Proponents:

- Covanta Energy Corporation;

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- Green Conversion Systems LLC (Formerly: WRSI/DESC Joint Venture; Fisia Babcock Environmental GmbH; Kiewit Industrial Company; Morgan Stanley Biomass LLC; Babcock & Wilcox);
- Wheelabrator Technologies Inc. (A Waste Management Company), and
- Urbaser SA.

The Proposals were received prior to the deadline.

A few minutes before the submission deadline Veolia, the fifth short listed Proponent, submitted a letter to the Regions indicating that it would not be submitting a Proposal.

As per the RFP, Proposals were evaluated using a two-stage process.

Stage One was a pass/fail evaluation of mandatory compliance requirements. Based on its review of the Proposals, the Mandatory Compliance Evaluation Committee (comprising two members of staff from the procurement department and the Legal Advisor) concluded that all four Proposals were complete and met the compliance requirements. Accordingly, the submissions were released to the Evaluation Team to conduct the substantive evaluation, which graded the proposals using the pre-established evaluation criteria.

All personnel involved in the evaluation process were freed of potential conflicts. After receiving copies of the Proposals (but prior to undertaking detailed evaluations) Evaluation Team members and Expert Resources undertook a preliminary review of the Proposals to identify the RFP Proponents' team members and other key staff, and to disclose any relationships.

One situation which was identified prior to the receipt of Proposals merited further investigation. HDR, the Expert Resource assisting in the assessment of technical elements of the Proposals, disclosed a relationship that exists between HDR and Stantec, a member of the Wheelabrator team. The City of Northampton Mass. has an agreement with Stantec to undertake a solid waste study and HDR is a sub-consultant to Stantec for this engagement. The Legal Advisor spoke with the City Engineer who indicated that the sub-consultancy was merely a contracting convenience but that the essential relationship was a direct flow-through from Northampton to HDR. Additionally, the City Engineer indicated that the engagement has a discrete scope (to prepare economic analysis of various waste management options) and limited budget (under \$100,000). Based in part on the nature and scope of the engagement, the Regions determined that the HDR relationship did not represent a conflict of interest and the firm was cleared to participate in the evaluation as an Expert Resource to the Evaluation Team. The relationship between HDR and Stantec was also disclosed by Wheelabrator in Form 10 Relationship Disclosure Form of its Proposal, as required in the RFP.

Stage Two in the evaluation was a grading of the Proposals, comprising:

- Technical (grading of 45%)
- Project delivery considerations (grading of 20%)

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- Cost and commercial considerations (grading of 35%)

During the evaluation, the following took place:

- Reasonable steps were taken to help ensure the security and confidentiality measures set out in the RFP Selection Framework were applied.
- Questions developed by the Evaluation Team regarding the Proposals were reviewed by the Procurement Team Leader and Legal Advisor prior to being issued to Proponents to help ensure questions were clear, complete, appropriate and consistent. Various requests for clarification were raised with proponents and, in certain instances, these were not necessarily fully addressed in the responses. However none of these outstanding matters related to the preferred proponent and they did not impact the outcome of the evaluation.
- The Evaluation Team assessed Proposals based on the pre-established evaluation criteria. Scores assigned during the evaluation process were based on consensus. Each member of the Evaluation Team confirmed in writing his or her concurrence with the final evaluation scores.
- Following the final Evaluation Team meeting to assign consensus scores to the Proposals, an unexpected announcement was made on March 13, 2009 by the Ontario Ministry of the Environment proposing revisions to Ontario's A-7 Guideline regarding the air pollution control, design and operation for municipal waste thermal treatment facilities. These proposed revisions included reductions in several in-stack concentration limits, including: dioxins/furans, carbon monoxide and organic matter and proposed changes to certain of the continuous and long-term monitoring, design and operational requirements. The Regions reviewed the proposed Guidelines in conjunction with the requirements set forth in the RFP and have indicated to us that they are satisfied that the proposed revisions to Guideline A-7 will not materially change the obligations or responsibilities of the DBO Contractor or the Regions as set forth in RFP. Additionally, it is the Regions' expectation that the preferred proponent should have no difficulty operating in compliance with Guideline A-7, as it may exist from time to time. As a result its assessment of the proposed revisions to the A-7 Guidelines, the Regions decided to proceed to the next step in the procurement process.

II Scope of Work

In March, 2008, KPMG was engaged by the Region to assist in monitoring whether a fair process was conducted in the selection of a Preferred Proponent for the EFW Project. KPMG was to undertake the following:

- Monitor and report on the procurement process; and
- Comment on the fairness of the procurement process.

KPMG's role was solely that of an observer to the RFP process. KPMG did not develop the RFP or participate in the evaluation of submissions. As the fairness consultant, KPMG's scope did not involve an assessment of the appropriateness of the project's mandatory requirements, technical requirements, financial requirements, the evaluation criteria or the submissions, except as these pertain to the fairness of the process. .

KPMG's work was based on the following:

- Discussions and meetings with the Region staff and advisors to discuss the RFP documents, procurement process, evaluation and related matters;
- Review of the RFP document prior to issue;
- Review of the RFP Selection Framework and the Process and Principles for Evaluation of RFP-604-2008 Proposals;
- Review of the evaluation process, including the evaluation criteria and evaluation tools;
- Review of addenda, and questions and answers issued prior to the RFP deadline;
- Review of clarification questions issued to Proponents during the evaluation;
- Review of the evaluation reports, and
- Attendance at certain events and meetings, including all commercial in confidence meetings, the evaluation briefing session, the RFP closing and compliance review, and select meetings of the Evaluation Team (including meetings to develop and finalize the evaluation criteria and supporting scoresheets and meetings to assess the Proposals and reach final consensus scores).

Please note that KPMG has reviewed the information provided, but has not audited or otherwise independently verified the accuracy of the information. Additionally, we have reviewed a draft of this letter with the Procurement Team Leader and Legal Advisor to confirm our understanding of the events and circumstances outlined in this document. In the event that there are errors or

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omissions in our understanding of the process, these may change the conclusions described in this report.

III KPMG's Methodology to Assess Fairness

KPMG's approach to fairness monitoring is based on a set of fairness principles, developed by KPMG, which describe the foundation of a fair process (see the Appendix to this letter). These principles have been developed based on KPMG's experience in conducting transaction and procurement processes and monitoring fairness. The fairness principles were discussed with the Region at the onset of our assignment, and it was agreed that our fairness monitoring would be based on these principles:

1. All potential Proponents have the same opportunity made available to them to access information;
2. The information made available to Proponents should be sufficient to ensure that the Proponents have the opportunity to fully understand the opportunity;
3. All potential Proponents have reasonable access to the opportunity;
4. The criteria established in the invitation documents truly reflect the needs and objectives in respect of the project;
5. The evaluation criteria and the evaluation processes and procedures are established prior to the evaluation of submissions;
6. The evaluation criteria, invitation documents, and evaluation processes are internally consistent;
7. The pre-established evaluation criteria and evaluation process are followed; and
8. The evaluation criteria and process are consistently applied to all submissions.

In applying these fairness principles, the following guidelines are used to help determine the fairness of the evaluation processes:

- **Variances** — A variance from the Fairness Principles is deemed to have occurred if a circumstance(s), situation(s) or event(s) occurs during the process that is addressed in a manner that is inconsistent with or departs from one or more of the Fairness Principles.
- **Violations - Individual Variances** — A violation from the fairness principles is deemed to have occurred if an individual variance is deemed to have resulted in a process where one or more Proponent(s) (potential, successful or unsuccessful) enjoyed a material advantage over any other or conversely, was subject to a material disadvantage and the material advantage or disadvantage affected the results of the process. If so, a *violation* of the

Fairness Principles would have occurred and, consequently, the overall process would be deemed to be unfair in that respect.

- **Violations – Collective Variances** — A violation from the fairness principles is deemed to have occurred if individual variances, when considered collectively, resulted in a process where one or more Proponent(s) (potential, successful or unsuccessful) enjoyed a material advantage over any other or conversely, was subject to a material disadvantage and the material advantage or disadvantage affected the results of the process. If so, a *violation* of the Fairness Principles would have occurred and, consequently, the overall process would be deemed to be unfair in that respect.

IV Analysis of Key Issues

In November 2008, Stantec Consulting Services Inc. (Stantec) notified the Region that its parent company, Stantec Inc, anticipated buying all of the issued and outstanding shares of Jacques Whitford on or around January 2, 2009. This potential acquisition was of concern to the Regions because Stantec Consulting Services Inc. is the engineering team member of the Wheelabrator bid team, and Jacques Whitford is engaged by the Region to assist in the application for environmental approval of the EFW facility. As the Regions' environmental consultant, Jacques Whitford had provided general advice to the Region which potentially may have been used in establishing certain of the technical requirements set out in the RFP. Additionally, although Jacques Whitford was not expected to participate in the Evaluation Team, it was contemplated that certain excerpts of the Proposals would be made available to the firm prior to the identification of a Preferred Proponent in order that Jacques Whitford might timely advance the environmental application process.

When this relationship became known, the Region took various steps designed to confirm its understanding of the circumstances and protect the integrity of the procurement. For example:

- The Legal Advisor spoke with Wheelabrator to confirm the status and anticipated time frame for the acquisition and arrangements that would be put in place assuming the acquisition was successful. These discussions were subsequently confirmed in writing by Stantec.
- Stantec was asked to put certain provisions in place in order to ensure confidentiality between Stantec and Jacques Whitford until such time as a Preferred Proponent is identified by the Regions, or until the Project Agreement is executed in the event that Wheelabrator is the successful Proponent. These provisions were reviewed by KPMG and are similar in nature and scope to those used in other procurements or other circumstances where confidentiality is required between related entities.
- The Region's Project Manager for the EFW Project confirmed that the nature and extent of advice provided by Jacques Whitford during the period leading up to the notification of the proposed acquisition had no significant bearing on the RFP or supporting documents.

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- Jacques Whitford signed a confidentiality agreement at the RFQ stage which extends throughout the procurement process. Additionally, Jacques Whitford was requested to return all information on the RFQ which they had received in order to support the environmental application process.
- The RFP information from the Proposals required by Jacques Whitford to advance the environmental approval process was provided anonymously. In advance of the Proposal submission deadline, the project team identified what information would be required by Jacques Whitford and all data that identified the name of the Proponent was deleted from the application.
- Staff at Jacques Whitford and members of the Evaluation Team and Expert Resources supporting the evaluation of proposals were directed not to communicate during the evaluation process, either verbally or in writing, including email.

This issue might have potentially been a variance from Fairness Principle 1, Fairness Principle 8 or both. Fairness Principle 1 calls for all potential bidders to have the same opportunity made available to them to access information and in particular that appropriate confidentiality and security measures be used to prevent premature access by potential bidders to information. Fairness Principle 8 calls for the evaluation criteria and process to be applied consistently to all submissions, and in particular the application of the evaluation criteria must be free from undue influence of individuals who may have conflicts of interest in the outcome of the evaluation.

Based on KPMG's observations and assessment as outlined above, the various measures put in place by the parties (in particular, the confidentiality provisions put in place between Stantec and Jacques Whitford, the removal of team identities from information provided to Jacques Whitford to help it advance the environmental approval process, and the cessation of communications between staff at Jacques Whitford and members of the Evaluation Team and Expert Resources) were sufficient for us to conclude that no variance of the fairness principles occurred.

No other key issues were identified during the RFP process.

V Conclusions

This conclusion is based only on information that was made available until the date of this letter. This is subject to change in the future.

KPMG is satisfied that the RFP process for the EFW Facility was fair to all Proponents.

VI Use of This Letter

This letter is confidential and is not intended for general use, circulation or publication and is not to be published, circulated, or reproduced without our express, prior and written consent in each specific instance. KPMG will not assume any responsibility or liability of any costs, damages,

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losses, or expenses incurred by any party as a result of publication, circulation, reproduction, use of or reliance upon this letter.

Notwithstanding the foregoing, KPMG expressly authorizes the addressee to share this letter with the rest of the evaluation team and to disclose the conclusions contained within this letter to other individuals within the Regions, without further express written permission.

Comments in this letter are not intended as, nor should they be interpreted to be, advice or opinion of a legal nature. Such matters should be referred to the Region's legal counsel.

Should any information, which was not available to KPMG as at the date of this letter, become available subsequently, KPMG reserves the right to review such information and adjust this letter accordingly.

* * * * *

If you have any questions or require clarification on aspects of this letter, please do not hesitate to contact the undersigned.

