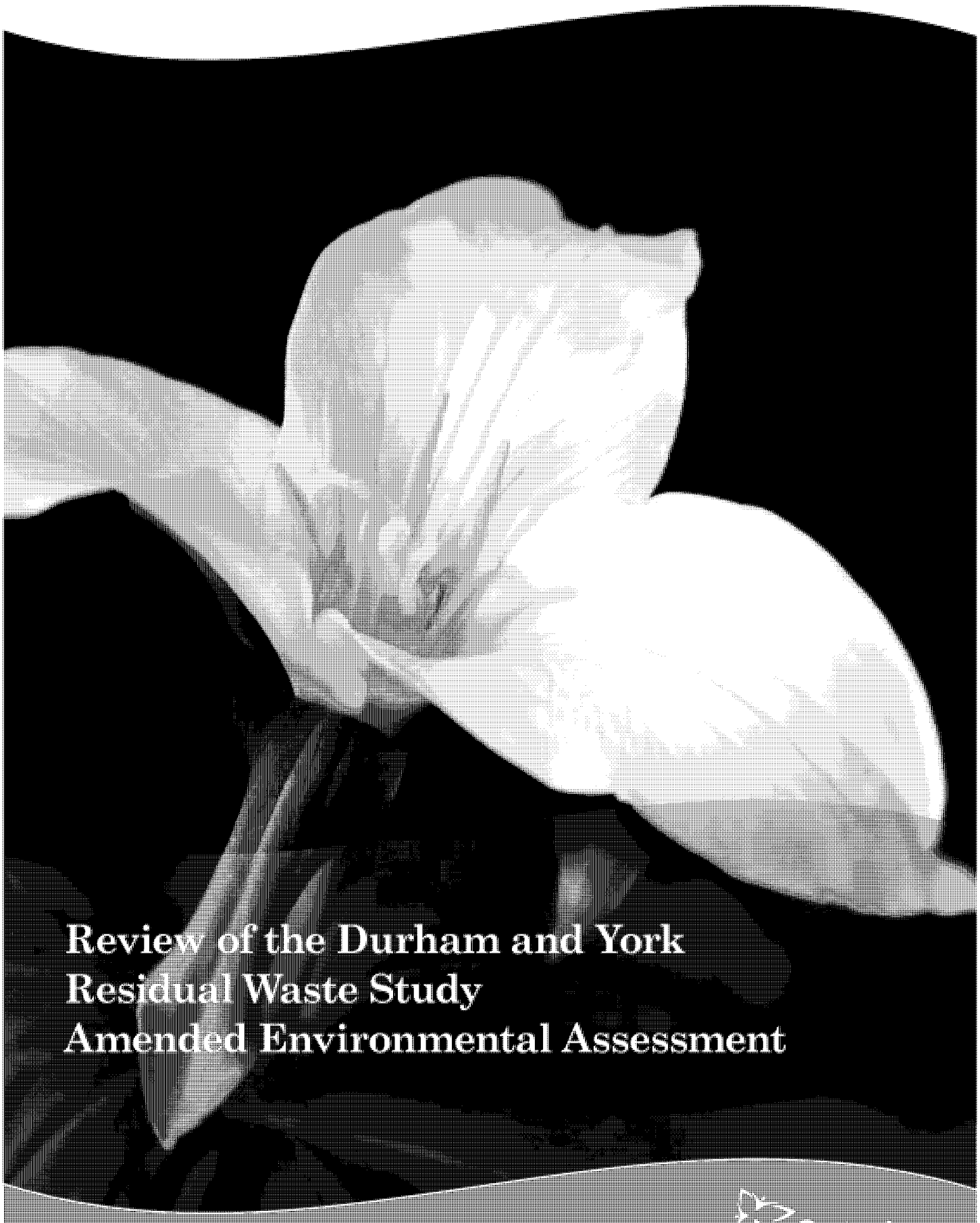

Review of the Durham and York Residual Waste Study Amended Environmental Assessment

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The public record for this environmental assessment can be reviewed during normal business hours at the following ministry office:

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Voice: 416-314-8001/1-800-461-6290
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The Review and Notice of Completion are also available at the following locations:

Ministry of the Environment
Environmental Assessment and Approvals Branch
2 St. Clair Avenue West, Floor 12A
Toronto, Ontario M4V 1L5
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The Regional Municipality of Durham
Clerk's Department
605 Rossland Rd. E.
Whitby, Ontario L1N 6A3
905-668-7711

The Regional Municipality of York
Clerk's Department
17250 Yonge Street, 4th Floor
Newmarket, Ontario L3Y 6Z1
1-877-464-9675 ext. 1320

All Municipalities' Clerk's Departments in the Region of Durham and all public libraries in the Regions of Durham and York.

This Review is subject to the provisions of Ontario Regulation 616/98 which sets out a deadline for the completion of this document. The deadline for the completion of the Review was February 19, 2010. This paragraph and the giving of the Notice of Completion are the notices required by subsection 7(3) of the *Environmental Assessment Act*. The Review documents the ministry's evaluation of the amended EA and takes the comments of the government agencies, the public and Aboriginal communities into consideration.

Cette publication hautement spécialisée n'est disponible qu'en anglais en vertu du règlement 441/97, qui en exempte l'application de la Loi sur les services en français. Pour obtenir de l'aide en français, veuillez communiquer avec le ministère de l'Environnement au 1-800-461-6290.

Review of the Durham and York Residual Waste Study Amended Environmental Assessment

Review prepared pursuant to subsection 7(1) of the Environmental Assessment Act, R.S.O. 1990 Province of Ontario by the Ontario Ministry of the Environment, Environmental Assessment and Approvals Branch

PIBS 7430e

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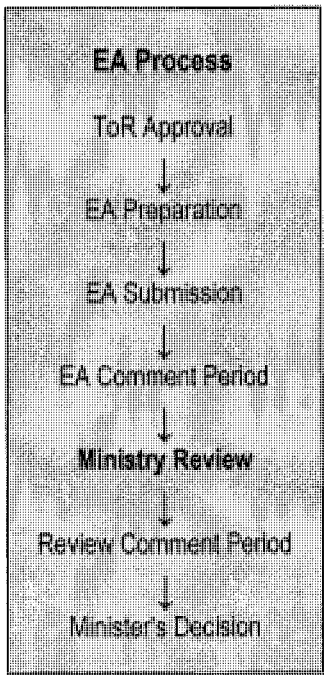
Executive Summary

WHO	The Regional Municipalities of Durham and York.
WHAT	Ministry Review of the Amended Environmental Assessment (EA) for the proposed undertaking which includes the construction and operation of a Thermal Treatment Waste Management Facility capable of processing up to 140,000 tonnes of residual municipal solid waste (the waste remaining after diversion) annually. The facility will include an electrical power generating system which will produce electricity for in-house use and delivery to the municipal grid.
WHEN	Original EA Submitted: July 31, 2009. Amended EA submitted: November 27, 2009 Addendum to amended EA submitted: December 21, 2009 Ministry Review comment period: February 26, 2010 – April 2, 2010.
WHERE	The proposed thermal treatment facility is to be located south of Highway 401 on the west side of Osborne Road and north of the CN Rail corridor in the Municipality of Clarington.
WHY	The undertaking is intended to provide the Regions of Durham and York with a long term sustainable solution to manage the solid waste remaining after diversion (reuse, reduction, recycling and composting) and to minimize the amount of waste requiring landfill disposal.
CONCLUSIONS	The ministry Review has concluded that the EA has been prepared in accordance with the approved Terms of Reference and the *Environmental Assessment Act.* The proposed thermal treatment facility will benefit the communities in the Regional Municipalities of Durham and York. The ministry is satisfied that the proposed mitigation methods and contingencies will ensure that any potential negative impacts will be minimized and managed.

1. Environmental Assessment Process

Environmental Assessment (EA) is a proponent led planning process designed to incorporate the consideration of the environment into decision making by assessing the potential effects of an undertaking on the environment. In Ontario, the *Environmental Assessment Act* (EAA) sets out the general contents for the preparation of an EA, as well as the ministry's evaluation process. For those proponents and undertakings subject to the EAA, approval under the EAA is required before the undertaking can proceed.



Proponents address a wide range of potential effects on the natural, social, cultural and economic environments to ensure the protection, conservation and wise management of the potential environment. An EA determines, on the basis of the environmental effects, if an undertaking should proceed, and if so, how potential environmental effects can be managed.

An EA may identify a problem or opportunity, consider alternative ways of addressing the problem or opportunity, evaluate the potential environmental effects of the alternatives and select a preferred undertaking from the alternatives. The EA must also consider actions to avoid, reduce and mitigate potential environmental effects. In preparing the EA, the proponent will complete various studies and consult with interested stakeholders, including government agencies, the public and potentially affected Aboriginal communities, to evaluate the alternatives and determine the preferred undertaking. Once the undertaking is approved, the proponent is required to carry out monitoring in order to demonstrate compliance with standards, regulations and conditions of EAA approval.

1.1 Terms of Reference

The first step in the application for approval to proceed with an undertaking under the EAA is the submission of a Terms of Reference (ToR) to the Ministry of the Environment (ministry) for approval. An approved ToR becomes the framework for the preparation of an EA.

On December 31, 2005 the Regional Municipalities of Durham and York (Regions) submitted the Durham and York Residual Waste Disposal Planning Study ToR to the ministry for approval. The ToR stated that the EA would be prepared in accordance with Section 6(2)(a) of the EAA. The ToR established the rationale for identifying a long term sustainable solution to manage the Regions' municipal solid waste (MSW) remaining after diversion (reuse, reduction, recycling and composting) and to minimize the amount

of waste requiring landfill disposal. The ToR described how the Regions would assess alternatives, assess potential environmental effects and consult with the interested persons during the preparation of the EA.

The ToR was made available for a thirty day public and government agency comment period which ended on February 6, 2006. During this time all interested persons, government agencies and Aboriginal communities could review and provide comments about the proposed ToR to the ministry for consideration.

The Minister approved the Durham and York Residual Waste Disposal Planning Study ToR on March 31, 2006.

1.2 Environmental Assessment

The application for approval to proceed with an undertaking under the EAA is completed with the submission of an EA to the Minister of the Environment (Minister) for review and a decision. The EA must be prepared in accordance with the approved ToR. The Regions submitted the Durham and York Residual Waste Study EA to the ministry on July 31, 2009. The EA seeks approval to construct and operate a thermal treatment facility in the Municipality of Clarington. The facility, if approved, would receive and process up to 140,000 tonnes of residual MSW annually.

The EA was made available for a seven week public and government agency comment period which ended on September 25, 2009. During this time all interested persons, government agencies and Aboriginal communities could review and provide comments on the EA. The EA was also circulated to a Government Review Team (GRT) made up of federal, provincial and local government agencies. The GRT reviewed the EA to ensure that the information and conclusions in the EA were valid, based on their agencies' mandates.

All comments received by the ministry during the initial comment period on the original EA (July 2009) were forwarded to the Regions for a response. Summaries of the comments received during the initial comment period on the original EA (July 2009), along with the Regions' responses can be found in Tables 1 to 3 of this ministry Review (Review).

On November 27, 2009, the Regions formally submitted an amended EA for a thermal treatment waste management facility to the ministry for review and a decision. Additional information clarifying and addressing the concerns raised during the initial EA comment period was added to the original EA (July 2009) by way of the amendment.