Yours very truly,

Will Lipson
Managing Director

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Appendix - Fairness Principles and Implications

1. All potential bidders have the same opportunity made available to them to access information.

The implications of this principle include:

- All potential bidders have the same opportunity to access calls for tenders. This requires that calls for tenders be released to all potential bidders at the same time and that reasonable efforts are made to post communications in all appropriate media.
- All addenda to calls for tenders are distributed to all potential bidders at the same time.
- All responses to questions, as well as the questions themselves, are provided to all potential bidders at the same time.
- All potential bidders have the same access to information sessions, questions and answers, data rooms, and any other information related to the process.
- Appropriate confidentiality and security measures are used to prevent premature access by potential bidders to information.

2. The information made available to bidders is sufficient to ensure that the bidders have the opportunity to fully understand the opportunity.

The implications of this principle include:

- All information available that is material to understanding the opportunity and therefore may have a material impact on the bids is made available to potential bidders.
- The information that is made available is appropriate to the particular stage in the process.
- Potential bidders have adequate access to information so that a reasonable bidder would have sufficient time to respond.
- Potential bidders are made aware of the limitations that apply to the reliability of the information.

3. All potential bidders have reasonable access to the opportunity.

The implications of this principle include:

- Bidders understand what is required of them to meet the criteria when they are bidding. Calls for tenders solicit clearly all the information necessary to apply the evaluation criteria.
- The opportunity is adequately reflected in calls for tenders to permit the bidder to make informed decisions with respect to its bid.
- Timely notice is provided to all potential bidders of all key events (e.g., bidder information sessions, submission deadlines, bidder presentations).
- Bidders are treated consistently in soliciting information required to clarify a proposal.
- Reasonable timeframes are provided to all potential bidders for all key deliverables (e.g., reasonable time to submit questions regarding the invitation documents, to prepare proposals after the issuance of the last response to questions).
- The contracts that are ultimately awarded to successful bidders are, to the maximum extent practical, the same as that described in the invitation documents.

4. The criteria established in the invitation documents truly reflect the needs and objectives in respect of the procurement.

The implications of this principle include:

- The evaluation process fairly reflects the true requirements of the initiative.
 - The evaluation criteria fairly reflect the true requirements of the owner. The true requirements are fully disclosed to potential bidders. (In other words, there are not any hidden criteria.)
- 5. The evaluation criteria and the evaluation process are established prior to the evaluation of submissions.**

The implications of this principle include:

- The process to solicit information through clarifications is established prior to the receipt of the submissions.
- The procedures to maintain confidentiality and security of information are established prior to the receipt of submissions.
- The process for receipt of submissions is established prior to receipt of the submissions.
- The approval process for identification of qualified bidders in the invitation documents and for the selection of the preferred bidders is established prior to receipt of the submissions.

6. The evaluation criteria, calls for tenders, and evaluation processes are internally consistent.

The implications of this principle include:

- The evaluation criteria reflect the requirements set forth in the invitation documents.
- The evaluation process reflects the information provided in the invitation documents.
- The evaluation process reflects the requirements necessary to appropriately apply the evaluation criteria.

7. The pre-established evaluation criteria and evaluation process are followed.

The implications of this principle include:

- Pre-established criteria are applied.
- Pre-established processes are applied.
- Changes, if any, are consistent with the procedures laid out in the evaluation process.

8. The evaluation criteria and process are consistently applied to all submissions.

The implications of this principle include:

- All bidders are evaluated in a consistent manner.
- The evaluation criteria are applied by individuals with appropriate technical competence and appropriate oversight is applied.
- Other staff are appropriately supervised.



June 11, 2009

James R Clapp
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Subject: Final Business Case on the Selection of Covanta Energy Corporation

Dear Mr. Clapp:

Please find enclosed the results of a review by Deloitte & Touche LLP ("Deloitte", "We", or "Our") of the Regional Municipality of Durham's ("Durham") Report No: 2009-COW-03 (the "Report") on the Durham-York Energy from Waste ("EFW") project. Our review of this Report was completed together with our knowledge of the EFW Project gained through our engagement with Durham beginning in October 2006. More specifically, as part of this engagement we:

1. Undertook an assessment of the Service Delivery Options report for the EFW project, which was presented to Durham council in April 2007 ("Service Options Analysis");
2. Completed an initial assessment of the Waste Management Options report, including the EFW project, which was presented to Durham council in April 2007 ("Waste Management Analysis");
3. Developed a detailed business case concerning the EFW project (the "Business Case"), which was presented to Durham council in May 2008; and
4. Have advised Durham since May 2007 on the procurement process to select the Preferred Proponent, which ultimately was Covanta Energy Corporation ("Covanta"), including transaction and financial advice regarding the Request for Qualifications ("RFQ"), Request for Proposals ("RFP") and the Design-Build-Operate ("Project Agreement") Contract (collectively forming the "Procurement Process").

The focus of our review is summarized in three key areas, as follows.

1. **Benefits Brought by Procurement Process:** Our report on the Service Options Analysis included a detailed review of the full spectrum of governance, ownership, and project-delivery options available to the Durham. Each of these options was assessed against criteria that covered ownership and control, fiscal capacity, experience with projects of similar scope and size, consistency with industry practices for ownership and operations, per-tonnage costs, risk transfer, and minimization of retained risks. We concluded that Design-Build-Operate was the best option based on the application of these criteria. The key advantage of this option, is that it bundles each of the separate design, build and operate components under a single or "bundled" competitively tendered and negotiated contract, which still enables Durham to finance, own, control and receive revenue from the facility. This approach applied industry best practices used by Canadian infrastructure procurement agencies to develop long-term commercial contracts that are based on

performance based output specifications. Ultimately, this approach ensures a transfer of the corresponding lifecycle and performance risks to a third party with a demonstrated and proven track record and experience.

2. **Benefits Brought by the EFW Compared to Landfill:** Both of our previous reports, the high-level Waste Management Analysis (2007) and the detailed Business Case (2008), were based on common best practices, methodologies and approaches used by Deloitte for other analogous cost-benefit analyses. The Business Case included a system-wide analysis of the EFW and the next best option, long-haul to a Southern Ontario landfill ("Landfill"). In this Business Case, we evaluated the EFW option against Landfill using the following criteria: 1) a local solution that is realistic, long-term and not a local landfill; 2) protect and promote environmental sustainability and environmentally sensitive behavior; 3) foster multi-government partnership and cooperation; 4) achieve value for money; 5) advance the productive reuse of waste materials; 6) promote the public interest through transparency and evidence-based decision-making; and 7) ensure appropriate public ownership/control. We determined that the EFW project met, to the greatest extent of all options assessed, these criteria. This conclusion was primarily based on:
 - The fact that the EFW had undergone the scrutiny of a full Environmental Assessment to identify and mitigate environmental, health, safety and social issues. The Landfill option is absent of such a detailed environmental impact and mitigation analysis;
 - The Landfill market continues to undergo consolidation, which, coupled with diminishing capacity in the Ontario market, will contribute to supply, demand and pricing issues over the long-term;
 - Unlike the Landfill option, the EFW option would be a significant capital investment in a new long-term asset. We believe that that the lifecycle and costing benefits brought by the performance based approach adopted by the Procurement Process, will position Durham to benefit both from: a) the quality of the facility at the completion of the contract term; and b) the potential commercial value that a secure disposal capacity will bring in the future (due to diminishing Landfill supply). These factors were all captured and considered in our residual-value calculation, which provides a high-level application of a commercial approach to assess and appraise value; and
 - Most importantly, the EFW will provide Durham with long-term cost and supply certainty, the value of which is significant but unquantifiable at this time.
3. **Benefits Brought By Commercially Negotiated, Performance Based Contract With Covanta:** The Business Case pre-dated the release of the Project Agreement and RFP. This is a fundamental consideration, as the key components of this agreement are: a) the performance-based output specifications that cover the entire lifecycle of the EFW; and b) the performance-based payment mechanism that enforces these specifications during the construction period and throughout the operating period. These two components are backstopped by a comprehensive security package of irrevocable letters of credit (for the warranty period and the operating period), performance bonding, liquidated damages and, above all, a parent company guarantee. The multi-staged Procurement Process has not only resulted in the performance-based Project Agreement, but has provided Durham with the reassurance that Covanta has the financial capacity and a demonstrated track-record of performance to meet all contractual requirements.

Regional Municipality of Durham
June 11, 2009
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In summary, we have reviewed the Report and agree with its findings. This conclusion is drawn from our knowledge of the commercially developed strengths of the Project Agreement with Covanta, together with the context and background taken from our own experience with the EFW project. Upon further consideration of all the key criteria previously identified by the Durham to us over the past three years, we have determined that the EFW is the only local, long-term, cost-certain, and cost-effective solution for waste disposal that will bring long-term value-for-money to the Region. We confirm that all supporting analysis completed by Deloitte has been undertaken using a commercial approach that provides a conservative assessment of residual and overall value when compared to the supply and demand pricing challenges that will face the Landfill market in the long term.

Yours very truly,

Deloitte & Touche LLP

Deloitte & Touche LLP

PROJECT AGREEMENT TERM SHEET (DEC. 18, 2008)

1. EARLY WORKS AGREEMENT

A. *Revised Scope of Work*

- Refine Architectural Design
 - Cash Allowance up to nine million dollars (\$9,000,000) to develop and implement architectural enhancements;
 - prepare three (3) alt. designs
 - Attend public meetings
 - Prepare drawings and physical model.
- Responsibility for Obtaining Approvals
 - Proponent primarily responsible for obtaining approvals unless specifically excluded
 - Regions responsible for EA
 - Proponent to support Region's EA process
 - Public meetings on approvals
 - Excludes design specific approvals (i.e. building permit)
- Early Works takes Proponent to Notice to proceed.

2. PARTIES TO CONTRACT

- **Durham and York Co-signatories to Agreement**

3. DESIGN-BUILD COMPONENT

A. *Obligation of Design-Builder*

- Commences on Notice to proceed
- Complete any unfinished permitting (i.e. building permit)
- Detailed description of scope elements (design, procure, construct, install, start-up, test etc.)
- Design – plans, engineering drawings, specifications
- Build in conformance to law, technical specifications, guarantees, operational performance requirements, etc. (standards)
- Price – fixed price/turnkey
- Schedule (end date, milestones etc.)

- Responsibility for QA/QC, health and safety, environmental compliance
- Security and bonds, insurance, parent guarantee etc.
- Designated representative
- Commissioning work:
 - Acceptance Testing – Facility. Acceptance Criteria (1.14)
 - Minimum Acceptance Criteria (1.15)
 - Buy down of Min. Acceptance Criteria – Lump Sum Perf. LD's
 - Acceptance Test Certificate – Facility Subst. Completion, punch list + engineering drawings + operation and maintenance manuals
 - Acceptance Certificate – Finishing Work complete

B. *Obligation of Regions*

- Complete EA (Early Works phase)
- Access to site
- Technical requirements (specifications – prescriptive vs. performance)
- Review/approval function (review plans at 25%, 75% and 100% completion)
- All utility connections to property line
- Fuel (including for start-up and testing)
- Approvals – largely Early Works phase. Owner to cooperate with DBO on all approvals
- Owner's representative
- Consultant role:
 - payment certification
 - issue certificates
 - conduct meetings
 - inspections
 - review submittals
 - review design
 - changes
- Risks associated with a Change in Law is allocated to Owner
- Owner's Decisions/Approvals/Consents to be undertaken utilizing an objective reasonableness standard save where specifically reserved to Owner to be arbitrary
- Responsible for environmental condition of Facility Lands including presence of any pre-existing Hazardous Substances

C. *Payment/Price*

- Lump sum price for design build component of the Work – Sum of Fixed Construction Price, Construction Inflation Adjustment and Architectural features

- Changes to Price- scope changes; adjustments re non-conformance; escalation in price (set % of each index within competitive process as well as identifying Fixed Construction Price Expiry within competitive process)
- Milestone payments based upon a milestone payment schedule – bid as part of competitive process (minimum 5% per milestone)
- Interest on unpaid amounts – Prime +1%
- Certification (jointly by Regions and Consultant)
- Substantial performance and total performance:
 - partial release (5%) of holdback following Facility substantial completion with balance forming a performance holdback held during Recall Period
- Liens (responsibility to keep title free and clear)
- Disputes (payment of undisputed amount)
- Price – stipulated price/turnkey
- Owner right to withhold/set-off (liens, punch list)

D. Warranty

- Design, material, workmanship
- Warranty period – called Recall Period- (rolling 2 years)
- Warranty holdback

E. Guarantees

- Price
- Schedule
- Performance
 - Performance guarantees in Form 4
 - Facility Acceptance Criteria 1.14; Min. Acceptance Criteria 1.15 – Throughput, energy production
 - Operational performance requirements Article 42
- DBO Contractors indemnity

F. Changes

- Change order/change directive process
- Owner's Fault
- Valuation
- No reserved rights
- Disputes

G. Schedule

- Schedule obligation
 - key milestone dates
 - schedule LDs where failure to achieve target date for commercial operation (subject to 30 day grace period). Sole remedy for schedule delays.
 - *force majeure*

H. Suspension/Termination

- Suspension and termination for convenience – Owner only
 - notice, termination payments
- Termination for cause – Owner/DBO Contractor
 - cure period
 - grounds/events of default
 - rights on termination

I. Dispute Resolution

- Negotiation/mediation/ possible arbitration
- Adjudication approach – expedited process (everything but “fundamental matters such as default, termination, claims on security and matters exceeding monetary threshold of \$250,000”) with no right of action until after completion

J. Security

- Bonds (Design Build - Performance, Design Build - Labour and Material, Operations – Renewable Performance)
- Guarantor (parent company guarantee). Rt. to access it immediately upon DBO Contractor default
- Holdbacks (5% performance holdback – Recall Period; lien, Operations Performance Holdback – 6 months Operations Fee; punch list)
- Liquidated Damages
 - Schedule LD's (\$10,000/day);
 - Lump Sum Performance LD's during the Operations Component (buy down throughput/energy production);
 - Performance LD's (Throughput, energy production, residue quantity)
- Cap on Schedule and Performance LD's, not on buy-down Lump Sum LD's
- Schedule LD's and Lump Sum Performance LD's sole remedy related to those matters.
- Handback security

K. Insurance and Bonds

- Insurance established by Region's advisor
- Bonds (See J Above)

L. Limits of Liability

- Overall limit to DBO Contractor - 100 % of Lump Sum Price
- Sub-limits for:
 - performance LDs – 10%
 - schedule LDs – 10%
 - total LDs [excluding lump sum performance LD's] – 15%
- Parent Company limit of liability – 50% Lump Sum Price during design-build period; 25% during Operations Component
- Mutual waiver of consequential damages

M. Confidentiality/Public Relations

- Confidentiality obligation
- Disclosure
- Public relations

N. Indemnification

- Broad, standard indemnity
- Indemnity regarding health and safety, I.P. claims, environmental claims

3. OPERATIONS AND MAINTENANCE COMPONENT**A. *Scope***

- Operate, maintain, repair
- Management and supervisory services
- Spare parts
- Management of facility
- Operating requirements

B. *Terms*

- Initial term of Operations Component - 20 years
- Regions have option to renew for one or two additional five year terms

C. *Supply of Waste*

- Put or pay commitment of 140,000 tonnes of Acceptable Waste
- Coordination of waste supply

D. *Disposal*

- Bottom/fly ash – DBO Contractors responsibility
- Sale of ferrous metals – shared revenue
- Hazardous Waste – Regions responsibility
- By-pass waste – DBO Contractors responsibility
- Restriction on any disposal to Michigan

E. *Fees*

- Operating fees fixed based upon annual volume commitment of 140,000 tonnes acceptable Waste
- Fees for Throughput in excess of 140,000 tonnes per year
- Reduced Operating Fee (50%) during Start-Up – pre-acceptance test completion
- Metal revenue (share 85% Region/15% DBO Contractor)
- Energy Revenue Sharing to be determined in the future (PPA Terms unknown at this point)
- Adjustments/deductions to Operating Fee for environmental performance (+ or - 2%)
- Adjustments/deductions to Operating Fee for service level issues(+ or - 1%) - (WSIB, labour disputes, accidents, processing time, maintenance of Facility lands)

- Operating Fee Adjustments and Escalations during Term of Agreement (70% of CPI on most costs with exceptions: Flow-throughs, no escalation items and special escalation based on diesel haulage and chemical indices)

F. Mandatory Record Keeping

- Mandatory records retained by DBO Contractor
- Provision for Owner initiated Audits, at Owner's cost.
- Facility Inspection rights

G. Operational Performance Requirements

- Availability
- Emissions
- Throughput
- Compliance with Government Authorizations
- Energy recovery
- Bottom/Fly Ash

H. Reporting

- Regular/monthly reports
- Year end report
- CEMS reporting
- Reports regarding interruptions/emergencies
- Test and outage reporting
- Annual service plan and five year maintenance plan
- Life cycle plan

I. Testing

- Emissions, fly/bottom ash, wastewater
- Access
- Reporting

J. Capital Improvements

- Required by Owner
- Owner's option to have DBO Contractor perform or to engage third party

- Implementation and adjustments per agreed procedure and rates

K. Confidentiality/Public Relations

- Confidentiality obligations
- News releases/public relations
- Communications

L. Operational Security

- Renewable performance bond (150% of Total Annual Operating Fee)
- Letter of credit of a value equal to 50% of Total Annual Operating Fee, renewed annually

M. Termination Rights – Owner/DBO Contractor

- For convenience (Owner) and for cause (Owner/DBO Contractor)
- Cure period (for cause)
- Remedies

N. Changes

- Performance of extra or changed work – Change Order/Change Request process article 15

O. Handback Requirements

- Commitment from DBO Contractor that Facility, at end of Term, will be in condition consistent with their having maintained it pursuant to contractual obligations
- Conduct handback survey 3 years prior to expiry to identify “handback works”
- DBO Contractor required to perform handback works
- DBO Contractor required to post LC to secure performance of handback works.

P. Intellectual Property

- BDO Contractor to provide ownership or irrevocable royalty free license for technology utilized in Facility



EXECUTIVE SUMMARY

Overall, this Environmental Assessment (EA) Study has concluded that the proposed Thermal Treatment Facility can be constructed, operated and decommissioned in an environmentally safe and acceptable manner in the Municipality of Clarington, Region of Durham.

This Environmental Assessment (EA) Study document represents the culmination of approximately three years of work since the approval of the EA Terms of Reference in March 2006. The EA Study document outlines the process followed to arrive at a preferred alternative and preferred method of managing the post-diversion residual waste generated by the Regions of Durham and York that constitutes the Undertaking. Implementation of the Undertaking will provide the Regions of Durham and York with a long-term, local, and sustainable waste management alternative that will ensure the protection of human health and the environment, while taking advantage of waste as a resource and generating energy for the local community.

This EA Study document has been prepared in accordance with the Ontario *Environmental Assessment Act* (EAA), the Approved EA Terms of Reference (March 2006) for the Durham/York Residual Waste Study and the Ministry of the Environment (MOE) Code of Practice for Preparing and Reviewing Environmental Assessments in Ontario.

Introduction and Background

The Durham/York Residual Waste Study was initiated jointly by the Regions of Durham and York in 2005 to identify a long-term sustainable solution to manage the solid waste remaining after reuse, reduction and recycling (including composting) initiatives otherwise referred to in this EA Study document as "post-diversion residual waste". Both Durham and York recognized the advantages of partnering in the process as they faced similar waste management challenges and had partnered successfully on other projects in the past. The Regions of Durham and York officially reached an agreement to proceed as co-proponents in the completion of an EA Study on June 30, 2005.

The EA Study entailed the evaluation of: residual waste management alternatives considering the potential effects on the environment; the availability of mitigation measures that address, in whole or in part, these effects; and, the comparison of the advantages and disadvantages of the remaining "net" effects. The result of this process provided the planning rationale and support for the preferred solution, the thermal treatment of post-diversion residual waste at the Clarington 01 Site.

Identification of the Proponents

The Proponents for the EA Study are 'The Regional Municipality of Durham' (Durham) and 'The Regional Municipality of York' (York). Collectively, they will be referred to as "the Regions" in the EA Study document.



Executive Summary

The Regions continue to face the challenge of managing residual waste. Although they have become reliant on exporting their residential residual waste outside their jurisdictional boundaries, both Regions desire a Durham/York based solution that is socially and environmentally acceptable to both communities, that maximizes environmental protection and that fosters the wise management of potential resources.

Both Regions remain committed to investigating technically feasible waste reduction, reuse, recycling and disposal opportunities. Durham is dedicated to reaching its goal of diverting 70% of its residential 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 its residential 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 all-together.

Through extensive public consultation, the Regions have determined that a local landfill solution is not acceptable. The Regions also determined that continuing to transport waste to a landfill located outside of Ontario was not sustainable, as it does not provide the security of a long-term stable solution. This conclusion was reached after careful consideration of the fact that any non-local landfill option exposes the Regions to significant public policy risks that are not within their control. This direction provided the basis for Durham and York not including a purely landfill based alternative in its evaluation of long-term waste disposal options.

Statement of Purpose

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."



Executive Summary

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.

Approved EA Terms of Reference Requirements

The EA Study was undertaken in accordance with the approved EA Terms of Reference which defined the framework and methodology for the EA including the scope, study areas, study periods and consultation to be included in the project. The EA Terms of Reference included those activities required to fulfill the requirements of Ontario's *Environmental Assessment Act* (EAA). The EA Terms of Reference, developed in 2005 were approved by the Ontario Minister of the Environment (MOE) on March 31, 2006.

The Planning Process

An EA is a planning and decision-making process used to promote environmentally responsible decision-making. In Ontario, this process is defined and finds its authority in the OEAA. Durham and York joined in a Planning Study to address the long-term residual waste disposal capacity requirements of both Regions. This joint Study is subject to the requirements of an Individual EA under Ontario's EAA related to municipal waste disposal undertakings.

The EA Study commenced following the approval of the Terms of Reference on March 31, 2006 and has continued until the EA submission to the Minister of the Environment in July 2009. As per the Approved Terms of Reference, the EA planning period is 35 years, starting in 2011 and ending in 2045.

The EA Study involves the consideration of alternatives to address the stated purpose or need to result in the identification of a preferred alternative, or the Undertaking, considering a comparison of the advantages and disadvantages to the environment, and the priorities established by the respective communities.

The Durham/York EA process consisted of the:

- Completion of the EA Terms of Reference.
- Evaluation of "Alternatives to" the Undertaking.



Executive Summary

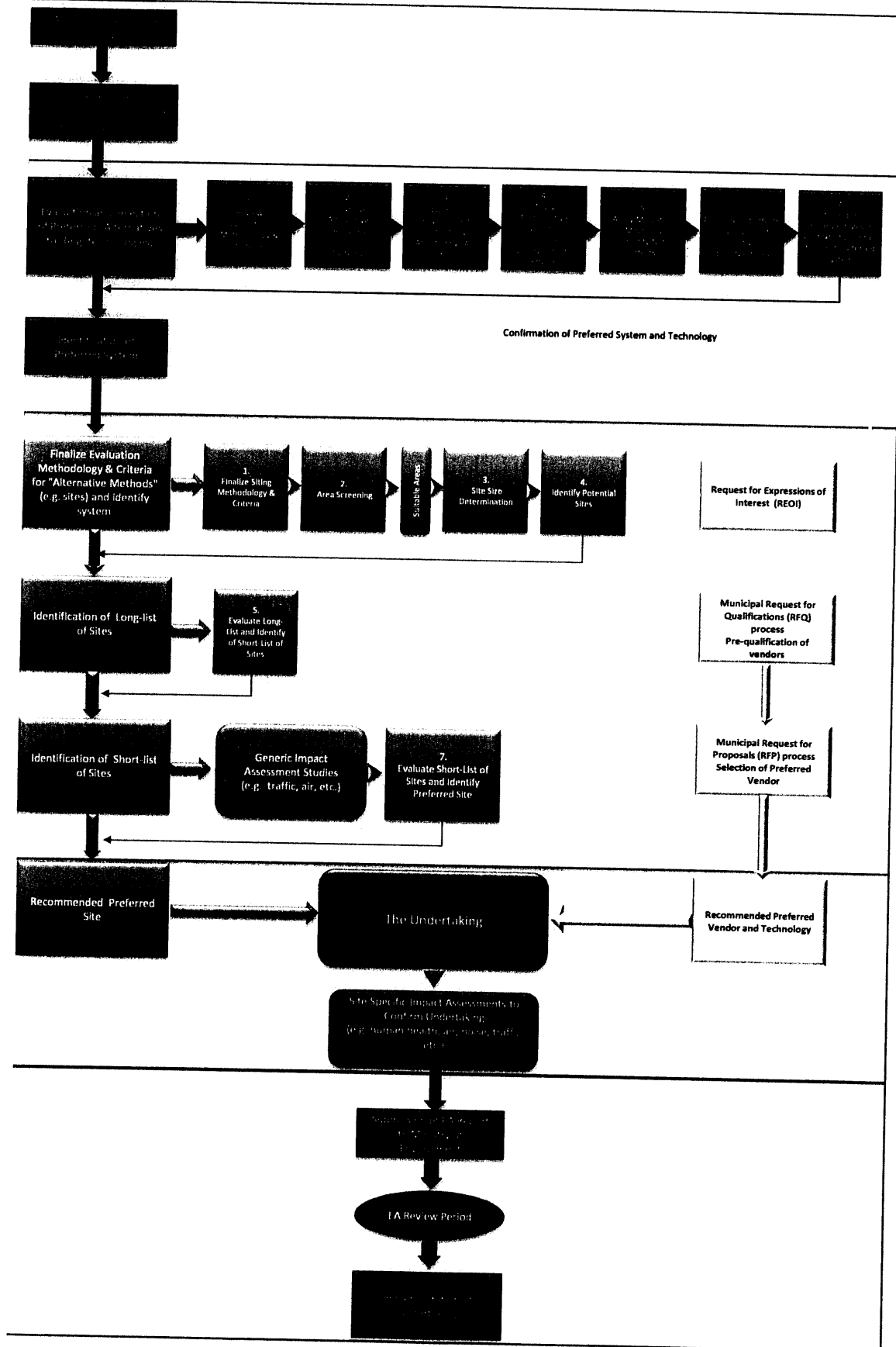
- Evaluation of "Alternative methods" of implementing the Undertaking.
- Completion of Site and Vendor specific studies to confirm the suitability of the site for the Undertaking.