The amended EA (November 2009) was circulated to the GRT for comment and to ensure that the concerns raised were addressed. The amended EA (November 2009) was made available for a three week GRT comment period which ended on December 18, 2009. The Regions also provided written notice to all persons, Aboriginal communities

and government agencies who participated during the EA process to inform all participants about the submission of the amended EA, where the amended EA could be viewed, and the next steps in the EA process.

All comments received by the ministry during the comment period on the amended EA (November 2009) were forwarded to the Regions for a response. Summaries of all comments received during the comment period on the amended EA (November 2009), along with the Regions' responses can be found in Table 1 of this Review. Copies of the submissions are also available in Appendix B of this Review.

All comments received by the ministry will be considered by the Minister before a decision is made about the proposed undertaking. Summaries of the comments received during the original EA (July 2009) public and government agency comment period and amended EA (November 2009) GRT review period, along with the Regions' responses, are included in Tables 1 to 3 of this Review.

The Regions' letters seeking approval to postpone the Review and amend the original EA (July 2009), including the ministry's responses, are included in Appendix C.

1.3 Ministry Review

Section 7 of the EAA requires that the ministry prepare a review of the EA currently before the Minister for a decision, known simply as the Review. The Review is the ministry's evaluation of the EA. The purpose of the Review is to determine if the EA has been prepared in accordance with the approved ToR and the requirements of the EAA. The ministry Review determines whether the EA provides sufficient information to allow the Minister to make a decision about a proposed undertaking.

This Review has been prepared for the Durham and York Residual Waste Study Amended EA submitted to the ministry for review and a decision on November 27, 2009 and the Addendum to Section 9.2 of the Amended EA submitted to the ministry on December 21, 2009. The Review outlines whether the information contained in the amended EA, which includes the addendum to section 9.2, supports the recommendations and conclusions for the selection of the proposed undertaking. Ministry staff, with input from the GRT, evaluate the technical merits of the proposed undertaking, including the anticipated environmental effects and the proposed mitigation measures. The Review also provides an overview and analysis of the public, government agency and Aboriginal community comments on the original EA (July 2009), the amended EA (November 2009), the addendum to section 9.2 of the amended EA (December 2009) and the proposed undertaking.

A Notice of Completion of this Review will be published in a number of locally and regionally distributed newspapers. The Notice will identify that the Review has been completed and will be available for a five-week comment period, from February 26, 2010 to April 2, 2010. Copies of this Review will also be placed in the same public record

locations where the original EA (July 2009) was available, and copies will be distributed to the GRT members and potentially affected or interested Aboriginal communities. Those members of the public who participated during the EA process will be notified of the comment period on the Review and have been provided direction on how and where to obtain a copy of this Review.

The comment period for this Review allows the GRT, the public and Aboriginal communities to see how their concerns with the original EA (July 2009), the amended EA (November 2009), the addendum to section 9.2 of the amended EA (December 2009) and the proposed undertaking have been considered. During the Review comment period, anyone can submit comments on the amended EA (November 2009), section 9.2 of the amended EA (December 2009), the undertaking and the Review. In addition, anyone can request that the Minister refer the amended EA (November 2009), which includes the addendum to section 9.2, or any particular matter relating to the amended EA (November 2009), to the Environmental Review Tribunal for a hearing if they believe that there are significant outstanding environmental effects that the amended EA (November 2009) has not addressed. A request for a hearing can only be made during the Review comment period. The Minister will consider all requests and determine if a hearing is necessary.

The Minister considers the conclusion of the Review when making a decision. The Review itself is not the EA decision-making mechanism. The Minister's decision will be made following the end of the five-week Review comment period and is subject to the approval of the Lieutenant Governor in Council.

2. The Proposed Undertaking

The Regions are seeking approval to construct and operate a thermal treatment waste management facility as described in the Durham and York Residual Waste Study Amended EA submitted to the ministry on November 27, 2009 for review and a decision. The facility is intended to provide the Regions with a long term sustainable solution to manage the MSW remaining after diversion (reuse, reduction, recycling and composting) and to minimize the amount of waste requiring landfill disposal.

Prior to the commencement of the Durham and York Residual Waste Study EA process, the Regions' waste management strategy involved the export of residual MSW to the State of Michigan, United States of America (USA), for disposal. Due to the inability of the Regions to develop long term local disposal capacity to manage their waste, they entered into contracts with the private sector to secure disposal capacity outside their respective jurisdictions. During this time the USA government initiated a process of passing legislation that, if successful, would see the Michigan border closed to MSW from Canada. As a result, the Regions would no longer have sufficient waste disposal capacity. The Regions therefore initiated the EA process to establish a new long term sustainable and local waste disposal solution to jointly manage the post diversion residual MSW each jurisdiction generates for the next 35 years.

The proposed facility will process up to 140,000 tonnes of post diversion residual MSW annually; however, over the 35 year planning period the maximum capacity of the facility could be increased up to 400,000 tonnes per year. Any expansion of the facility beyond the proposed 140,000 tonnes per year capacity will be considered to be a new undertaking. Any future expansion of the facility will be subject to the applicable approval requirements under the EAA and any associated regulations.

The proposed facility is to be located south of Highway 401 on the west side of Osborne Road and north of the CN Rail corridor in the Municipality of Clarington (Figure 1). The recommended site is approximately 12.1 hectares, owned by the Regional Municipality of Durham and designated as an employment area by the Durham Official Plan. The recommended site is surrounded to the north by commercial properties, to the east and west by undeveloped land and lands used for agricultural purposes, and to the south by the Courtice Water Pollution Control Plant. The Darlington Nuclear Generating Station is located 1.8 kilometres (km) to the east. There are two residences within one km of the site, with the closest 650 metres away.

The proposed facility includes two independent waste processing lines, capable of managing up to 218 tonnes of residual MSW per day and up to 70,000 tonnes of residual MSW per year. Each line will consist of a feed chute, stoker, boiler combustion furnace, acid gas scrubber, fabric baghouse and an associated ash and residual collection system (Figure 2). Steam produced by the boilers will drive an electrical generating system to produce up to 20 megawatts (MW) electricity for use within the facility and the local electricity grid.

Residual MSW will be delivered to the facility in trucks, with capacities of up to 92 cubic metres. It is anticipated that truck traffic will utilize Highway 401 and either South Service Road or Osborne Road to access the facility. Although the facility is expected to operate 24 hours a day, seven days a week, trucks will be expected to enter and leave the facility during regular working hours, Monday through Saturday.

Upon entering the site, each truck will pass through a scale house where it will be weighed to maintain an accurate record of all waste delivered to the facility and all residues and recovered materials. In addition, the scale house will have sensors for medical and other unacceptable volatile wastes. If unacceptable or hazardous wastes are detected, the truck will not be permitted to discharge its load and will be directed to leave the site.

After being weighed, incoming trucks will proceed directly to the tipping building entrance. Once inside the tipping building, trucks will discharge their loads directly into the refuse pit where waste will be mixed and transferred to the hoppers which feed each of the waste processing lines.

Each processing line will begin with waste being fed from the hoppers to the stoker grates. Combustion will be initiated with a small fire that will quickly spread across the grate. Air will be will drawn from the tipping floor and refuse pit area and directed to the waste layer through specially designed air slots in the grate. This will ensure that consistent air distribution and proper combustion. The resulting negative pressure inside the tipping area will also create a constant air change and prevent the escape of odours.

Bottom ash will be cooled in a quench bath and the wet bottom ash fed into a draining and drying chute. The chute will ensure that any excess water from the bottom ash will drain back into the quench bath. The bottom ash will then be screened to remove any large materials, ferrous metals and non-ferrous metals. Following appropriate testing to determine if the material is hazardous or not, as defined and regulated by the Province of Ontario, the bottom ash will then be transported off site to a landfill facility licensed to receive the material. Fly ash is to be collected and managed separately from bottom ash.

The boiler will be designed and operated to minimize pollutants such as Carbon Monoxide (CO) and hydrocarbons. The products of combustion (flue gases) will be treated by an air pollution control system. The air pollution control system will consist of the following series of equipment and processes:

- A Nitrogen Oxides (NOx) Control System
- An Activated Carbon Injection System (mercury, dioxin and furan control)
- An Acid Gas Scrubber (acid gas control)
- A High Efficiency Fabric Filter Baghouse (particulate control)

One air pollution control system will be installed for each line in the facility. In addition to the above mentioned air pollution control system, the facility will be also designed and operated to include the following initiatives:

- *Air Emission Standards* – the air emissions standards that will govern the facility are to be the lower of Ontario Guideline A-7 "Combustion and Air Pollution Control Requirements for New Municipal Waste Incinerators" (February 2007) limits and the European Union Standards for the Incineration Exhaust.

- *Air Emission Monitoring* – the facility will be equipped with a continuous dioxin sampling system to assess the dioxin emissions from the facility monthly.

- *Stormwater Discharge* – the facility and stormwater management works will be designed to ensure water being discharged from the site will meet the highest water quality standard for storm water.

- *Process Water Discharge* – the facility will be designed for zero process water discharge to allow for recirculation of water within the system and limit the potential impact to water resources.

- *Environmental Management* – the facility will be consistent with the International Stanards Organization 14001:2004 Environmental Management Standards.

A fly ash handling system will collect the fly ash from the air pollution control system. Fly ash will be collected mixed with Portland cement, cement extender and water to bind the ash together. In Ontario, fly ash is designated as hazardous and after the fly ash has been bound together it will be loaded into trucks and shipped off site to a licensed landfill facility, as defined and regulated by the Province of Ontario.

If EAA approval is granted, the thermal treatment waste management facility will be constructed and operated in accordance with the terms and provisions outlined in the amended EA; any conditions of approval; and, will include the details outlined above. In addition, the Regions must still obtain all other legislative approvals it may require for the undertaking.