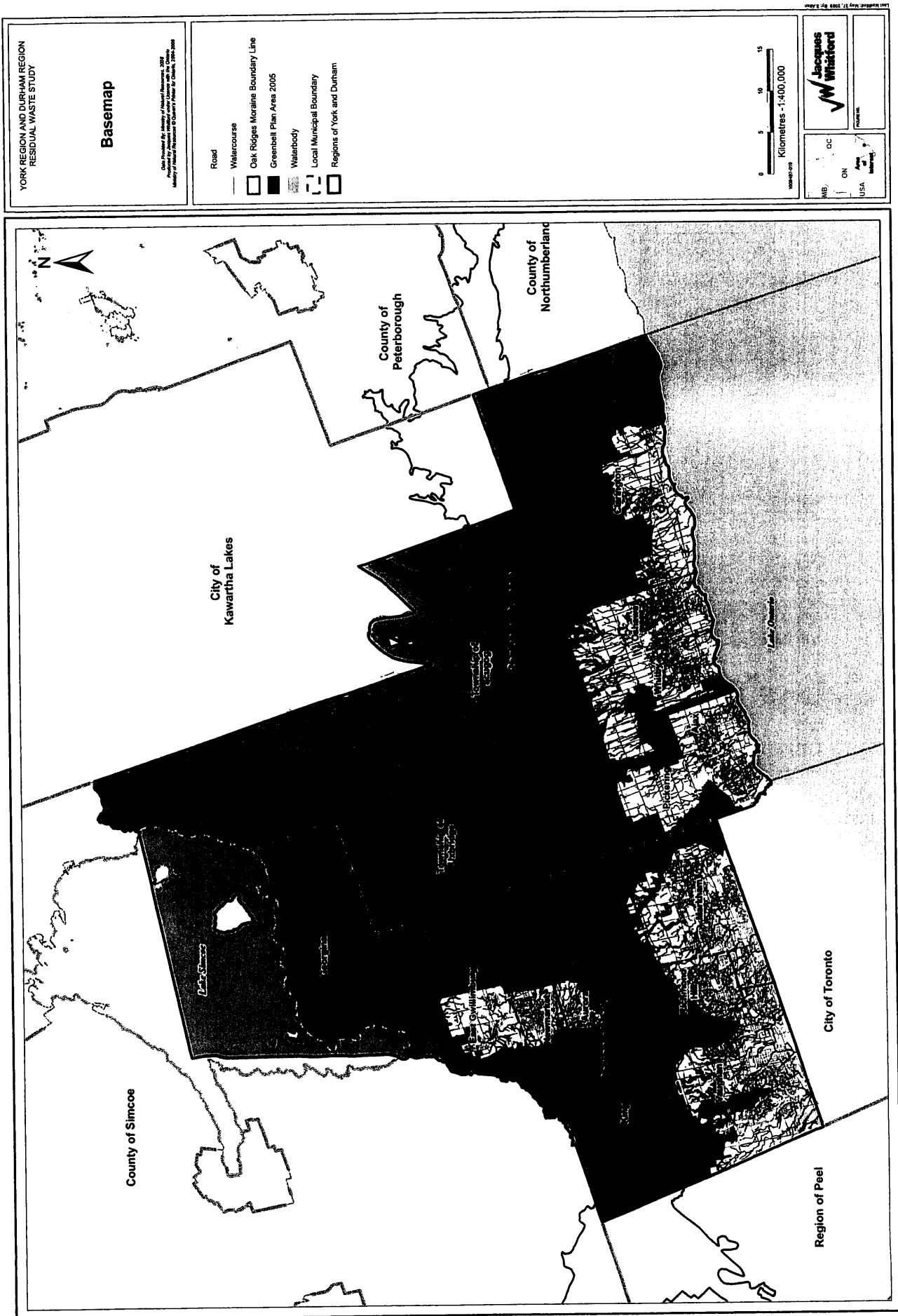
The following Figure ES- 1 provides an overview of the Durham/York EA process.

The Study Area

The study area for this EA Study is comprised of lands within the geographic boundaries of the Regions of Durham and York (see Figure ES- 2).

FIGURE ES-1 - Durham York Environmental Assessment Process







“Alternatives to” - Technology Identification Process

“Alternatives to” are defined as fundamentally different ways of managing waste and achieving the purpose of the EA Study. This Section provides the relevant background and the results of the “Alternatives to” evaluation process leading to the identification and description of the preferred long-term residuals processing system for Durham and York Regions.

The Approved EA Terms of Reference established that “Alternatives to” (i.e., alternative systems) comprised of the following approaches and technologies would be formulated and evaluated:

- **Mechanical Treatment;**
- **Biological Treatment; and,**
- **Thermal Treatment** (note: thermal treatment includes combustion, gasification and pyrolysis.)

A seven (7) step methodology was applied to formulate and then comparatively evaluate and identify the advantages and disadvantages and net effects of the alternative residual processing systems relative to each other.

Section 7 of the EA Study document on “Alternatives to” is structured to reflect this seven step methodology.

- Step 1 -** Prior to initiation of the evaluation of “Alternatives to”, the proposed evaluation methodology and criteria were reviewed in consultation with the public and agencies. This review sought additional input on the proposed evaluation steps and evaluation criteria presented in the Approved EA Terms of Reference to establish and confirm the relative priorities to be considered during the evaluation.
- Step 2 -** The component alternatives were assembled into a range of alternative residual processing systems with each system being capable of managing the entire projected residual waste stream.
- Step 3 -** Data collection was undertaken to apply each of the comparative evaluation criteria to each of the alternative residual processing systems. The proposed disposal system comparative evaluation criteria were included in Appendix E – Table E-1 of the Approved EA Terms of Reference. There was provision for adjustment for suggested indicators and data sources at the initiation of the EA evaluation based on input received from agencies and the public at Step 1.
- Step 4 -** The comparative evaluation criteria were applied to each of the alternative residual processing systems and potential effects identified.
- Step 5 -** Each of the potential effects identified at Step 4 were considered with respect to the availability of measures to mitigate (i.e., measures that may be applied to reduce or eliminate a negative potential effect) or enhance (i.e., measures



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that may be applied to improve or increase the magnitude of a benefit or positive effect) the effects, and identify the remaining or 'net effects'.

Step 6 - The net effects associated with each disposal system under each comparative criterion were compared and a list of relative advantages and disadvantages associated with each alternative processing system was developed.

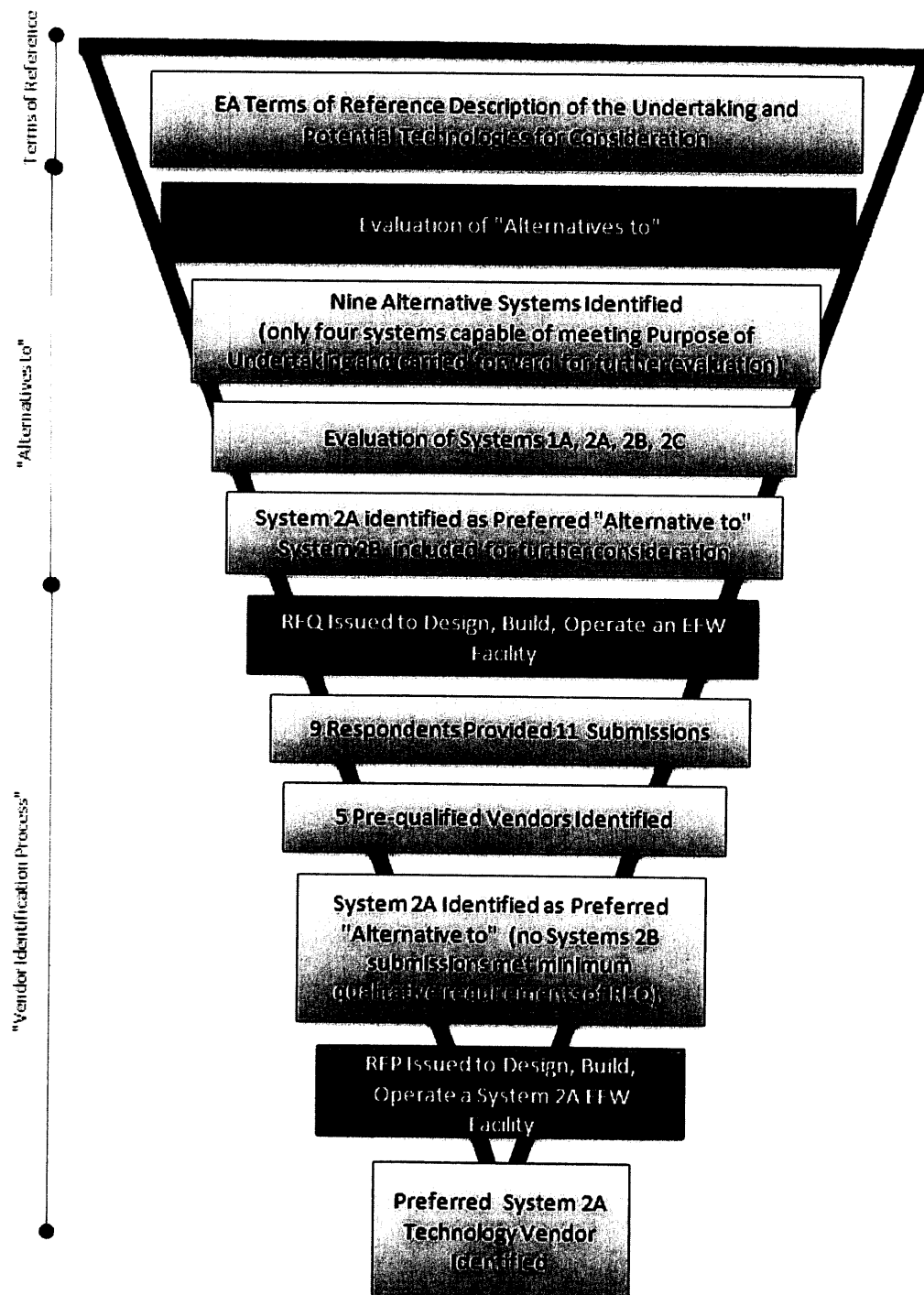
Step 7 - The relative advantages and disadvantages of each alternative residual processing system were considered in the context of priorities established in consultation with the public and agencies and the preferred system selected. The preferred residual processing system was that which offered the preferred balance of advantages and disadvantages given the environmental priorities established by the communities of Durham and York through the consultation process.

Figure ES- 3 illustrates the evolution of the post-diversion residual waste processing systems ("Alternatives to") and technologies throughout the EA process from the evaluation of "Alternatives to" to the identification of the preferred post-diversion residual waste processing technology vendor (discussed in Section 9).



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Figure ES- 3 Evolution of Alternative Systems and Technologies throughout EA Process





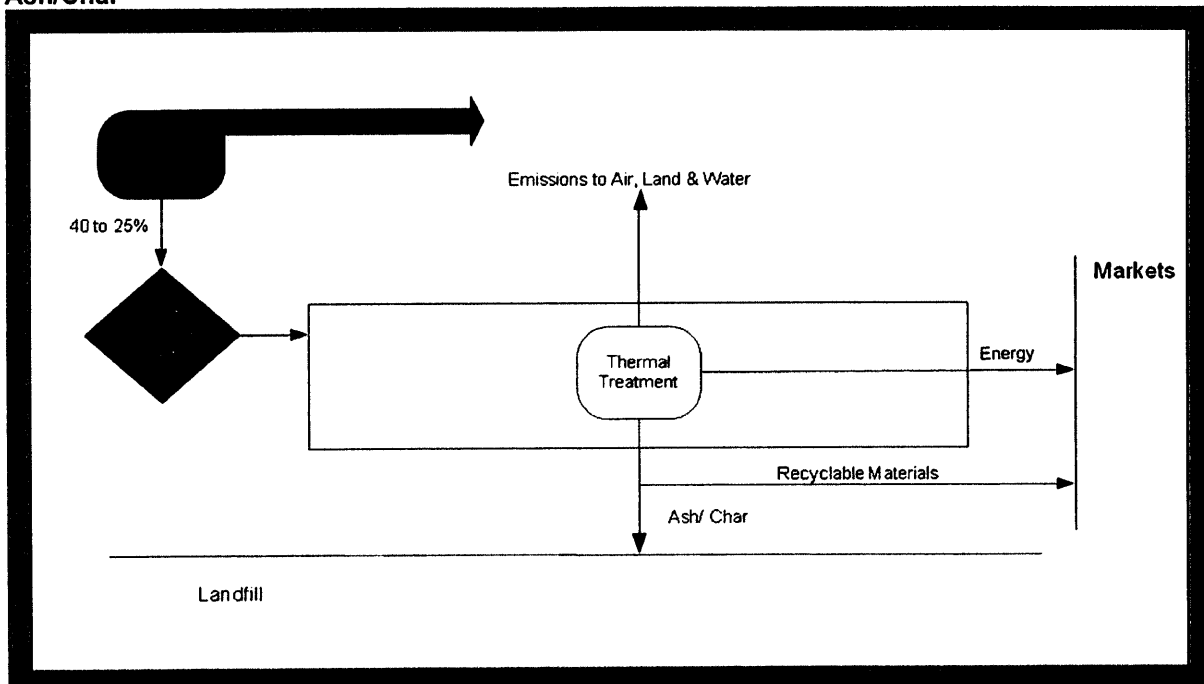
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Through the completion of this seven step evaluation process and based on the consideration of the relative advantages and disadvantages of each system and the priorities established through consultation with the public and agencies, the preferred system to manage the post-diversion or residual wastes is **System 2A – Thermal Treatment of MSW and Recovery of Energy followed by the Recovery of Materials from the Ash/Char.**

More specifically, System 2a (see Figure ES- 4) includes:

- The establishment of thermal treatment capacity to process the residual waste stream and to recover energy;
- Followed by the removal of materials that may be sold to market from the ash/char residue; and,
- The landfilling of all process residues (non-combustible materials removed prior to treatment and the ash/char).

Figure ES- 4 System 2a - Thermal Treatment of Mixed Waste with Recovery of Materials from the Ash/Char



Although System 2a was identified as the Preferred Long-Term Residual Processing System, **System 2b Thermal Treatment of Solid Recovered Fuel** was considered to exhibit an acceptable range of advantages and disadvantages.

It was therefore recommended that the final selection of System 2a as the preferred residual processing system would be based upon the results of the competitive process used during the evaluation of "Alternative methods".

It was recommended that the Request for Qualifications (RFQ) and Request for Proposal (RFP) processes allow for the submission of proposals to implement both System 2a and System 2b,



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and that the final decision on the technologies used to implement the preferred residual processing system would be based on the results of this competitive process.

Systems 2a and 2b are both based on the recovery of energy through thermal treatment. In 2a, recyclable metals are recovered following thermal treatment from the ash or char. In 2b, recyclable materials, including metals and some plastics, are recovered through mechanical treatment. Moisture from the organic fraction in the remaining material is then reduced through biological treatment. The material (now considered a Solid Recovered Fuel (SRF)) is then subjected to thermal treatment. In both cases, only a small proportion of the residual waste stream, typically 10-15% by volume, is exported to landfill. If the bottom ash could be used as construction material as it is in Europe, the percentage of waste to landfill would be reduced to approximately 5% in volume.

In summary, the advantages associated with Systems 2a and 2b include:

- Lowest impacts to water and land;
- Least potential to disrupt sensitive habitat;
- Greatest energy generation – both renewable and total;
- Lowest social impact on landfill host community due to minimizing the quantity of residual waste requiring landfill; and,
- Higher reliability due to minimum dependence on export to landfill.

The disadvantages associated with Systems 2a and 2b include:

- Highest impacts on the air environment, although current technology has the proven ability to exceed all applicable air emission standards;
- Less flexibility to changes in waste quantities and composition; and,
- Need to manage hazardous residues from the pollution control system. (It can be argued that this is not really a disadvantage as the hazardous compounds – primarily heavy metals – are in the waste stream to begin with and are simply landfilled. With the thermal systems, these contaminants are concentrated and removed for stabilization and/or management in a secure landfill.)

When comparing Systems 2a and 2b, alternative system 2a has the advantages of:

- More proven and reliable technology; and,
- Lower costs – based on experience to-date.

Alternative system 2b has the advantages of:

- The potential to recover more recyclables – some plastics as well as metals; and,
- Potential improvements in air emissions, energy conversion efficiency and costs that may be provided by new technologies presently under development.



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“Alternative methods” – Site Identification Process

To measure and evaluate the potential effects and to maximize the potential of locating a site with optimum conditions to support a Thermal Treatment Facility operation identified as the outcome of the evaluation of “Alternatives to”, the scope of the evaluation criteria to be used in the siting process must consider a broadly defined environment. Consideration of a broadly defined environment is also a requirement of the EAA, and for the purpose of this EA Study includes:

- Public Health and Safety and the Natural Environment;
- Social/Cultural Considerations;
- Economic/Financial Considerations;
- Technical Considerations; and,
- Legal Considerations.

To identify a Preferred Site, a seven-step facility site selection process, outlined in Figure ES- 5 has been applied. This step-by-step methodology was originally presented in the Approved EA Terms of Reference.

Section 8 of the EA Study document on “Alternatives methods” is structured to reflect this seven step methodology. Site selection started with a review of the entire study area to identify those areas considered to be generally suitable for the purpose of locating a Thermal Treatment Facility. These generally suitable areas were then systematically evaluated to identify a Long-list of sites followed by additional screening and comparative steps to narrow that list down to a preferred siting option. The following describes the major steps used in this evaluation process:

Step 1 - Prior to initiation of the evaluation of “Alternatives methods” and after a preferred approach (“Alternative to”) had been identified by the EA Study, the proposed evaluation methodology and criteria were reviewed in consultation with the public and agencies. This review sought additional input on the proposed evaluation steps and evaluation criteria presented in the EA Terms of Reference and sought to establish and confirm the priorities to be considered during the evaluation.

Step 2 - The starting point for the area screening process was to identify the boundaries of the study area within which a suitable site could be identified. For this siting process, the study area being considered included all lands within the regional boundaries of Durham and York. Initiation of the facility siting process began with the delineation of the limits of the broad area, within the Regions of Durham and York that consisted of features and land uses considered unsuitable for the establishment of a Thermal Treatment Facility. It was important to conduct this high level screening early in the planning process to focus serious effort within potentially suitable areas, such as designated industrial lands, and to avoid and prevent undue disruption on unsuitable areas, such as significant natural features, agricultural lands and existing residential areas.

The result of this second step was the identification of areas within the study area that were considered generally suitable for the purposes of locating a Thermal Treatment Facility.



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Step 3 - To identify potential sites within the remaining areas, considered potentially suitable for the establishment of a Thermal Treatment Facility, the minimum required site size was determined. The determination of the number of sites required and a minimum site size was essential to Step 4 when initiating the identification of sites to provide a minimum site size to prospective property owners.

Step 4 - Following the identification of potentially suitable areas, and determination of the minimum site size and configuration requirements, Step 4 sought to identify potential siting opportunities within the potentially suitable areas that would meet the minimum site size requirements.

Step 5 - Following the identification of potential sites in Step 4, the number of sites was reduced to a "Short-list" of sites for comparison in greater detail. For the purpose of this level of study, sites were deemed unsuitable for further consideration if they exhibited significant technical, social and/or environmental disadvantages relative to other sites on the list considering an established set of initial comparators. Sites that passed through this evaluation step did not exhibit any obvious disadvantages of significance and were included on a Short-list of alternative sites that was carried forward to Step 6 for a detailed comparative evaluation.

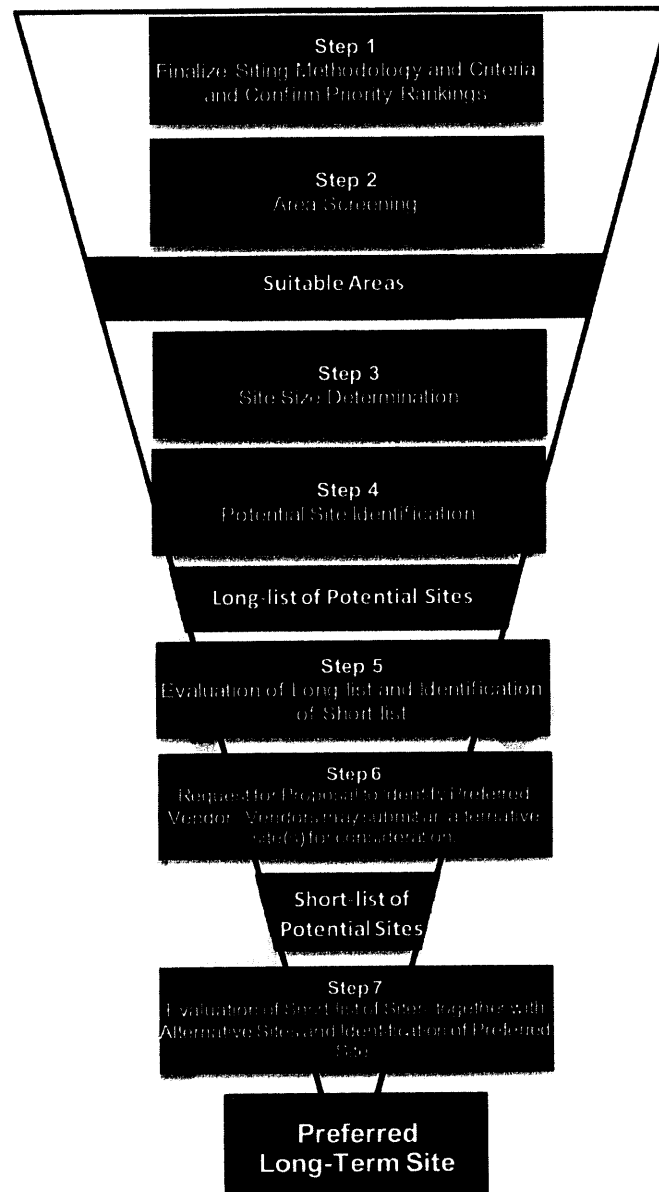
Step 6 - At Step 6 of the process, prospective thermal treatment technology vendors were requested to submit their qualifications through a formal RFQ process for consideration. This resulted in the identification of a short list of qualified vendors that was carried forward to the RFP process.

Step 7 - The purpose of Step 7 was to undertake a detailed evaluation of the Short-list of sites to identify a site exhibiting the preferred balance of advantages and disadvantages given the established priorities of the Regions. The assessment considered the sites as well as associated haul routes, transfer requirements and requirements for additional infrastructure to develop the site. Sites were compared based on a broad range of criteria to identify the "Preferred Site". Step 7 entailed a comparative evaluation of the Short-list sites utilizing criteria and indicators to determine potential effects.