Figure 1:

Thermal Treatment Waste Management Facility Location
Clarington 01

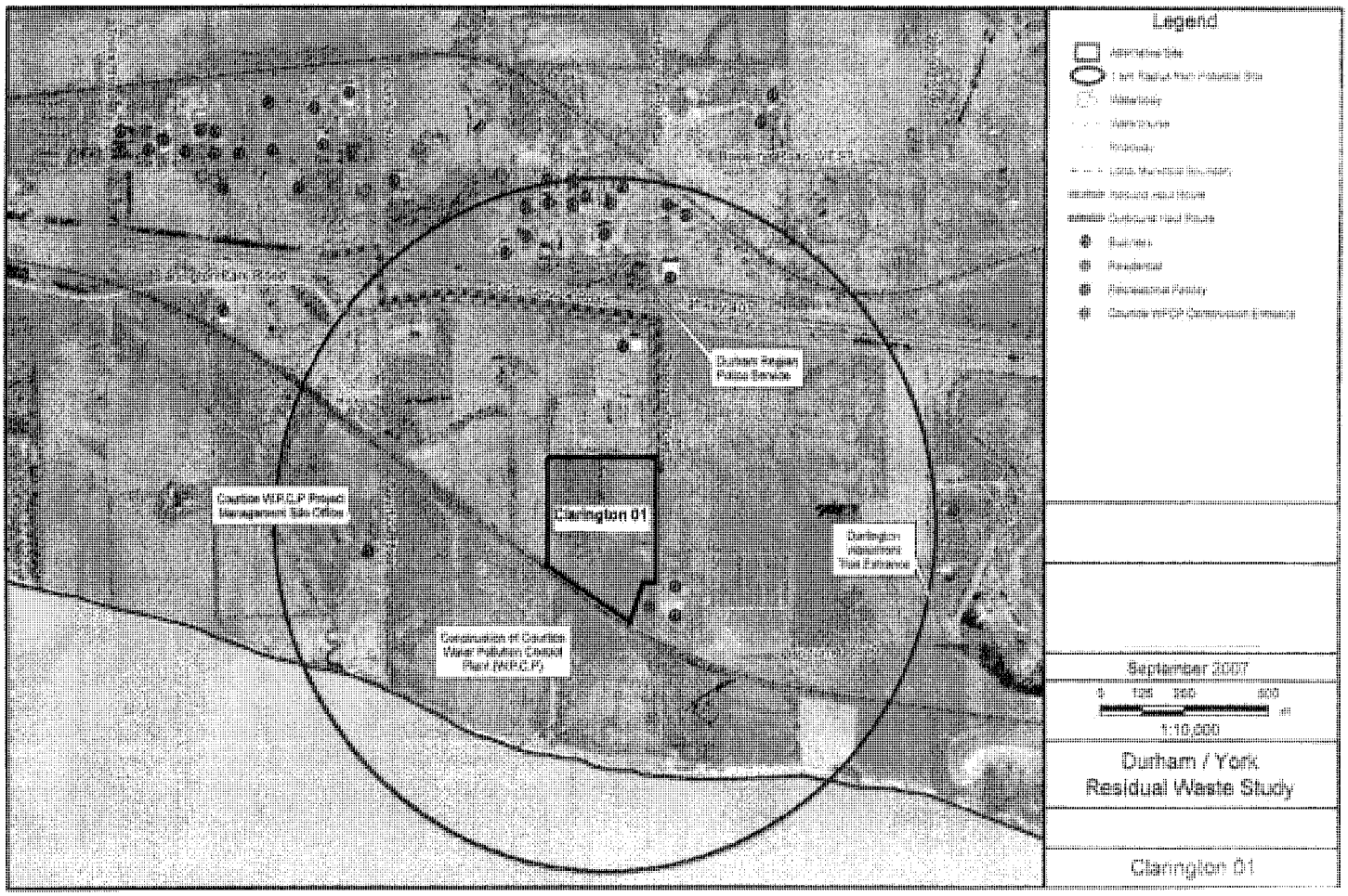
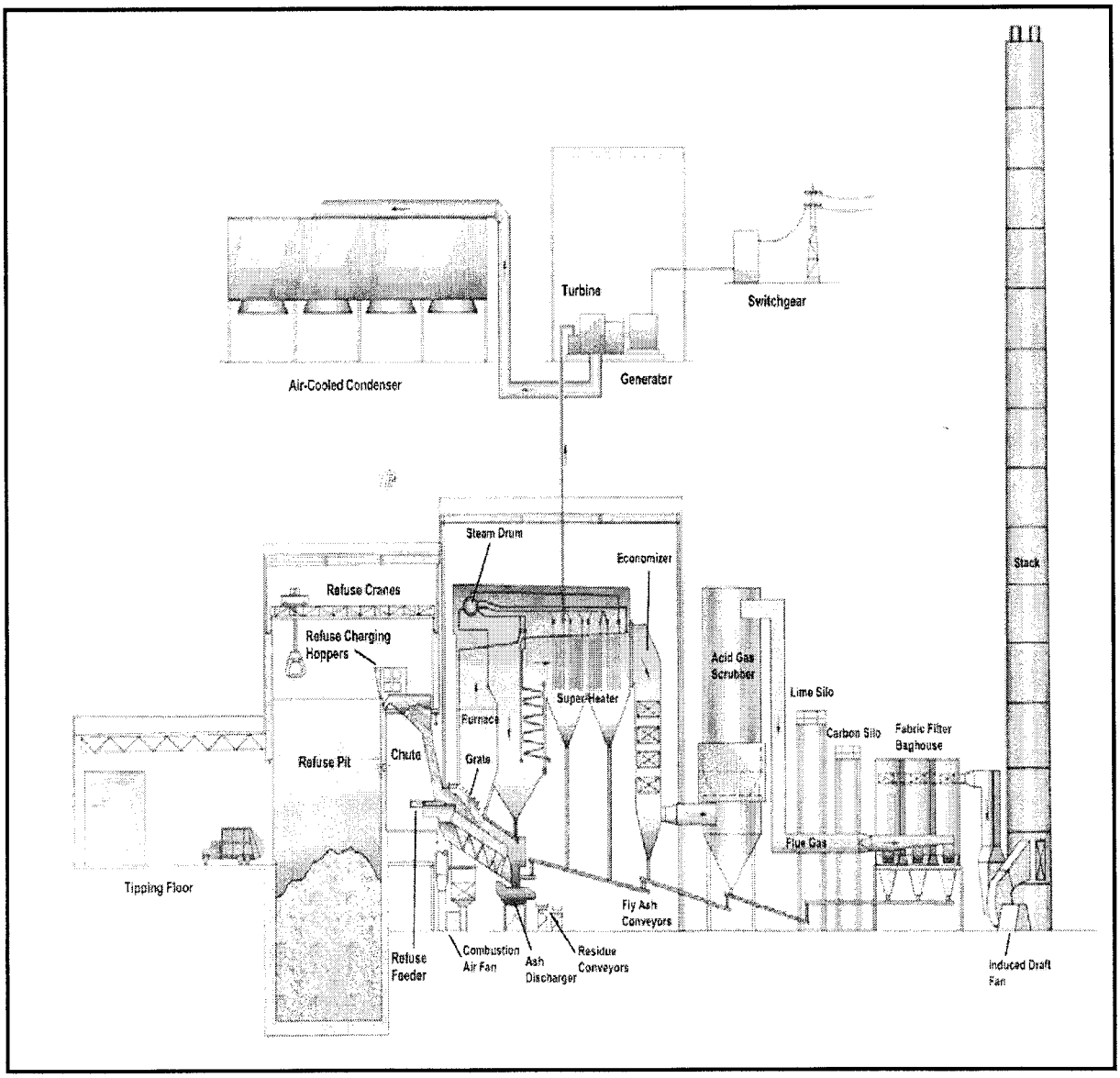


Figure 2:

Conceptual Facility Process Flow



3. Results of the Ministry Review

The purpose of the Ministry Review is to determine whether:

- The EA has met the requirements of the ToR and the EAA.
- There are any outstanding issues with the EA.
- The proposed undertaking has technical merit.

The Review provides the analysis of the EA. The Review is not intended to summarize the EA, nor present the information found in the EA. For information on the decision making process, refer to the EA itself. The EA and supporting documentation outlines the EA planning process and demonstrates how the proponent selected the preferred undertaking and made the final decision.

This Review was prepared for the Durham and York Residual Waste Study Amended EA submitted to the ministry on November 27, 2009 and the Addendum to Section 9.2 of the Amended EA submitted to the ministry on December 21, 2009. The amended EA (November 2009) is comprised of the original EA (July 2009) and all additional information clarifying and addressing the concerns raised during the initial comment period on the original EA (July 2009) made by way of the amendment and addendum.

3.1 Compliance with ToR and EAA

3.1.1 Ministry Analysis

Must Haves in the EA:

- The EA must be prepared in accordance with the approved ToR.
- EA must include all the basic EAA information requirements.
- EA demonstrates where all the additional commitments in the ToR were met, including studies and the consultation process.

The ministry has concluded that the amended EA (November 2009) followed the framework set out in the approved ToR and addresses each of the commitments set forth in the ToR. The ministry has also concluded the required components of the EAA have been met.

Appendix A of this Review summarizes the ministry's analysis of the amended EA (November 2009) and how the requirements of the approved ToR and EAA have been addressed.

3.1.2 Consultation

Section 5.1 of the EAA states:

"When preparing proposed terms of reference and an environmental assessment, the proponent shall consult with such persons as may be interested."

One of the key requirements of the EA process is consultation with interested persons. Consultation is a legal requirement of the EAA and is completed during the preparation of the EA. Consultation is the responsibility of the proponent and must be undertaken prior to the submission of the EA and completed in accordance with the consultation plan outlined in the approved ToR. Proponents are required to involve all interested persons as early as possible in the EA planning process to ensure that their concerns can be identified and considered before irreversible decisions and commitments are made during the planning process. The results of the consultation must be documented at the end of the planning process.

As part of the consultation plan developed by the Regions, consultation was undertaken with all government agencies, Aboriginal communities, and members of the public who may be affected or have an interest in the EA process.

Notification and dissemination of information was undertaken through newspaper, radio and TV advertising, a mailing list, and an EA website (www.durhamyorkwaste.ca) maintained throughout the EA process. Consultation included public polling, consultation events such as public information centres, and opportunities for delegations at Regional Committee and Council meetings. Consultation was also undertaken through the development of public liaison committees, such as the Joint Waste Management Group and the Site Liaison Committee. Although opportunities for public input were available throughout the EA process, consultation events typically took place at major EA milestones.

The ministry is satisfied with the level of consultation that occurred during the EA process. The ministry is also satisfied that the level of consultation was appropriate for the proposed undertaking for which EA approval is being sought. The amended EA (November 2009) clearly documents the consultation methods utilized by the Region to engage the GRT, the general public, stakeholders and Aboriginal communities during the EA process.

Upon the submission of the original EA (July 2009) to the ministry for review and a decision, the ministry undertook additional consultation with interested persons during the initial comment period on the original EA (July 2009). The GRT, Aboriginal communities and interested members of the public were provided with an opportunity to review the original EA (July 2009) and to submit comments to the ministry on whether the requirements of the ToR had been met, on the original EA (July 2009) itself and on the proposed undertaking. All comments received by the ministry during the initial comment period on the original EA (July 2009) were forwarded to the Regions for a response. Summaries of the all comments received during the initial comment period on the original EA (July 2009), along with the Regions' responses are included in Tables 1 to 3 of this Review.

Government Review Team

Various government agencies were consulted by the Regions during the EA process. The GRT was established early in the EA process and consisted of different levels of government (i.e., federal, provincial, regional, and municipal), and other municipal agencies. A list of GRT members, their affiliation, and departments can be found in the EA Record of Consultation.

The Regions' consultation plan ensured that opportunities for the GRT were provided to seek input and identify issues at each specific milestone of the EA process. The GRT

was also consulted throughout the EA planning process to gather expert opinions on the reports and studies prepared during the EA process.

In addition, the Regions coordinated a series of EA process workshops with members of the GRT during the preparation of the EA. The first workshop was held in September 2006 to review the evaluation methodology and evaluation criteria for the assessment of EA alternatives. The purpose of the first workshop was to present a draft of the "front-end" of the original EA (July 2009) document, up to and including the identification of the preferred waste management system and recommended preferred site. The second workshop, comprised of two sessions, was held in April and May 2009. During the workshop a draft of the entire original EA (July 2009) document was presented to members of the GRT for review and comment.

Consultation with the GRT allowed the Regions to seek input and identify issues covering a wide spectrum of expertise for input into the EA planning process. The comments that were received in response to consultation with the GRT and in regard to the draft EA were considered by the Regions and incorporated into the final version of the original EA (July 2009) as necessary.