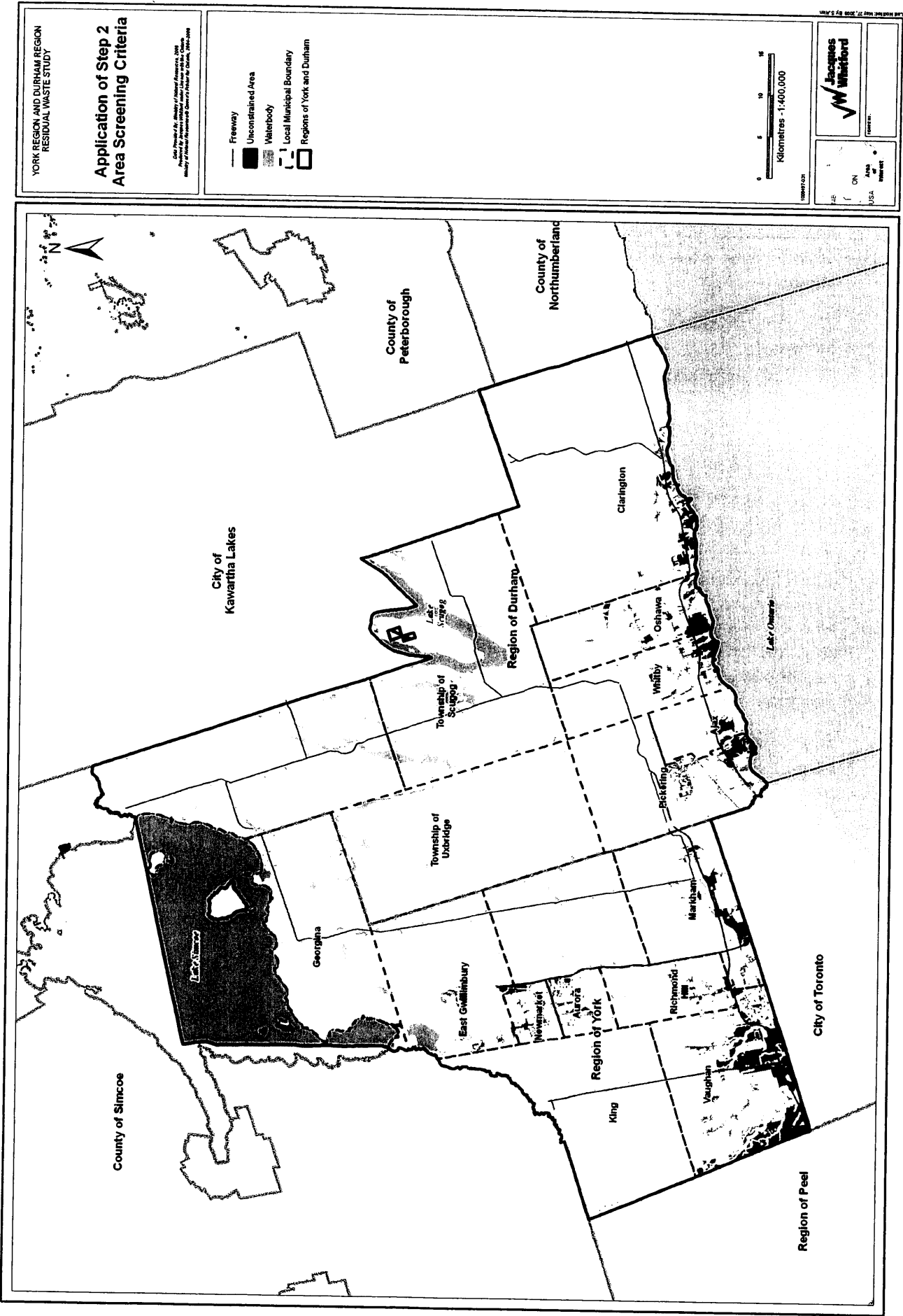
Once the above was final and confirmed, the foundation was laid to allow for the initiation of the identification and evaluation of potential sites, ultimately leading to the identification of a preferred site.



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Figure ES- 5 Overview of the Facility Siting Process

Step 2 revealed that the areas considered as unconstrained make up a small percentage of the Durham and York study area. These areas are primarily located in Durham Region along the Highway 401 corridor and in York Region along the Highway 404 and Highway 407 corridors. These areas consist of primarily industrial and commercial land uses, located away from city centres and suburban communities. These areas are illustrated in the following Figure ES- 6.





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Following the identification of potentially suitable areas and the determination of the minimum site size and configuration requirements, Step 4 was completed to identify a list of potential sites.

It was decided at the outset of this process, based on comments received from a number of agencies, that the Regions would undertake a review of both publicly owned sites, as well as willing seller sites to ensure that both public and private sector siting opportunities were explored.

This site identification process resulted in the identification of twelve (12) siting opportunities as follows:

Public Sites	"Willing Seller" Sites	
East Gwillimbury (1)	Vaughan (1)	Oshawa (2)
Clarington (2)	Pickering (1)	Clarington (3)
	Whitby (1)	Brock Township (1)

The sites identified above, were primarily located on the outer limits of urban development. Typically, when siting these types of facilities it is advantageous to locate the facility close to where the majority of the waste is being generated. However, due to the size of the site required for this facility and the trends in urban growth in both Durham and York (i.e., residential neighbourhoods developing in close proximity to industrial lands), the siting opportunities within the urban industrial areas were limited.

Application of the Area Screening process and Site Size requirements to the twelve public and privately owned potential sites removed five (5) sites from further consideration as follows:

Completion of the preceding steps resulted in the identification of seven (7) sites that form the Long-list of alternative sites. The purpose of establishing and evaluating a Long-list of prospective sites was to reduce the number of sites to a Short-list that would then be compared in greater detail. It is important to conduct this level of evaluation to ensure that only sites with a reasonable chance of being selected would undergo the more detailed comparative evaluation process. For each of the Long-list sites, data was collected, reviewed and applied in accordance with the Long-list evaluation factors identified below:

- Proximity to Required Infrastructure
- Site Accessibility
- Potential Impacts of Haul Route(s)
- Site Size
- Land Use Compatibility
- Site Availability
- Potential Impacts on Unregulated Airports



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In accordance with the Approved EA Terms of Reference, the evaluation of the Long-list of alternative sites incorporates a comparative evaluation process.

It was originally envisioned in the Approved EA Terms of Reference (Step 6) that potential technology vendors would be provided the opportunity to submit a site along with their technology during the RFQ process. Under the advisement of procurement and legal counsel, it was determined that these two processes (submission of a site and submission of technology qualifications) should be completed as two entirely separate processes. Completing these processes as part of the same competitive process could represent an unfair advantage to those vendors offering both a site and technology versus only those vendors providing a technology and thereby could jeopardize the success of the competitive process.

By “uncoupling” the RFQ and RFP processes from the siting process, it allowed for a more “fair” process to those involved and also allowed for the completion of siting activities in advance of a formal RFQ/RFP process for technology(ies). The siting component of Step 6 was addressed through the development of a Request for Expressions of Interest (REOI) to potential technology vendors to provide the opportunity for this group to potentially offer up a site through a formal competitive process as described in the approved EA Terms of Reference.

Following consultation on the Short-list of potential sites, a detailed comparative evaluation of the sites was initiated. This assessment considered a broad range of potential impacts from the sites as well as the haul routes, transfer requirements and requirements for additional infrastructure to develop the sites.

Step 7 utilized criteria and indicators to measure potential effects. Selection of siting preferences considered relative advantages and disadvantages based on net effects after the consideration of mitigation measures reasonably available to address the potential of an effect being realized.

The evaluation criteria applied at this Step were assembled under 5 categories:

- Public Health and Safety and Natural Environment;
- Social and Cultural;
- Economic / Financial;
- Technical Suitability; and,
- Legal.

Based on the consideration of the advantages and disadvantages, the Recommended Preferred Site to manage the post-diversion or residual wastes from the proposed Thermal Treatment Facility is Clarington 01 (Figure ES- 7). This Site is considered to represent the preferred balance of advantages and disadvantages based on the priorities associated with each of the environmental considerations.





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The Clarington 01 Site (the Site) consists of undeveloped land owned by the Region of Durham and located on the west side of Osbourne Road, south of Highway 401 and north of a CN Rail corridor in the Municipality of Clarington. There are commercial properties north of the Site. The lands east and west of the Site are undeveloped and are currently used for agricultural purposes. The Courtice Water Pollution Control Plant, which was completed in 2007, is situated just south of the Site and the Darlington Nuclear Generating Station is located approximately 1.8 kilometres to the east. The nearest major intersection is Highway 401 and Courtice Road, which is approximately 1.7 kilometres from the Site. The Site is approximately 12.1 hectares in area and is located in the Clarington Energy Park.

The following provides a list of the key advantages related to the Clarington 01 Site:

- Provides the shortest round-trip distances traveled for the transportation of waste resulting in the highest haul cost savings of all the sites;
- Provides the least potential impact to water quality when compared to all other sites;
- No on-site hazard lands or other natural features that could constrain development;
- No potential aquatic habitat onsite;
- Most compatible with surrounding land uses when compared to the other sites;
- Furthest from a designated residential area (existing or planned);
- Close to potential market for heat (both existing and future potential); and,
- Owned by Durham and property acquisition is not required.

The following provides a list of the key disadvantages related to the Clarington 01 Site where mitigation measures will potentially be required:

- Potential disadvantage with respect to the Site's close proximity to Highway 401 and the vehicular emissions related to this transportation route;
- Potential does exist, as with most of the other sites, for the presence of species of conservation of concern;
- Site has a high potential for the presence of prehistoric and historic archaeological resources which is common for most properties located close to the lakeshore;
- Development of electrical infrastructure may be required to market electrical energy;
- Site requires extension of water and natural gas servicing which may require additional approvals; and,
- Haul route requires approximately 1.2 kilometres of roadway improvements.

“Alternative methods” - Vendor Identification Process

At the completion of the site identification phase of the EA Study, it was necessary to assess the potential environmental effects of a Thermal Treatment Facility (the Facility) located on the Proposed Thermal Treatment Facility Site (the Site). However, the major components of thermal treatment technologies are proprietary and can differ from vendor to vendor. As a result,



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it was necessary to proceed through a competitive process to identify and engage a vendor of the preferred thermal treatment technology. As a result, to undertake these impacts assessments at a sufficient level of detail to support the EA Study.

To engage a vendor qualified and capable of providing for the design, construction and operation of the Facility, a two stage competitive process was utilized.

Based on the submission evaluation process, five (5) proponents were pre-qualified to submit detailed proposals in response to the RFP.

On August 22, 2008 the RFP was issued to the five pre-qualified proponents. The RFP, which closed on February 19, 2009, resulted in four (4) submissions for the Design, Construction and Operation of the Thermal Treatment Facility.

Based upon current best practices and considering the magnitude and complexity of the Project, the entire RFP process was subjected to rigorous due diligence rules and procedures consistent with common best practices applied by major provincial and federal infrastructure procurement agencies across Canada to ensure integrity and an ability to withstand any challenge regarding any impropriety.

The evaluation team, which considered proposals on the basis of pre-approved evaluation criteria (included in the RFP document) that considered three elements (Technical, Project Delivery, Cost and Commercial Elements) of the proposals.

Based on their consensus evaluation, the evaluation team unanimously recommended Covanta Energy Corporation (Covanta) as the preferred vendor. Covanta not only achieved the highest aggregate score, but also achieved the highest score in each of the three elements outlined in the RFP.

Covanta is proposing to be the single source, full service contractor to design, permit, build, startup, commission and operate a Thermal Treatment Facility with an initial design capacity of 140,000 tonnes per year (tpy) (expandable to a projected maximum design capacity of 400,000 tpy) for the Regions. Covanta is the largest provider of thermal treatment services in North America with 35 operating facilities in the United States, including 24 that were designed and built directly by Covanta. The Covanta Team includes: Aecon Group, Inc. (Construction Services); Sigma Energy Solutions (Engineering); McMillan Associates (Architects); CH2M Hill (Environmental Consultant); and Miller Waste Systems (Waste Disposal/Transportation).

Identification and Description of the Undertaking

The Undertaking, as defined by this EA, is a Thermal Treatment Facility, capable of processing post-diversion residual waste and recovering materials and energy of sufficient quality and quantity to export to the marketplace (recovered metals, electricity and eventually the possibility of district heating and cooling) with a projected maximum design capacity of 400,000 tpy. The Facility will be designed, built and operated on the Clarington 01 Site, located in the Municipality of Clarington, Regional Municipality of Durham.

At the initial design capacity of 140,000 tpy, there will be two completely independent waste processing trains at the Facility. Each train will consist of a feed chute, stoker, integrated



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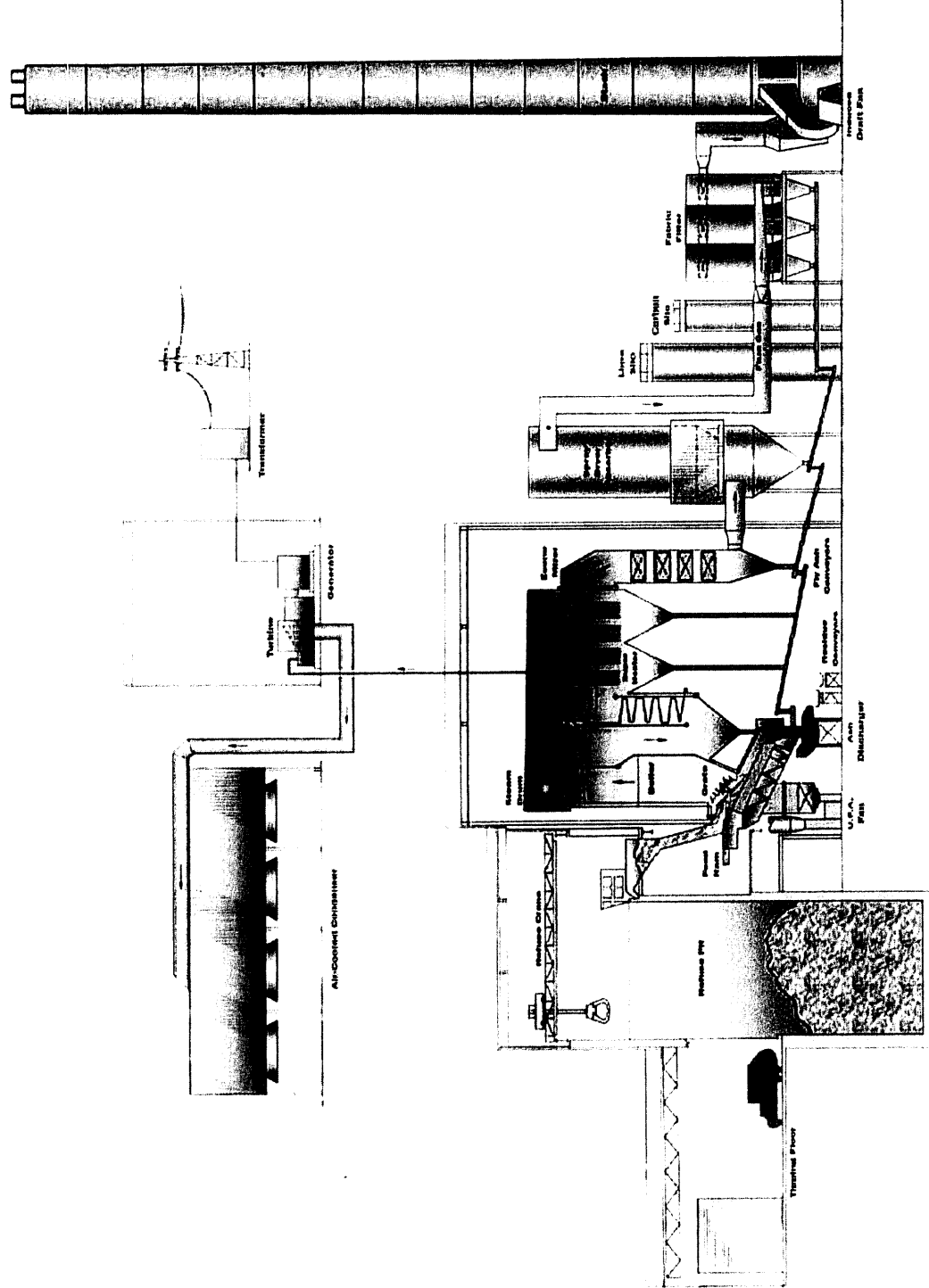
furnace/boiler, acid gas scrubber, a fabric filter baghouse and associated ash and residue collection systems. Steam produced in the boilers will drive an electrical power generating system consisting of one turbine-generator set, switchgear and an air cooled condenser, to produce electricity for delivery to the grid, for in-plant use and potentially to provide district heating and/or cooling to the neighbouring Courtice Water Pollution Control Plant and Clarington Energy Business Park.

The following Figure ES- 8 illustrates a simplified conceptual process flow for the Facility and its operations.



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Figure ES- 8 Conceptual Facility Process Flow



Note: This is a conceptual diagram and is not entirely representative of the actual facility to be built.

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The Facility description provided in the EA Study document describes each component of the facility including:

- Facility Structures;
- Waste Receiving, Storage and Handling;
- Refuse Combustion;
- Air Pollution Control Equipment;
- Residue Handling;
- Energy Production;
- Potable, Process and Waste Water;
- Process Control Systems; and,
- Process Mass and Energy Balance.

It is anticipated that over the 35 year planning period there may be a need to expand the Facility in order to accommodate the processing of additional post-diversion residual wastes as a result of a number of factors including:

- whether or not Durham and York achieve a diversion rate of 60% by 2011;
- whether or not higher diversion rates are achieved during the planning period;
- whether there is potential for managing post-diversion residual waste from neighbouring non-GTA municipalities;
- economic growth and other factors which could result in higher overall quantities of waste requiring disposal over the planning period; and,
- initiatives such as extended producer responsibility which could result in lower quantities of waste requiring disposal over the planning period.

The design of the Facility is such that it can accommodate the initial design capacity and many aspects of the expansion requirements. The Facility design also includes provisions for future supply of hot water district heating with 100% availability to the nearby Courtice Water Pollution Control Plant and the future Clarington Energy Business Park.

Assessment of the Undertaking

Following the identification of the Undertaking, a detailed assessment was conducted to identify the potential effects, impact management measures and net effects of the Undertaking on the environment together with a summary of recommended environmental management measures. The discussion has been organized into two subsections. The first considers the Undertaking at an initial design capacity of 140,000 tpy (140,000 tpy scenario). The second subsection provides a summary discussion of the potential effects of the Undertaking assuming a projected maximum design capacity of 400,000 tpy (400,000 tpy scenario).

A more definitive assessment of the Undertaking was completed for the 140,000 tpy scenario since there is a clear understanding of the process design components and related potential

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effects of the Facility at this initial stage of development. The assessment of potential effects at the projected possible maximum design capacity of 400,000 tpy is, by necessity, more general since many of the design and performance elements of the Facility, used in this potential effects assessment, are not specifically known at this time.

Several site-specific assessments and analyses of potential environmental effects have been carried out for the Undertaking. The site-specific assessments and analyses of potential environmental effects have been documented in the following Technical Study Reports that are appended to this EA:

- *Air Quality Assessment Technical Study Report;*
- *Surface Water and Groundwater Assessment Technical Study Report;*
- *Facility Energy and Life Cycle Assessment;*
- *Geotechnical Investigation Technical Study Report;*
- *Acoustic Assessment Technical Study Report;*
- *Visual Assessment Technical Study Report;*
- *Natural Environment Assessment Technical Study Report;*
- *Social/Cultural Assessment Technical Study Report;*
- *Stage 2 Archaeological Assessment and Built Heritage Assessment Technical Study Report;*
- *Traffic Assessment Technical Study Report;*
- *Economic Assessment Technical Study Report; and,*
- *Site-Specific Human Health and Ecological Risk Assessment (HHERA) Technical Study Report.*

The background information drawn from the Technical Study Reports is described, as necessary, to facilitate an understanding of the environmental effects, a description of the methodologies applied, a summary of the potential effects, proposed impact management measures, and conclusions associated with the assessment of the Undertaking. Each of the Technical Study Reports has considered the potential effects during the construction and operation of the Facility. Potential effects during construction have been assessed for only the initial construction activities. As stated, potential effects associated with operating the Facility have been assessed for both the initial design capacity scenario of 140,000 tpy and a projected maximum potential (400,000 tpy) design capacity scenario.

There are both potential advantages and disadvantages associated with the Undertaking at its initial design capacity of 140,000 tpy and at the project maximum design capacity of 400,000 tpy. These advantages and disadvantages reflect the net effects that may exist after the application of impact management measures which would likely last throughout the operational period until closure of the Facility. The following provides a qualitative discussion of the potential advantages and disadvantages of the Undertaking based on the net (or residual) effects.



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For many aspects of the environment there are neither advantages nor disadvantages, as no net effect of the Undertaking on the environment has been identified. The following is a summary of the aspects of the environment for which minimal to no effects are anticipated for the 140,000 tpy and 400,000 tpy scenarios:

Initial Design Capacity of 140,000 tpy:

- In regards to air quality, intermittent vehicle and dust emissions are addressed through a variety of good construction practices. Emissions during Facility construction would be the same as any other medium-sized construction site in southern Ontario. Given the results of the assessment of air emissions, no Human Health or Ecological risk has been identified related to construction.
- During operation, air emissions are predicted to meet applicable ambient air quality criteria and would meet or, more commonly, would be below the current air contaminant limits placed on municipal waste incinerators. The change in ozone formation due to Facility emissions is expected to be minimal based on the magnitudes of the maximum NOx and VOC emissions.
- The results of the air emissions modeling and HHERA indicate that there would be no adverse health effects to human receptors exposed either by way of inhalation or via other environmental media to emissions from the Facility or from the operation of vehicles directly related to the Facility. In addition, there would be no adverse ecological effects associated with the emissions from the Facility.
- No adverse effects at offsite locations are expected from Facility-based odour given the proposed Facility design.
- Provisions included in the Facility design for stormwater management (SWM) on the Site will meet enhanced design guidance criteria found in the MOE *SWM Planning and Design Manual*, and proposed measures to reduce runoff potential provide an enhanced level of receiving water protection.
- No effects to local groundwater resources are expected during construction or operations. The Site will be serviced via municipal infrastructure (sewer and water).
- The Facility would be designed to current standards incorporating efficiencies and design enhancements that reduce sound emissions. The predicted potential noise levels at all nearby points of reception are less than the applicable criteria for the operational scenario assessed for the Facility.
- Effects to local wildlife and habitat are anticipated to be minimal given that: no populations of species of special concern, threatened and/or endangered species; no ANSI, PSWs or ESAs; and, no significant wildlife habitat, woodlands or wetlands are potentially affected by the Facility. In addition, no permanent watercourses are located onsite and no fish habitat or species are located onsite.
- The Facility is compatible with existing and planned land uses. During construction, minimal net effects are anticipated in the short-term to the closest social/cultural receptors related to noise/vibration, dust and visual effects. During operations, there will



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be minimal to no effect from most physical parameters (odour, noise, dust, vermin/vectors, litter and traffic) on residential properties, public facilities or institutions or cultural/recreational resources. It is anticipated the Facility would have a minimal effect on the landscape, while having an overall medium level visual effect on some receptors within proximity to the Facility. Existing land use designations and proposed land use changes indicate that the area around the Site is currently occupied by a mixture of commercial/industrial land uses and undeveloped land and is designated for a mixture of prestige employment and light industrial land uses which would be compatible with the Facility.

- Stage 2 Archaeological Assessment identified no archaeological artifacts or sites of significance on the Site and there are no significant built heritage features on or near the Site.
- The Facility is anticipated to result in minimal disruption to the local traffic network. The only improvements proposed that would be specific to the Facility would be road/pavement improvements to the South Service Road and Osbourne Road to accommodate construction and operational vehicles. Future development of the Clarington Energy Business Park (CEBP) will generate significantly more traffic in the area that would likely necessitate some traffic control measures (traffic signals, loop ramps, etc.).
- The Facility has the potential to have either a neutral or positive effect on property value in the immediate vicinity of the Site within the CEBP, given the investment in infrastructure (road access, district heating) associated with the Facility. In regards to the effect of the Facility on property value outside the CEBP, current European experience indicates that Thermal Treatment Facilities have no effect on the value or salability of property in areas around such facilities, while North American experience indicates that short-term effects may result from the perception of the impacts of proposed facilities that could be addressed through a Community Relations Plan.