Upon the submission of the original EA (July 2009) to the ministry for review and a decision, the GRT was provided with an opportunity to review the original EA (July 2009) and to submit comments to the ministry. All comments received by the ministry from the GRT during the initial comment period on the original EA (July 2009) were forwarded to the Regions for a response. Summaries of the comments received, along with the Regions' responses are included in Table 1 of this Review. Copies of the submissions can also be found in Appendix B of this Review.

The GRT consultation process has been documented in the amended EA Record of Consultation, which provides a summary of the issues and concerns raised during the consultation process.

Public Consultation

Consultation with interested members of the public was a key component of the Regions' consultation plan. The public, which includes the general public, communities, interest groups and property owners, were provided with several opportunities to participate in the EA process and to provide input. Public participation in the EA process was achieved in a variety of ways.

The majority of public consultation took place through public information sessions held in various municipalities within the EA study area. The public information sessions included both formal and informal presentations by the Regions that focused on aspects of the EA background, scope of the EA and activities associated with each milestone in the EA process. Representatives from the Region's Waste Management Services Department together with members of the Regions' consultant team attended each of the

sessions to answer questions and provide attendees an opportunity to obtain additional information.

To effectively provide information to the public on the EA process and opportunities for consultation, the Regions developed a communications strategy. Each municipality within the EA study area was provided with information on public information sessions, workshops and drop-in centres through the following activities:

- Public advisories;
- Notices;
- News releases;
- Advertisements in major and local newspapers (including non-English publications);
- Advertisements on local radio stations prior to each community event;
- Public service announcements;
- Notifications via bus ads and ads in local movie theatres; and,
- Updates on the EA project website.

Public consultation was also undertaken through the establishment of a Joint Waste Management Group and a Site Liaison Committee that were made up of officials from both Regions and members of the public. The Joint Waste Management Group was formed very early in the EA process to provide advice and recommendations to the Regions. Once a recommended preferred site for the undertaking had been identified, a Site Liaison Committee was created to provide information to the public and feedback to Regions. Meetings of both committees were open to all residents and were advertised in newspapers well in advance of the meetings. The Joint Waste Management Group and a Site Liaison Committee allowed the Regions to gather feedback from a broad range of public interests across the communities within the EA study area in the preparation of the EA. Agendas, minutes and relevant presentations have been posted on the EA project website.

Interested members of the public were also provided with an opportunity to make delegations outside of the formal public consultation process at any time during the EA process. A number of delegations were received at Regional Councils and Committees. Copies of all delegations and presentations were made public, with copies circulated to Council and committee members, and posted on the respective Regional websites with minutes and agendas.

Over the course of the EA process, a contact list of those individuals and groups expressing interest in the EA was compiled and updated as the EA process proceeded. Interested members of the public were added to the list throughout the EA process. The list provided an ongoing means for the Regions to update the public on the EA process and to request comments. The current contact list is included as part of the Consultation Record and forms part of the EA.

Consultation with interested members of the public allowed the Regions to gather information covering a wide spectrum of interests for input into the EA planning process. The comments that were received in response to consultation with the public were considered by the Regions during the preparation of the original EA (July 2009) and the amended EA (November 2009).

Upon the submission of the original EA (July 2009) to the ministry for review and a decision, interested members of the public were provided with an opportunity to review the original EA (July 2009) and to submit comments to the ministry on whether the requirements of the ToR had been met, on the original EA (July 2009) itself and on the proposed undertaking. All comments received by the ministry from interested members of the public during the initial comment period on the original EA (July 2009) were forwarded to the Regions for a response. Summaries of the comments received, along with the Regions' responses are included in Table 2 of this Review.

Aboriginal Community Consultation

In addition to the EAA requirements that interested persons be consulted, the Crown and proponents must turn their minds to consultation with Aboriginal communities who may have aboriginal or treaty rights that could be affected by the proposed undertaking. This is because it is well established in law that the Crown has a duty to consult Aboriginal communities where it is contemplating action that may adversely affect established or asserted aboriginal or treaty rights.

Aboriginal rights stem from practices, customs or traditions which are integral to the distinctive culture of the Aboriginal community claiming the right.

Treaty rights stem from the signing of treaties by Aboriginal peoples with the Crown.

Aboriginal rights and treaty rights are protected by section 35 of the Constitution Act, 1982.

During the preparation of the EA, the Regions contacted both the Ministry of Aboriginal Affairs (MAA) and Indian and Northern Affairs Canada (INAC). The Regions continued the consultation process with those Aboriginal communities consulted on the TOR during the development of the EA, including:

- Chippewas of Georgina Island First Nation
- Chippewas of Mnjikaning First Nation
- Mississaugas of Scugog Island First Nation
- Batchewana First Nation
- Chippewas of Beausoleil First Nation
- Caldwell First Nation
- Curve Lake First Nation
- Delaware First Nation (Moravian of the Thames)
- Mississauga of the New Credit First Nation
- Alderville First Nation
- Mohawks of the Bay of Quinte
- Hiawatha First Nation

- Huron-Wendat Nation
- Oneida Nation of the Thames
- Six Nations of the Grand River
- Wahta Mohawks

The Regions also contacted:

- Anishinabek Nation/Union of Ontario Indians
- Association of Iroquois and Allied Indians
- Métis Nation of Ontario (MNO)

Each of the above identified Aboriginal communities and organizations, were invited to participate at each consultation point in the EA process. The Regions provided the Aboriginal communities and organizations with all relevant EA materials, including draft reports, invitations to workshops, and invitations to participate in the review of the various draft EA reports. In addition, those Aboriginal communities and organizations with a potential interest in the undertaking were invited to participate in an information session specifically for the Aboriginal communities and organizations. The information session was held prior to the public information centres on May 12 and 19, 2009. A summary of the Regions' consultation process with Aboriginal communities and organizations can be found in the EA Record of Consultation. To date, no concerns were raised by the Aboriginal communities and organizations that were contacted by the Regions.

In addition, the above noted Aboriginal communities and organizations were provided with a copy of the EA documentation by this ministry. Please see Table 3 of this Review for a summary of the comments received from Aboriginal communities and organizations, and the Regions' responses to those comments.

3.1.3 Conclusion

The EAA requires that a proponent consult with interested persons during the preparation of an EA and report on the results of those consultations. Overall, the Regions have followed the consultation plan as set forth in the requirements of the approved ToR. The Regions have also provided sufficient opportunities for the public, the GRT and Aboriginal communities to participate and provide input during the preparation of the EA. The EA clearly documents the consultation methods utilized by the Regions to engage these groups during the EA process, and the EA clearly sets out the issues and concerns raised and how they were addressed.

The ministry is satisfied that the amended EA (November 2009) clearly documents the consultation methods used by the Regions to engage the public, the GRT and Aboriginal communities during the preparation of the original EA (July 2009). The ministry is also satisfied that the amendments to the original EA (July 2009) demonstrate how input from

the public and the GRT assisted in the generation, evaluation and refinement of the amended EA (November 2009).

3.2 EA Process

An EA is a planning process that requires a proponent to identify an existing problem or opportunity, consider alternative ways of addressing the problem or opportunity and evaluate the potential environmental effects of these alternatives. The conclusion of the planning process is the identification of a preferred alternative that will best address the existing problem or opportunity and therefore become the undertaking for which EA approval is sought.

The Durham and York Residual Waste Study EA process commenced following the approval of the ToR on March 31, 2006. The EA was undertaken in accordance with the approved ToR, which defined the framework for the EA. The purpose of the EA was to establish a long term sustainable and local waste disposal solution to manage the post diversion residual MSW generated by the Regions for the next 35 years.

The following is a brief summary of the EA process for the Durham and York Residual Waste Study Amended EA submitted to the ministry on November 27, 2009.

Alternatives To

At the start of the EA process, the Regions initiated an evaluation and assessment of 'alternatives to' the problem identified in the EA. These 'alternatives to' were developed within the context of identifying a specific waste management system rather than individual waste management components or technologies. A competitive municipal procurement process would be undertaken during the evaluation and comparison of 'alternative methods' and used to identify and engage technology vendors to determine the preferred waste management system technology.

Waste management system alternatives were developed based on a combination of at-source diversion assumptions, reasonable alternatives for the treatment of the residual MSW, and landfill disposal of materials that remain after treatment. A landfill-only option was not considered as set forth in the approved ToR, although it was recognized that each of the proposed alternatives would require landfill disposal capacity for process residues. Only those systems capable of managing the residual MSW remaining after at-source diversion were developed and evaluated. The waste management systems carried forward for evaluation and assessment included:

- Mechanical Treatment Systems (physical processes);
- Biological Treatment Systems (the use of microorganisms); and,
- Thermal Treatment Systems (combustion, gasification, pyrolisis)

Each 'alternative to' under consideration was subjected to an evaluation process to determine its applicability and suitability to the purpose of the undertaking as outlined in section 7 of the amended EA (November 2009). A seven step waste management system evaluation process was applied to formulate and then comparatively evaluate the 'alternatives to'. The preferred 'alternative to' would exhibit the preferred balance of advantages and disadvantages based on the priorities of the waste management system evaluation methodology.

The three waste management systems were evaluated to assess their potential to address the purpose of the undertaking and to identify their potential environmental effects. Each of the potential environmental effects identified was considered with respect to the availability of mitigation measures. The result was the identification of each waste management system's 'net effects'.

The 'net effects' associated with each waste management system were then compared and a list of relative advantages and disadvantages associated with each waste management system was developed. The preferred waste management system was the system that offered the preferred balance of advantages and disadvantages.

The seven step evaluation process of 'alternatives to' found that the preferred waste management system was thermal treatment. More specifically, the preferred 'alternatives to' included:

- The establishment of a thermal treatment waste management facility with capacity to process the Regions' residual waste stream and to recover energy;
- The removal of materials that may be sold to market from the ash/char residue; and,
- The landfilling of any remaining process residues (bottom and fly ash).

The ministry is satisfied that the Regions have followed a logical and transparent decision-making process which has been clearly outlined in the EA. A study area for the EA was established to provide geographical and temporal context for the evaluation of 'alternatives to'. A reasonable range of alternative solutions that would address the problem of providing for future waste management needs were evaluated. An evaluation methodology process was established to formulate and then comparatively evaluate the advantages and disadvantages of each 'alternative to'. The conclusion of the evaluation process has identified a preferred alternative that will best address the existing problem or opportunity and therefore become the undertaking for which EA approval is sought.

Alternative Methods

Having selected thermal treatment as the preferred 'alternative to', the Regions initiated an evaluation and assessment of 'alternative methods' to locate a preferred site upon which to locate a thermal treatment waste management facility. A seven step site evaluation process was applied to formulate and then comparatively evaluate the

alternative sites. The preferred site would exhibit the preferred balance of advantages and disadvantages based on the priorities of the site evaluation process.

In order to undertake the comparative evaluation of sites without having first identified the technology that would eventually be used in the preferred thermal treatment waste management system, a number of assumptions were made with respect to the final aspects of the design and operation of the facility. The municipal procurement process to identify the thermal treatment technology would then be used to carry forward these assumptions as requirements for the design and operation of the facility, and in turn validate the assumptions used in the evaluation of 'alternative methods'. Accordingly, the Regions would not have to go back, following the identification of the thermal treatment technology, to reassess the accuracy of the original site evaluation process.

Each alternative site was evaluated using a set of criteria that was developed by the Regions to be relevant, clear and logical. The alternative sites were evaluated based on the advantages and disadvantages of potential environmental effects and were presented in a traceable manner. The evaluation was built upon baseline data and existing conditions in the EA study area. The Regions' evaluation was completed using criteria in the following categories:

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

The starting point for the site evaluation methodology process was to identify lands within the EA study area that consisted of features and land uses considered suitable for the establishment of a thermal treatment facility. The result was the identification of suitable areas, such as designated industrial lands, and the exclusion of lands in unsuitable areas, such as significant natural features, agricultural lands and existing residential areas. Site specific constraints were then applied to these suitable areas to identify potential siting opportunities that would meet the minimum site size requirements, ancillary uses, and configuration requirements.

The list of sites was further evaluated to compare the relative advantages and disadvantages of each site. Sites were deemed unsuitable if they exhibited significant technical, social and/or environmental disadvantages relative to other sites on the list. Sites that passed through this evaluation were made part of a list of five sites that were carried forward for a more extensive and comparative evaluation.

A qualitative methodology was then applied to the list of five sites to identify a preferred site that exhibited the best balance of advantages and disadvantages based on the priorities of the Regions' site evaluation process as outlined in section 8 of the amended EA (November 2009). The seven step evaluation methodology process found that the

preferred site on which to locate the proposed thermal treatment waste management system was Clarington 01, located in the municipality of Clarington south of Highway 401 on the west side of Osborne Road and north of the CN Rail corridor.

The ministry is satisfied that the Regions followed a logical and transparent decision making process that was clearly outlined in the EA. A site evaluation process was established to comparatively evaluate the advantages and disadvantages of each alternative site. The conclusion of the evaluation process has identified a recommended preferred site upon which to locate a thermal treatment waste management facility.

Municipal Procurement Process

During the comparative evaluation of 'alternative methods' to identify a recommended preferred site, the Regions initiated a municipal procurement process to identify a vendor that would ultimately provide the specific thermal treatment technology to be used in the preferred waste management system. To engage qualified vendors capable of designing, constructing and operating a thermal treatment waste management facility, a two stage competitive process was carried out involving a Request for Qualification (RFQ) followed by a Request for Proposal (RFP).

During the first stage of the procurement process, the Regions solicited qualifications from technology vendors through the issuance of a RFQ. The qualifications submitted were used to identify those vendors qualified to participate in the second stage of the process. The RFQ was issued in July 2007 and closed in October 2007.

Following the completion of the RFQ stage, technology vendors qualified to participate in the RFQ process were invited to submit detailed proposals for the design, construction and operation of a thermal treatment waste management facility. The objective of the RFP process was to identify a preferred vendor technology based on the qualitative assessment and comparison of the advantages of each vendor proposal relative to the EA procurement process evaluation criteria. The evaluation criteria were developed to ensure that the preferred vendor technology selected could be considered "best in class" and included:

- Technical Considerations (including environmental considerations);
- Cost and Commercial Considerations; and
- Project Delivery Considerations (including impact management commitments).

At the conclusion of the RFP qualitative assessment and comparison process, the preferred vendor technology was determined based on the vendor proposal exhibiting the preferred balance of advantages. The RFP was issued on August 22, 2008 and closed February 18, 2009.

Based on the conclusions of the RFP process Covanta Energy Corporation was selected by the Regions as the technology vendor to design, construct and operate the proposed thermal treatment waste management facility on the Clarington 01 site.

Site Specific Studies

Having identified a recommended preferred site and technology vendor, several studies and investigations were carried out to determine the potential effects, impact management measures and net effects of implementing the proposed undertaking, and to identify potential mitigation measures. The following site specific studies and investigations were carried out:

- Air Quality Assessment
- Site Specific Human Health and Ecological Risk Assessment
- Natural Environment Impact Assessment
- Acoustic Assessment
- Traffic Assessment
- Visual Assessment
- Economic Assessment
- Social/Cultural Assessment
- Geotechnical Investigation
- Surface Water and Groundwater Assessment
- Stage 2 Archaeological Assessment and Built Heritage
- Facility Energy and Life Cycle Assessment

The site specific studies and investigations have been summarized in the EA and identify the potential effects and proposed impact management measures associated with the construction and operation of the proposed undertaking on the recommended preferred site.

3.2.1 Key Issues

Key issues regarding the EA process undertaken by the Regions were identified during the review and comment period on the original EA (July 2009), the amended EA (November 2009) and the addendum to section 9.2 of the amended EA (December 2009). The issues identified during the review of the original EA (November 2009) were considered by the Regions during the preparation of the amended EA (July 2009) and addendum to section 9.2 of the amended EA (December 2009). The EA amendments include the addition of information and clarification to address the concerns raised.

The following is an overview of the key comments and concerns that were identified regarding the Regions' EA process.

Information on the Municipal Procurement Process

During the EA process interested members of the public and the GRT expressed concerns with the lack of information being provided by the Regions on the municipal procurement process. The Regions acknowledge that during the preparation of the EA every effort was made to include as much information as possible about the municipal procurement process. There are, however, certain factors which have limited the Regions ability to disclose all information related to the procurement process. Disclosure of detailed information that was not used during the comparison and evaluation of vendor submissions but included in the vendor submissions could place the finalization of the procurement process in jeopardy.

The ministry has asked the Regions whether or not the detailed information compiled during the procurement process will be made available for review upon the finalization of the procurement process. The ministry's expectation is that the Regions should provide direction on whether or not this information will be made available, and if so, when and how the information can be obtained.

The Regions have provided a written response to the ministry in which they have committed to making available information on the procurement process following the completion of the procurement process. The Regions will make the information available upon request and in accordance with the provisions of the Municipal *Freedom of Information and Protection of Privacy Act.*

The ministry is satisfied has that the commitment to provide the above mentioned additional information addresses the question as to whether or not the detailed information compiled during the procurement process will be made available for review upon the finalization of the procurement process. The ministry's formal comments submitted on the amended EA (November 2009) about the release of information on the municipal procurement process are included in Appendix B of this Review. The responses by the Regions to the concerns raised by the ministry are included in Table 1 of this Review. Copies of the submissions can also be found in Appendix B of this Review.

Compliance with the EA Terms of Reference

During the review of the original EA (July 2009), interested members of the public raised concerns that the original EA (July 2009) was not being prepared in accordance with the provisions of the approved ToR. In particular, it was suggested that the municipal procurement process was not completed prior to the conclusion of the evaluation of 'alternative methods'.

It was originally envisioned in the ToR that the municipal procurement process used to select the preferred waste management system would be completed prior to the completion of the evaluation of 'alternative methods'. The competitive process would have potential technology vendors of thermal treatment technologies submit proposals to

build and operate the preferred waste management system as determined by the evaluation and comparison of 'alternatives to'. The potential technology vendors would also be provided an opportunity to submit a site along with their proposal for consideration.

The Regions determined that the submission of a site and the submission of a technology should be completed as two entirely separate processes. Consideration of both potential vendor sites and technologies as part of the same competitive process was considered to represent an unfair advantage to those vendors offering both a site and technology versus only those vendors offering a technology. By separating the competitive process from the siting process the Regions would be able to ensure a more "fair" process for those involved. In doing so, however, the Regions would be required to complete the siting activities in advance of the competitive process.

This modification was reviewed by the ministry in January 2008 at the request of the Regions. Upon careful review of the approved ToR and provisions of the EAA, the ministry concluded that the modification did not deviate from the requirements of the approved ToR to such an extent that the EA could not be prepared in accordance with it. The Regions' formal submission requesting consultation on the modification to the ToR and the ministry's response are included in Appendix C of this Review.

3.2.2 Conclusion

The ministry is satisfied with the Regions' decision making process. The amended EA (November 2009) contains an explanation of the problem and opportunities that prompted the EA study and the amended EA (November 2009) demonstrates, in a logical and transparent process, why and how the preferred undertaking was selected.

The Regions have evaluated a sufficient range of alternatives using criteria that considered the EAA's broad definition of the environment (e.g. including natural, socio-economic, cultural and agricultural environments). The amended EA (November 2009) provides a description of the potentially affected environment in the EA study area and identifies the elements of the environment that may be affected, either directly or indirectly, by the alternatives.

The Regions have compared and evaluated the advantages and disadvantages of the proposed undertaking based on the potential environmental effects for the 'alternatives to' the undertaking, the 'alternative methods' of carrying out the undertaking and the proposed undertaking. The amended EA (November 2009) also provides a description of the mitigation and monitoring measures to address the potential negative environmental effects.

A summary of the key issues identified with the Regions' EA process that were during the comment period on the original EA (July 2009) and the amended EA (November 2009), including Regions' responses, can be found in Tables 1 to 3 of this Review.

3.3 Proposed Undertaking

The proposed undertaking is clearly described in section 10 of the amended EA (November 2009) documentation (see also section 2 of this Review), and was evaluated based on the advantages and disadvantages to the environment. The ministry is satisfied that a broad definition of the environment was used in order to evaluate all potential impacts. This definition included the natural environment, the socio-economic environment, and the cultural environment, as well as public health and safety.

3.3.1 Key Issues

Key issues about the proposed undertaking were identified during the review and comment period on the original EA (July 2009) and the amended EA (November 2009). The issues identified during the review of the original EA (November 2009) were considered by the Regions during the preparation of the amended EA (July 2009). The EA amendments include the addition of information and clarification to address the concerns raised during the comment period on the original EA (July 2009).

The following is an overview of the comments and concerns raised by interested members of the public and the GRT during the comment period on the original EA (July 2009), and comments raised by the GRT during the comment period on the amended EA (July 2009).

A complete summary of all comments received during the original EA (July 2009) comment period, including the Region's responses, can be found in Tables 1, 2 and 3. The GRT submissions received during the initial comment period of the original EA (July 2009) can be found in Appendix B.

Potential Impacts to Human Health

Interested members of the public raised concerns about the potential impacts to human health the proposed facility may have on area residents. The Regions carried out a site specific Air Quality Assessment and a site specific Human Health and Ecological Risk Assessment (HHERA) and submitted these assessments as part of the original EA (July 2009).

The Air Quality Assessment and the HHERA considered air quality issues and the potential human health effects during the construction and operation of the facility. The results of the Air Quality Assessment and HHERA indicated that the air emissions produced by the facility are predicted to meet applicable ministry air quality criteria and would meet or be below the current air contaminant limits placed on municipal waste incinerators by the ministry.

Ministry technical reviewers have reviewed the Air Quality Assessment and HHERA and are satisfied with the conclusions of the Air Quality Assessment and the HHERA assessments.

The ministry is also satisfied that additional studies and site specific analysis, deemed necessary by the ministry in support of issuing any future approvals under Section 9 of the EPA should the undertaking be approved, will further support the conclusions of the Air Quality Assessment and HHERA and ensure consistency with ministry regulatory requirements.

Waste Diversion

During the review of the original EA (July 2009), interested members of the public raised concerns about the impacts the proposed facility may have on waste diversion and the Regions' commitments to increase diversion rates.

Initiatives including recycling, composting and diversion of household hazardous waste were investigated during the EA process. Although these initiatives do not form part of the undertaking for which approval is being sought, they are directly related to the design of the facility. Based on the Regions' diversion initiatives the proposed thermal treatment facility is being designed to handle the Regions' residual waste only after 65% diversion has already been achieved. The Regions have also acknowledged that the diversion rate will have to increase to even higher rates to offset the effects of population growth over the 35 year planning period.

In order to improve current diversion rates, the Regions have committed to focus on increasing the capture rates of divertible materials and increasing the public participation in diversion programs. The Regions have also committed to continue to invest in, encourage and promote diversion programs so that improved diversion targets can be met and to reduce the amount of waste requiring disposal at the proposed facility.

The ministry is supportive of the Regions diversions efforts and commitments. Through efforts to reduce and divert waste from final disposal the Regions have illustrated the foresight necessary to ensure that the proposed long term waste management plan is successful.

Potential Traffic Impacts

During the review of original EA (July 2009) interested members of the public raised concerns about the potential impacts of increased truck traffic on local traffic and roads. The amended EA (November 2009) includes a traffic assessment study that has concluded that the operations at the facility will result in minimal disruption to the local traffic network.

The traffic assessment study identified that during operation, the facility is expected to generate up to 34 daily truck trips. It is anticipated that operations at the facility will generate 18 trucks (inbound and outbound) and 22 cars during peak hours of operation. The traffic assessment study has identified that road and pavement improvements to the South Service Road and Osborne Road may be required to accommodate construction and operational vehicles. The Regions have therefore committed to pavement testing along the haul route to confirm if road reconstruction and pavement improvements are required prior to construction if the undertaking is approved. No other mitigation will be required to address facility related traffic during construction or operations.

The ministry is satisfied that the conclusions of the truck traffic assessment and commitments based on its conclusions will address the concerns related to truck traffic resulting from the operation of the proposed thermal treatment facility.

Odour

In response to concerns raised by the public and the GRT on the original EA (July 2009) with respect to the site specific Air Quality Assessment, the Regions have committed to carrying out additional site specific analysis. This commitment will be achieved by providing additional information to support seeking future approvals under Section 9 of the *Environmental Protection Act* (EPA), if the undertaking is approved. However, it has been noted in the review of the amended EA (November 2009) that the proposed commitments do not address some of the concerns raised with respect to odour.

The site specific studies in the amended EA (November 2009) do not adequately address the potential impacts related to odour emission resulting from the operation of the proposed thermal treatment facility. In order to ensure that points of odour emissions are identified and mitigated, the ministry will require that an odour impact assessment be undertaken. This should include, but not be limited to, the preparation of an odour emissions inventory prepared in accordance with Ontario Regulation 419/05, *Air Pollution – Local Air Quality* and an Odour Management Plan. The odour impact assessment should identify any adverse odour impacts that are likely to occur during operation and commitments for the implementation of monitoring and mitigation measures.

The Regions have provided a written response to the ministry in which they have committed to undertake an odour impact assessment. The assessment will be carried out as part of the supporting information provided for approvals under Section 9 of EPA if the undertaking is approved.

The ministry is satisfied that the commitment to provide the above mentioned additional information will address the concerns related to odour emission resulting from the operation of the proposed thermal treatment facility.

Noise

An Acoustic Assessment Technical Study was carried out as part of the evaluation of the preferred undertaking and included in the amended EA (November 2009). The purpose of the study was to identify any potential noise impacts associated with the proposed undertaking and recommend mitigation measures. The study applied conservative assumptions to ensure that the worst case scenarios were evaluated in the assessment of the facility's noise impact. This was done because at the time of the study there were no details available on the specific design of the facility which could be used to identify sources of noise generation. The study therefore included a qualitative assessment of potential noise impacts and the recommended mitigation measures were based on the modelling of the noise impact assumptions.

Ministry technical reviewers have raised concerns that the assumptions used in the Acoustic Assessment Technical Study may not accurately reflect the potential noise impacts of the facility. In order to ensure that that potential noise impacts are accurately identified, the ministry will require that an Acoustic Audit be carried out, should the undertaking be approved, once the facility is operational. The acoustic audit will include, but not be limited to, the completion of a Noise Abatement Action Plan to ensure that the applicable noise criteria are met or mitigated at the offsite receptors.

The Regions have provided a written response to ministry in which they have committed to undertake an Acoustic Audit during the EPA approvals process, should the undertaking be approved. The ministry is satisfied that the above mentioned commitment address the concerns raised.

Landfill Capacity for Process Residuals

The amended EA (November 2009) identifies that existing landfill capacity or the siting of new landfill capacity, to manage the process residual materials resulting from the thermal treatment of waste, is outside the scope of the EA study. However, the amended EA (November 2009) acknowledges that each of the processing system alternatives carried forward for comparison and evaluation will require landfill disposal capacity for process residuals. Members of the public and the GRT have raised concerns with respect to how process residuals will ultimately be disposed.

In order to ensure that process residuals are disposed of properly, the ministry requested that the Regions identify the approved landfill or site where the process residuals will ultimately be disposed. This is to ensure that process residuals are disposed of at a licensed facility that is designed and designated to receive the process residuals generated by the facility. It will also ensure that should approval be given to the undertaking, the implementation and operation of the undertaking will not be delayed or impeded by the process to identify or site an approved landfill to receive the process residuals.

The Regions have provided a written response to ministry in which they have acknowledged the requirement for the disposal of process residuals. The response describes the Regions' approach to the management of process residuals. The Regions intend to utilize the Republic's Pine Avenue Landfill in Niagara Falls, New York, USA as the primary site for ash management and the Modern Landfill in Model City, New York, USA as a backup should it be required. The Regions have also committed to continuing their ongoing investigation of more local landfill alternatives and alternative non-landfill uses for the process residues should the undertaking be apporved. The ministry is satisfied that the proposed residual disposal approach addresses the concerns raised.

Future Expansion of Facility Capacity

The amended EA (November 2009) outlines that at some point in the 35 year planning period there may be a need to expand the facility in order to accommodate additional post diversion MSW. The EA identifies that the need to undertake an expansion of the facility will be considered through a review of the Regions' integrated waste management system and a re-determination of the Regions' long term disposal capacity needs.

Members of the public and the GRT have raised concerns that it is not clear as to how and when the need for future expansion of the facility will be determined. The amended EA (November 2009) does not describe the processes and protocols that will be applied to identify the need for expansion. In order to ensure that the need for future expansion is properly and adequately identified, the ministry required that the Regions prepare a detailed description of the process that will be followed to identify the need for expansion.

The Regions have provided a written response to the ministry in which they have identified the process that will be followed to determine the need for expansion. The Regions have committed to the thorough review of existing waste management systems to determine the need for expansion. The review will include the identification of any potential short comings that may exist in the current waste management systems, such as the availability of long term processing capacity for recyclable or organic material and development of additional strategies to increase waste diversion. The review will examine ways to maximize the use of existing approved disposal capacity and the consideration of any additional infrastructure improvements to increase diversion performance. The waste management system review will also examine the current waste systems' performance and projected waste management needs of the Regions. This will be determined by obtaining waste generation data from the Regions and analyzing the data to determine performance.

In addition, per capita waste generation estimates and population projections would be determined to project the amount and composition of waste the Regions will need to manage during the planning period. This estimate will then be used to project the long-term waste disposal capacity requirements of the Regions. The Regions anticipate the

review and update of the Integrated Waste Management Master Plans at least once every five years.

The ministry is satisfied that the proposed process to determine the need for facility expansion and the above mentioned commitments address the concerns raised. Any expansion of the facility beyond the 140,000 tonnes per year capacity for which approval is currently being sought will be considered to be a new undertaking. Any future expansion of the facility will therefore be subject to the applicable approval requirements under the EAA and any associated regulations.

Waste Management Contingency Plan

The amended EA (November 2009) includes a brief overview of a contingency plan to address the waste management needs of the Regions during facility construction, disruptions to operations, or in the event that the EA could be refused. Should operations at the facility cease, the amended EA (November 2009) states that waste will be stored on site until operations resume or that an alternative disposal site will be utilized for short term management needs.

Members of the public and the GRT have raised concerns that the level of detail in the description of the facility contingency plan is not sufficient nor is it apparent if the plan is feasible. In order to address the lack of detail about the facility contingency plan, the ministry's comments on the amended EA (November 2009) requested that the Regions prepare a more detailed contingency plan to account for both short term and long term disruptions to operations. The plan was to include the identification of alternative disposal capacity, the legislative requirements or contact agreements associated with the use of any alternative disposal capacity, how waste collection and transfer may be modified, and any notification procedures. The plan was to address the possibility that the amended EA (November 2009) could be refused.

The Regions have provided a written response to the ministry in which they have outlined a framework for a contingency plan to address waste management needs during facility construction, disruptions to operations, and in the event that the amended EA (November 2009) could be refused. A formal plan will be developed during the EPA approvals process, should the undertaking be approved. Each Region has established an individual waste management contingency plan. Durham Region has entered into an agreement with Modern Landfill Incorporated, located in Niagara County Lewiston, New York, USA. The terms of the agreement are for a three year period commencing January 01, 2011. The agreement also includes an option to extend the agreement for two additional one year periods if necessary. York Region will continue its agreement with the City of Toronto's Greenlane Landfill, in London Ontario.

In the event that operations at the facility are disrupted, waste will be stored in the facility tipping building for up to a period of four days. Should the operational disruption continue for a period greater than four days, waste will be hauled by Covanta, the facility

operator, to one of three permitted disposal sites under the charge of the operator in the USA. Operation reports will be prepared and submitted during the EPA approvals process to provide the detailed information on the procedures for managing and redirecting waste during the use of waste management contingency plans.

Should this amended EA (November 2009) be refused, the Regions will enter into discussions with the ministry to determine an alternative approach to addressing their long term waste management needs. In the meantime, the waste management contingency plans to address waste management needs during facility construction will be continued until a new alternative is identified.

The ministry is satisfied that the waste management contingency plan proposed by the Regions and the above mentioned commitments address the concerns raised.

Volatile Organic Compound Emissions

In response to the concerns raised in the comments by the public and the GRT on the original EA (July 2009) with respect to the site specific Air Quality Assessment, the Regions have committed to carrying out additional site specific analysis. This commitment will be achieved by providing additional information to support seeking future approvals under Section 9 of the *Environmental Protection Act* (EPA). However, members of the public and the GRT have raised concerns that the amended EA (November 2009) does not include a sufficient level of information on Volatile Organic Compounds (VOC) associated with the operation of the proposed facility.

The ministry has expressed concern that the amended EA (November 2009) identifies that no readily available VOC emission data applicable to the proposed facility was noted. It is the ministry's expectation that the Regions provide VOC emissions testing as part of the undertaking's stack testing commitments.

The Regions have provided a written response to ministry in which they have committed to determining the list of contaminants that will be stack tested in conjunction with the ministry during the EPA Certificate of Approval process, should the undertaking be approved. The Regions anticipate that any stack testing requirements will be included in the terms and conditions associated with the EPA approvals process. The ministry is satisfied that the proposed above mentioned commitments address the concerns raised.

3.3.2 Conclusion

The ministry is satisfied that the concerns raised by interested members of the public, the GRT and Aboriginal communities during the original EA (July 2009) agency and public comment period and the GRT comment period on the amended EA (November 2009) have been addressed. The ministry is satisfied with the Regions' proposed mitigation measures to ensure that any potential impacts are appropriately managed. The ministry is also satisfied that potential environmental effects of the proposed undertaking can be

managed through the commitments made in the amended EA (November 2009) and in response to the concerned raised during the EA process.

4. Summary of the Ministry Review

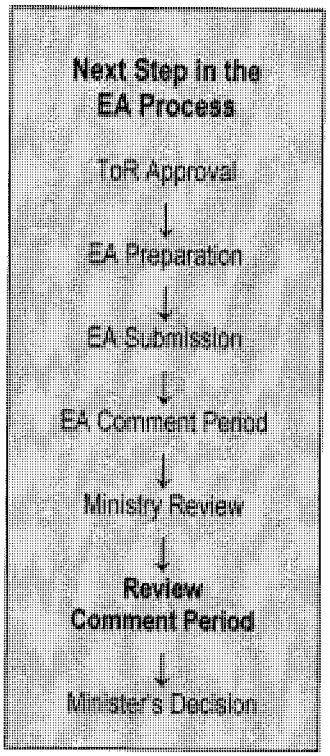
This Review explains the ministry's evaluation of the Durham and York Residual Waste Study EA (July 2009) and amended EA (November 2009). The Review has concluded that the Regions have prepared the amended EA (November 2009) in accordance with the requirements of the EAA and the approved ToR. The ministry is satisfied that the amended EA (November 2009) provides sufficient information to enable a decision to be made about the application to proceed with the undertaking for which approval is being sought.

The amended EA (November 2009) has assessed and evaluated a sufficient number of alternatives to arrive at a preferred undertaking. The ministry is satisfied that the evaluation of alternatives and the preferred undertaking assessed a reasonable range of potential environmental effects. The ministry is also satisfied that the amended EA (November 2009) provides sufficient detail on the proposed mitigation and monitoring measures to address any potential negative environmental effects.

The amended EA (November 2009) identifies how the Regions have provided sufficient time and opportunities for the GRT, interested members of the public and Aboriginal communities to comment during the EA process. The ministry is satisfied that the amended EA (November 2009) clearly documents the consultation methods utilized by the Regions to engage these groups during the EA process. The amended EA (November 2009) clearly sets out the issues and concerns raised and how they have been addressed. The Regions consultation methods were found to be in accordance with the requirements of the ToR.

The Review has also concluded a number of outstanding concerns remain that must be considered when making a decision to proceed with the undertaking. However, these issues can be addressed through commitments made in the amended EA (November 2009) and during the Review process. Prior to the Minister making a decision on whether or not to approve the proposed undertaking, the ministry will consider whether any commitments made in the amended EA and during the Review process will be addressed through proposed conditions of EA approval.

5. What Happens Now?



The Review will be made available for a five-week comment period. During this time, all interested persons, including the public, the GRT and Aboriginal communities can submit comments to the ministry about the proposed undertaking, the original EA (July 2009), amended EA (November 2009), the addendum to Section 9.2 of the amended EA (December 2009) or the ministry Review. At this time, anyone can request that the Minister refer either all or part of the amended EA (November 2009), which includes the addendum to section 9.2 of the amended EA (December 2009) to the Environmental Review Tribunal for a hearing if they believe that their concerns have not been addressed.

At the end of the Review comment period, ministry staff will make a recommendation to the Minister concerning whether the amended EA (November 2009) has been prepared in accordance with the ToR and the requirements of the EAA and whether the proposed undertaking should be approved. When making a decision, the Minister will consider the purpose of the EAA, the ToR, the amended EA (November 2009), the Review, the comments submitted during on the original EA (July 2009), the amended EA (November 2009) and the Review comment periods and any other matters the Minister may consider relevant.

The Minister will make one of the following decisions:

- Give approval to proceed with the undertaking;
- Give approval to proceed with the undertaking subject to conditions; or
- Refuse to give approval to proceed with the undertaking.

Prior to making that decision, the Minister may also refer any outstanding matters to mediation or refer either part of or the entire amended EA (November 2009) to the Environmental Review Tribunal for a decision.

If the Minister approves, approves with conditions or refuses to give approval to the undertaking, the Lieutenant Governor in Council must concur with the decision.

5.1 Additional Approvals Required

If EAA approval is granted, the Regions will still require other legislative permits and approvals to design, construct and operate the proposed undertaking. Such permits and approvals cannot be issued prior to EAA approval, unless they are required for the acquisition of property or rights in property, feasibility studies, research or the establishment of a reserve fund or some other financing mechanism in connection with the undertaking.

If EAA approval is granted, the proponent must still obtain any other permits or approvals required to construct and operate this undertaking.

The Region has committed to obtain all other approvals and regulatory permits that may be required . Section 15 of the EA outlines the additional approvals that may be required to design and construct the proposed undertaking. These approvals include:

- Ministry of the Environment's Section 53, *Ontario Water Resources Act;*
- Ministry of the Environment's Section 34, *Ontario Water Resources Act;*
- Ministry of the Environment's *Environmental Protection Act* Section 9 – Air and Noise;
- Ministry of the Environment's *Environmental Protection Act* Section 27 – Waste;
- Land zoning requirements in accordance with the *Planning Act*;
- Municipal Building and Infrastructure Permits;
- Tree Removal Permits;
- Noise by-law exemptions;
- Road Occupancy Permits;
- Road closure by-laws;
- Temporary construction access permits;
- Municipal sign by-laws;
- Canada – U.S. Air Quality Agreement; and
- Ontario Power Authority Power Purchase Agreement.

The above list is not all inclusive and other approvals may be required as the project proceeds.

5.2 Modifying or Amending the Proposed Undertaking

The amended EA (November 2009) identifies a process to address minor and major changes to the undertaking if approval is granted. Any proposed change to the undertaking would have to be considered in the context of the EAA and Ontario Regulation 101/07 (Waste Management Projects) and any environmental assessment requirements met before any change to the undertaking can be implemented.

Note: Cette publication hautement spécialisée n'est disponible qu'en anglais en vertu du règlement 441/97, qui en exempte l'application de la Loi sur les services en français. Pour obtenir de l'aide en français, veuillez communiquer avec le ministère de l'Environnement au 1-800-461-6290.

APPENDIX A

ENVIRONMENTAL ASSESSMENT ACT REQUIREMENTS

Appendix A: *Environmental Assessment Act* and Terms of Reference Requirements of the Environmental Assessment

EA Decision Making Process	EAA and ToR Requirements	Description and Characteristics of the Requirements	Analysis of the EA
Problem/Opportunities	Identify an existing problem or opportunity Purpose of the Undertaking: s.6.1(2)(a)	The EA should contain a brief explanation of the problem or opportunity that prompted the proposed activity. If a specific undertaking has been identified provide a brief description.	• Prior to the commencement of the EA process, the Regions of Durham and York (Regions) exported residual MSW to the United States of America (USA), in particular the State of Michigan, for disposal. The USA government has initiated a process of passing legislation that, if successful, would see the Michigan border closed to MSW from Canada. As a result, the Regions would no longer have sufficient waste disposal capacity. The Regions therefore initiated the EA process to establish a new long term sustainable and local waste disposal solution to jointly manage the post diversion residual MSW each jurisdiction generates for the next 35 years. • The purpose of the undertaking is intended to provide the Regions of Durham and York with a long term sustainable solution to manage the solid waste remaining after diversion (reuse, reduction, recycling and composting) and to minimize the amount of waste requiring landfill disposal. • The Regions have provided a detailed description of the problem. The EA adequately described its purpose.
Alternatives	Description and Statement of the Rationale for the Alternatives to: Alternative to s.6.1(2)(b)(iii)	"Alternatives to" represent functionally different ways of addressing the problem or opportunity.	• Section 7 of the EA included a description and rationale for three 'alternatives to' including: mechanical treatment, biological treatment and thermal treatment.

EA Decision Making Process	EAA and ToR Requirements	Description and Characteristics of the Requirements	Analysis of the EA
		A reasonable range of "alternatives to" should be identified and evaluated. The proponent should be able to justify that it has considered a reasonable range of alternatives. The "do nothing" alternative to should be included in the evaluation and will represent the "bench mark" situation.	• A reasonable range of 'alternatives to' has been identified and evaluated. • The preferred 'alternative to' selected was thermal treatment with capacity to process residual waste and to recover energy; the removal of materials that may be sold to market from the ash/char residue; and, the landfilling of any remaining process residues.
	Description and Statement of the Rationale for the Alternatives methods: Alternative Methods s.6.1(2)(b)(ii)	"Alternative methods" include a description of different ways of implementing the preferred "alternative to" A reasonable range of "alternative methods" should be identified and outlined.	• Section 8 of the EA presents and describes the rationale for 'alternative methods'. • A reasonable range of 'alternative methods' has been described in the EA to address the problem identified, and are within the capability of the Region to implement. • The EA clearly explains how the Region evaluated the 'alternative methods' to determine the proposed undertaking.
Evaluation	Description of the Environment s.6.1(2)(c)(i)	Proponents must consider the broad definition of the environment including the natural, biophysical, social, economic, built and cultural conditions. The EA must provide a description of the existing environmental conditions in the study area. The EA must identify those elements of the environment that may be reasonably expected to be affected, either directly or indirectly, by the proposed undertaking and/or the alternatives.	• The study area is bounded by the geographical boundaries of Durham and York. • The Regions considered the broad definition of the environment including the natural, biophysical, social, economic, built, and cultural environment. • The EA provided a description of the existing environment within the study area to establish baseline conditions. • The EA identified the elements of the environment that may be reasonably expected to be affected by the proposed undertaking and the alternatives.

EA Decision Making Process	EAA and ToR Requirements	Description and Characteristics of the Requirements	Analysis of the EA

	Description of Potential Environmental Effects s.6.1(2)(c)(ii)	Both positive and negative environmental effects should be discussed.
		
		The EA must identify methods and studies used to analyze the potential environmental effects. The methods used are contingent on the type of project.
		
		Impact assessment methods and criteria used during the evaluation should be identified.
		
		The methods chosen must be clear, traceable and replicable so that interested parties can understand the analysis and logic used throughout the EA.
			• Potential positive and negative environmental effects were described for the 'alternatives to', 'alternative methods' and the undertaking in Section 7, 8 and 11 of the EA.
			
			• The description included the potential for impacts on the following aspects of the environment:
			  • Natural
			  • Social-Economic
			  • Cultural
			  • Agricultural
			  • Transportation
			  • Cost
			
			• The EA identified methods and studies used to analyze the potential environmental effects of the alternatives and the proposed undertaking including:
			  • Air Quality Assessment
			  • Site Specific Human Health and Ecological Risk Assessment
			  • Natural Environment Impact Assessment
			  • Acoustic Assessment
			  • Traffic Assessment
			  • Visual Assessment
			  • Economic Assessment
			  • Social/Cultural Assessment
			  • Geotechnical Investigation
			  • Surface Water and Groundwater Assessment
			  • Stage 2 Archaeological Assessment and Built Heritage
			  • Facility Energy and Life Cycle Assessment

EA Decision Making Process	EAA and ToR Requirements	Description and Characteristics of the Requirements	Analysis of the EA
			• The methods chosen to analyze the environmental effects are clear, traceable, and replicable.

	Description of the Actions Necessary to Prevent, Change, Mitigate or Remedy the Environmental Effects s.6.1(2)(c)(iii)	A description of future commitments, studies and a work plan may be included as part of the actions necessary to prevent, change, mitigate or remedy environmental effects for each alternative for the ultimate purpose of comparing them.	• The potential environmental effects and mitigation measures for the preferred undertaking have been considered throughout the evaluation.
			• A description of future commitments to prevent, change, mitigate or remedy environmental effects are provided in Sections 13 of the EA. Commitments include:
			  • Mitigation measures for net environmental effects
			  • Contingency plans
			  • Monitoring programs
			  • Additional Studies

	Evaluation of Advantages and Disadvantages to the Environment s.6.1(2)(d)	The preferred alternative should be identified through this evaluation.	• Advantages and disadvantage to the environment are evaluated throughout the EA. • The evaluation of advantages and disadvantages to the environment is outlined in Sections 10 and 11. • An evaluation of the advantages and disadvantages of the alternatives to the environment led to the selection of the preferred alternative in sections 7 and 8. • The Regions' decision making is clear, traceable, and reproducible. • The Regions' clearly demonstrated why the preferred alternative was selected over the others.

EA Decision Making Process	EAA and ToR Requirements	Description and Characteristics of the Requirements	Analysis of the EA
	Description of Consultation with Interested Stakeholders s.6.1(2)(e)	A description of stakeholder consultation that occurred during the preparation of the EA needs be documented and should include consultation methods used, frequency of consultation, dates that events occurred, target audience, descriptions of key milestones for which stakeholders are providing input, comments received. The EA must identify any Aboriginal consultation efforts that have been made including methods for identifying potentially interested First Nations, who was consulted, when and how consultation occurred and any comments received from First Nations. The EA should include outline conflict resolution techniques to resolve issues used by the proponent to resolve outstanding issues with any stakeholders. There must be clear documentation as to how issues and concerns have been addressed.	• The Regions completed a comprehensive consultation program (Section 16) to ensure that interested persons, groups, organizations, agencies, and local Aboriginal communities had an opportunity to provide comment and input into the EA. Specific efforts included: • The establishment of a Joint Waste Management Group • The establishment of Site Liaison Committee • Media advertising was used to ensure interested parties were aware of consultation events. • The project website was continually updated to provide information to the public and to communicate how concerns could be expressed. • Public advisories • Notices • News releases • Advertisements in major and local newspapers (including non-English publications) • Advertisements on local radio stations prior to each community event • Public service announcements • Notifications via bus ads and ads in local movie theatres • Interested members of the public were also provided with an opportunity to make delegations outside of the formal public consultation process at any time during the EA process.

EA Decision Making Process	EAA and ToR Requirements	Description and Characteristics of the Requirements	Analysis of the EA
			• The EA identified Aboriginal consultation efforts including methods for identifying potentially interested Aboriginal communities, describing how consultation occurred, and included comments received from Aboriginal communities as part of the EA.
Selection Process	Proposed Undertaking	The description of the undertaking should specify what the proponent is seeking approval for under the EAA. The description should include information on the location, attributes, dimensions, emissions etc. The evaluation process should identify which is the preferred undertaking.	• The proposed undertaking includes the construction and operation of a thermal treatment waste management facility capable of processing up to 140,000 tonnes of residual municipal solid waste (the waste remaining after diversion) annually. The facility will include an electrical power generating system which will produce electricity for in-house use and delivery to the municipal grid. • The proposed undertaking was selected because it was the alternative that on balance had the most advantages and least disadvantages. The preferred waste management system, technology, and site ranked highest in the criteria that were assessed to be very important or important. • The Regions evaluated the 'alternatives' in a manner that is clear, traceable, and replicable. • The description of the proposed undertaking is provided in Section 10 and includes information on the location, characteristics, design, site features, operation, and environmental control measures of the site. • The description of the proposed undertaking demonstrates that it can adequately address the Regions' long term waste management needs.
	Description and Statement of the Rationale for the undertaking s.6.1(2)(b)(i)		

EA Decision Making Process	EAA and ToR Requirements	Description and Characteristics of the Requirements	Analysis of the EA
Next Steps and Additional Commitments	Additional ToR Commitments	Outline any further commitments made by the proponent in the ToR.	• The Regions have committed to undertaking additional studies and assessments as part of the applications for section 9 approval under the Environmental Protection Act (EPA), should the undertaking be approved. • The Regions have also committed to carrying out an odour impact assessment and an acoustic assessment as part of the applications for section 9 approval under the EPA, if the undertaking is approved. • The Regions have committed to continuous monitoring of stack emissions, if the undertaking is approved.
	Additional Approvals	Outline additional approval requirements. Provide sufficient detail about the nature of the approval.	• The Regions have committed to obtain all other approvals and regulatory permits that may be required , if the undertaking is approved. Section 9.315 of the EA outlines the additional approvals that may be required to design and construct the proposed undertaking, if the undertaking is approved. These approvals include: • Municipal Building Permits for the Maintenance Facility; • Ministry of the Environment's Section 53, *Ontario Water Resources Act;* • Ministry of the Environment's Section 34, *Ontario Water Resources Act;* • Ministry of the Environment's *Environmental Protection Act* Section 9 – Air and Noise; • Ministry of the Environment's *Environmental Protection Act* Section 27 – Waste; • Land zoning requirements in accordance with the *Planning Act*;

EA Decision Making Process	EAA and ToR Requirements	Description and Characteristics of the Requirements	Analysis of the EA
			• Municipal Building and Infrastructure Permits; • Tree Removal Permits; • Noise by-law exemptions; • Road Occupancy Permits; • Road closure by-laws; • Temporary construction access permits; • Municipal sign by-laws; • Canada – U.S. Air Quality Agreement; and • Ontario Power Authority Power Purchase Agreement. (The above list is not all inclusive and other approvals may be required as the project proceeds)

APPENDIX B

SUBMISSIONS RECEIVED DURING INITIAL COMMENT PERIOD

Ministry of the Environment

Environmental Assessment and Approvals Branch

2 St. Clair Avenue West
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Toronto ON M4V 1L5
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Fax: 416 314-8452

Ministère de l'Environnement

Direction des évaluations et des autorisations environnementales

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Toronto ON M4V 1L5
Tél. : 416 314-8001
Téléc. : 416 314-8452

Ontario

July 31, 2008

MEMORANDUM

TO: Government Review Team Distribution List

FROM: Gavin Battarino
Project Officer
Environmental Assessment and Approvals Branch

RE: THE DURHAM AND YORK RESIDUAL WASTE STUDY
ENVIRONMENTAL ASSESSMENT
EA FILE NO. 04-EA-02-08

Enclosed is the above-noted environmental assessment (EA), which as been submitted by the Regional Municipalities of Durham and York (Regions) to the Minister of the Environment for review under the *Environmental Assessment Act* (EAA). The Regions are co-proponents of the proposed undertaking.

The Durham and York Residual Waste Study EA was initiated jointly by the Regions in 2005. The purpose of the EA is to identify a long-term sustainable solution for the management of the "post-diversion residual waste" (the solid waste remaining after reuse, reduction, and recycling) generated by the Regions.

The undertaking, as defined by the Durham and York Residual Waste EA, is a thermal treatment waste management facility capable of processing 400,000 tonnes of post-diversion residual waste per year. The facility is to be located in the municipality of Clarington, in the east end of Durham Region, south of Highway 401 near Courtice Road and adjacent to the Darlington nuclear power plant. The site is owned by Durham Region and is surrounded by agricultural lands, commercial properties, and undeveloped land.

The EA outlines the process followed to arrive at a recommended long term management strategy for the post-diversion residual waste generated by the Regions of Durham and York. Implementation of the recommended preferred undertaking should provide the Regions with a long-term, local, and sustainable waste management alternative.

It is important that if your agency has concerns with the EA or the proposed undertaking or if you are proposing conditions of approval, that this information is clearly be identified in your response (Please see attachment #1 for advice on reviewing the EA). **Please provide your written and signed comments to me no later than September 25, 2009** Please note that your agency's comments will be a part of the public record for the proposed undertaking, and will be sent to the proponent for a response.

At the end of the comment period, the EAA requires that a Government Review of the EA be prepared. The purpose of the Review is to evaluate the EA with respect to the requirements of the EAA.

Please complete and return the attached Acknowledgement of Receipt Form. If you are not the appropriate contact person in your agency, please forward immediately to the appropriate coordinator and notify me of the change.

If you require hard copies of any of the supporting documents that have been provided to you on CD, please contact me directly by phone or through email and I will ensure that a hard copy is delivered to you in a timely manner.

Should you have any questions, or if I can assist you in the review process, please contact me at 416-314-8214or by email at gavin.battarino@ontario.ca.

Gavin Battarino

Gavin Battarino, Project Officer
Environmental Assessment and Approvals Branch
Ministry of the Environment
2 St. Clair Avenue West, Floor 12A
Toronto, ON M4V 1L5
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1-800-461-6290
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Attachments

Attachment

The questions listed below are designed to obtain advice from reviewers on the environmental assessment (EA). Reviewers are asked to provide comments based on your agency's mandate, and, if appropriate, to propose conditions if there are outstanding issues involved with the undertaking.

The Ministry of the Environment evaluates whether the EA fulfils the requirements of the EAA. If an EA contains the proper components and reviewers are satisfied with their quality and completeness, the ministry will conclude that the EA meets the requirements of subsection 6.1(2) of the Act. If the EA is deficient in meeting either criterion, the Branch will conclude that the EA does not meet the requirements of the EAA.

Please address the following questions in your evaluation of the EA from the perspective of your ministry's or agency's mandate. If strengths or weaknesses are identified, please indicate their significance.

1. Are the data, analysis and conclusions in the EA satisfactory, i.e., are these relevant and substantiated?

    - Does the information in the EA cover relevant issues at an appropriate level of detail?

    - Are you satisfied with the methods and techniques described in the EA to describe the environment, potential environmental effects and any mitigation measures necessary to reduce those effects?

    - Is the description of the net effects, or the advantages and disadvantages to the environment after mitigation is taken into consideration, adequate?

2. Does the way in which the proponent intends to implement the undertaking comply with the ministry's or agency's legislative requirements?

3. Are the monitoring and contingency plans specified by the proponent in the EA adequate?

4. Did the proponent address comments provided by your agency in the preparation of the EA?

5. Has the proponent clearly indicated how compliance reporting regarding commitments in the EA related to your mandate will be fulfilled?

ACKNOWLEDGEMENT OF RECEIPT

For the Durham and York Residual Waste Study Environmental Assessment

Date Received

UPON RECEIPT, PLEASE COMPLETE BOXES/BLANK LINES AND RETURN BY FAX TO:

Ministry of the Environment
Environmental Assessment and Approvals Branch
Attn: Gavin Battarino, Project Officer
2 St. Clair Avenue West, Floor 12A
Toronto, ON M4V 1L5
TEL.: (416) 314-8214
FAX: (416) 314-8452
gavin.battarino@ontario.ca

Proponent: **The Regional Municipalities of Durham and York**
Title: **The Durham and York Residual Waste Study Environmental Assessment**
EA File No.: **04-EA-02-08**

Agency: _____

Reviewer:

Tel. No.:	**Fax No.:**

E-mail: _____

Please check the appropriate box:

[ ] We will be able to provide comments to the Environmental Assessment and Approvals Branch by: **September 25, 2009** (please note that comments received after this date may not be considered in the approval process)

[ ] We are satisfied with the Environmental Assessment. Please keep us informed about the proposal.

[