Project Maximum Design Capacity of 400,000 tpy:

- In regards to air quality, similar the 140,000 tpy scenario, intermittent vehicle and dust emissions are addressed through a variety of good construction practices. Emissions during Facility construction would be the same as any other medium-sized construction site in southern Ontario. Given the results of the assessment of air emissions, no risk to Human Health or Ecological Risk has been identified related to construction.
- During operation and "process upsets", air emissions are predicted to meet applicable ambient air quality criteria and would meet or, more commonly, would be below the current air contaminant limits placed on municipal waste incinerators. The change in ozone formation due to Facility emissions is expected to be minimal based on the magnitudes of the maximum NOx and VOC emissions.
- The results of the air emissions modeling and HHERA indicate that during normal operations there would be no adverse health effects to human receptors exposed either by way of inhalation or via other environmental media to emissions from the Facility or from the operation of vehicles directly related to the Facility. In addition, there would be



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- no adverse ecological effects associated with the emissions from the Facility during normal operations or "process upset" conditions.
- No adverse effects at offsite locations are expected from Facility-based odour given the proposed Facility design.
 - Provisions are included in the Facility design for SWM on the Site to meet enhanced design guidance criteria found in the MOE *SWM Planning and Design Manual*, and proposed measures to reduce runoff potential provides an enhanced level of receiving water protection. During construction of the expanded Facility, the existing SWM pond should provide adequate stormwater retention and drawdown requirements. It is recommended that pond capacity expansion is undertaken in the early stages of the 400,000 tpy scenario construction.
 - No effects to local groundwater resources are expected during construction or operations. The Site will be serviced via municipal infrastructure (sewer and water).
 - The Facility would be designed to current standards incorporating efficiencies and design enhancements that reduce sound emissions. There is a minor predicted increase in potential operational noise at some of the PORs for the projected maximum design capacity of 400,000 tpy compared to the initial design capacity of 140,000 tpy. However, based on the results of the acoustical modelling considering ambient noise levels and predicted noise levels from the projected maximum design capacity (400,000 tpy scenario) Facility and traffic sources, the predicted noise levels at all nearby PORs are less than the applicable criteria (Class 2 noise limits).
 - Effects to local wildlife and habitat are anticipated to be minimal given that: no populations of species of special concern, threatened and/or endangered species; no ANSI, PSWs or ESAs; and, no significant wildlife habitat, woodlands or wetlands are potentially affected by the Facility. In addition, no permanent watercourses are located onsite and no fish habitat or species are located onsite.
 - The Facility is compatible with existing and planned land uses. During construction, minimal net effects are anticipated in the short-term to the closest social/cultural receptors related to noise/vibration, dust and visual effects. During operations, there will be minimal to no effect from most physical parameters (odour, noise, dust, vermin/vectors, litter and traffic) on residential properties, public facilities or institutions or cultural/recreational resources. It is anticipated the Facility would have a minimal effect on the landscape, while having an overall medium level visual effect on some receptors within 1km proximity to the Facility. Existing land use designations and proposed land use changes indicate that the area around the Site will continue to be occupied by a mixture of commercial/industrial land uses which would be compatible with the Facility.
 - Stage 2 Archaeological Assessment identified no archaeological artifacts or sites of significance on the Site and there are no significant built heritage features on or near the Site.
 - The Facility is anticipated to result in minimal disruption to the local traffic network. The only improvements proposed that would be specific to the Facility would be



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road/pavement improvements to the South Service Road and Osbourne Road to accommodate construction and operational vehicles. No traffic control measures are required on the adjacent road network to accommodate traffic during operations of the Facility at 400,000 tpy. The future total traffic analysis without the development of the CEBP (assuming growth in background traffic based on historical traffic data) revealed acceptable operations at all Study Area intersections. Traffic control measures including signal changes may be required by the year 2023 with the full build-out of the CEBP.

- The Facility has the potential to have either a neutral or positive effect on property value in the immediate vicinity of the Site within the CEBP, given the investment in infrastructure (road access, district heating) associated with the Facility. In regards to the effect of the Facility on property value outside the CEBP, current European experience indicates that Thermal Treatment Facilities have no effect on the value or salability of property in areas around such facilities, while North American experience indicates that short-term effects may result from the perception of the impacts of proposed facilities that could be addressed through a CRP.

Potential advantages of the Undertaking for the 140,000 tpy and 400,000 tpy scenarios include:

Initial Design Capacity of 140,000 tpy:

- An overall reduction in the environmental burden associated with residual waste disposal given that Life Cycle Analysis indicates that the Facility would result in:
 - A net reduction in overall GHG emissions, considering both direct emissions, indirect emissions/offsets associated with recovery of energy and metals and avoided methane emissions from landfill;
 - An overall net reduction in emissions of Acid Gases and Smog Precursors;
 - A net reduction in emissions to water; and,
 - Annual energy benefits of between 94,000 MWh and 107,000 MWh of electricity generated/saved and 7.8 million m³ of natural gas saved if the Facility provides heating or heating/cooling to the CEBP.
- Recovery of approximately 14,750 tonnes annually of ferrous and non-ferrous metals from the post-diversion residual waste stream that would have otherwise been landfilled, particularly as the majority of these metals would be recovered from materials (e.g., mattress boxsprings) that are not acceptable in the Ontario Blue Box program.
- The Facility is expected to have a positive effect on the economic environment in the Region during construction and operations as:
 - During construction, the Facility will result in an increase in full-time employment for the labour force directly employed to construct the Facility, the local capital investment in the Facility that could result in 1,000 or more full-time equivalent positions and induced employment resulting from the purchase of goods and services by the labour force.

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- During operations, the Facility will result in an increase in full-time employment for the 33 full-time positions required to manage and operate the Facility and the 100 to 114 indirect/induced full-time equivalent employment positions resulting from the \$10 to \$14 million per year that would potentially be spent on local/regionally sourced labour, goods and services.
- The Municipality of Clarington could benefit from the potential investment by Durham in infrastructure near the Facility and in Payment in Lieu of taxes that have been set out in the proposed Host Community Agreement.
- There is minimal potential for the Facility to disrupt the use and enjoyment of local businesses or agriculture, with the only anticipated effect being short-term noise and visual effects during construction. Local businesses stand to benefit from the up to \$118 million that is anticipated to be spent during construction and the \$10 to \$14 million per annum that would be spent during operations on local/regionally sourced labour, goods and services.

Project Maximum Design Capacity of 400,000 tpy:

- An overall reduction in the environmental burden associated with residual waste disposal given that LCA indicates that the Facility would result in:
 - A net reduction in overall GHG emissions, considering both direct emissions, indirect emissions/offsets associated with recovery of energy and metals and avoided methane emissions from landfill;
 - An overall net reduction in emissions of Acid Gases and Smog Precursors;
 - A net reduction in emissions to water; and,
 - Net energy production, with the Facility providing a local source of electrical and heat energy. At maximum capacity the Facility could potentially produce approximately 3,180,000 GJ/yr of energy when only electrical energy is recovered, 3,513,000 GJ/yr when, in addition, heat is also recovered for district heating at a high efficiency, and 3,593,000 GJ/yr when heat recovery for district cooling is added (also at a high efficiency).
- Recovery of approximately 42,160 tonnes annually of ferrous and non-ferrous metals from the post-diversion residual waste stream that would have otherwise been landfilled, particularly as the majority of these metals would be recovered from materials (e.g., mattress boxsprings) that are not acceptable in the Ontario Blue Box program.
- The Facility is expected to have a positive effect on the economic environment in the Region during construction and operations as:
 - During construction, the Facility will result in an increase in person-years of employment for the labour force directly employed to construct the Facility, increases in indirect employment and induced employment resulting from the purchase of goods and services by the labour force.



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- The Municipality of Clarington could benefit from the potential investment by Durham in infrastructure near the Facility. The value of property taxes (or payment in lieu of taxes) paid to the Municipality of Clarington as a result of the Project under a 400,000 tpy operating scenario has yet to be determined, but would likely be the same as or greater than that paid under the 140,000 tpy scenario.
- There is minimal potential for the Facility to disrupt the use and enjoyment of local businesses or agriculture, with the only anticipated effect being short-term noise and visual effects during construction. Local businesses stand to benefit from the investment in construction and during operations on local/regionally sourced labour, goods and services.

Potential disadvantages of the Undertaking for the 140,000 tpy and 400,000 tpy scenarios include:

Initial Design Capacity of 140,000 tpy:

- There is some potential for short-term construction related net effects from noise levels associated with pile driving (if required) and increased short-term offsite vehicle traffic. Also, some short-term visual disturbances could affect receptors within approximately 1 km of the Site.
- The presence of the Facility cannot be readily shielded from the adjacent roadways, and could result in a change to the existing local landscape for the duration of the operational period for the Facility. It is anticipated the Facility would have a minimal visual effect on the landscape, while having an overall medium level visual effect on some receptors within proximity to the Facility. While the stack could be visible from various vantages in the Region, the dimensions of the stack and the surrounding topography make it unlikely that the stack would be visible in areas of higher population densities.

Project Maximum Design Capacity of 400,000 tpy:

- Some potential exists for noise and vibration effects during the construction phase of the 400,000 tpy scenario Facility. Generally, vibration effects would be confined to a couple of hundred metres, but noise is not. There are two construction activities that are likely to create elevated sound levels that are difficult to mitigate. These are similar to the initial design capacity scenario and include pile driving activities associated with the construction at the Facility (if required) and potentially increased short-term (i.e., 1-hour) offsite vehicle traffic associated with construction. However, this would depend on the future road network. These activities would only be a concern during worst-case conditions. They are temporary and of short duration relative to the Facility construction, and would cease upon completion construction activities.
- The overall visual effect of the 400,000 tpy scenario, in addition to other planned and disclosed future projects, including the initial 140,000 tpy scenario, would likely result in minor visual effects. This is because it is expected that the landscape sensitivity and magnitude rankings would decrease over time because of the increased development in the area. Overall, the visual difference of the 400,000 tpy scenario Facility compared to the 140,000 tpy Facility would not be considerable.

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- During potential “process upset” conditions, a limited number of chemicals resulted in slightly elevated potential risks above two government benchmarks for human health. The two slight exceedances of benchmark risk levels were seen when the Facility was operating under “process upset” conditions, where two out of three exhaust streams affected by a process upset such as start-up or equipment malfunction, for the entire one hour period, and at the time of the worst meteorological conditions. The probability of this hypothetical situation actually occurring is expected to be very low. Regardless, in the event that a 400,000 tpy expansion of the Facility is eventually contemplated, special consideration would be given at that time to ensure that “process upset” conditions do not result in an undue risk to people living and working in the area surrounding the Facility.

Changes to the EA

Although the EA Study document includes consideration of the appropriate level of details about the Undertaking as part of the planning process, the details of the Project will be refined and other changes may arise during the design phase and/or during the construction and operational periods. This section describes the proposed procedure to accommodate changes to the Project. These changes could occur because the environmental setting has changed since the Undertaking was approved or there is a new technology of which the Regions would like to take advantage.

Commitments

To ensure the Facility is designed, constructed and operated in accordance with the requirements set out in this EA Study document and applicable legislation, the Regions have developed a plan that sets out how and when all commitments, including impact management measures, made in the EA Study document will be fulfilled. This plan also documents how the Regions will report to the Ministry on compliance.

All environmental mitigation and commitments to future work during construction, operation, and post-closure with respect to the Undertaking for the EA in general as well as those found in the site-specific technical study reports have been documented in this section.

Monitoring

To ensure compliance with the EA Study during construction, operation and closure, the Regions will prepare and submit an Environmental Assessment Compliance Monitoring Program to the MOE for consideration. The program will include monitoring of the fulfillment of the EA Study document’s mitigation measures, consultation, further studies and work to be carried out, as well as commitments made and described in the EA Study.

Additional Approval Requirements

The proponent is committed to ensuring that all applicable regulatory requirements related to the Undertaking will be met. In addition to the EA requirements, there are other approvals and agreements that are potentially applicable the Proposed Undertaking. These approvals include



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such things as a municipal building permit, site plan approval, Certificates of Approval under the *Environmental Protection Act*, etc.

Consultation Summary

Throughout the EA process, a considerable level of effort has been expended on consultation. The consultation summary provides an overview of all consultation activities undertaken during the EA Study. It documents the consultation activities conducted during the EA process, in accordance with the requirements of the EAA, the Approved Terms of Reference, and the Consultation Code of Practice. Consultation completed as part of the EA process includes input received from interested parties including the general public, government agencies (including the federal government), non-governmental organizations (NGOs) and First Nations, all of which have provided feedback that has been, and will continue to be, considered as the Project continues forward.

As part of the Communications Strategy developed by the Regions, consultation occurred through the development of public liaison committees such as the Joint Waste Management Group and the Site Liaison Committee, other committees and consultation with Government Agencies, First Nations, the public and other interested parties (e.g., non-governmental organizations).

Consultation occurred through newspaper, radio and TV advertising, a mailing list, an EA Study website (www.durhamyorkwaste.ca) maintained throughout the course of the EA Study, public polling, consultation events such as public information centres, and opportunities for delegations at Regional Committee and Council meetings.

Although opportunities for public input were available throughout the EA Study, consultation events typically took place during major milestones such as at the identification of the preferred technology, Short-list of sites, preferred site, and for the results of the Draft EA Study document and site-specific studies.

These consultation events have been summarized in the EA document, as well as described in more detail in the Record of Consultation, which has been submitted as a separate document to the EA Study document.

Closure and Commitment to Continuous Improvement

Implementation of the Undertaking will provide Durham and York with a long-term, local, and sustainable waste management alternative that will ensure the protection of human health and the environment, while taking advantage of waste as a resource and generating energy for the local community.

This EA Study document has assessed the potential effects of the Undertaking during the construction, operation, and post-closure period considering appropriate and feasible mitigation, monitoring, and management plans to minimize any associated potential effects. However, over the course of the construction and operation periods there may be possible improvements that could be considered as a result of new technology or processes. The Regions understand the importance of minimizing any potential adverse effects and enhancing potential opportunities



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that would also benefit the environment and potentially affected stakeholders. The Regions will appropriately investigate the opportunities afforded by new technologies as they become available.

***Please note: Complete Draft Final EA is contained on enclosed CD**

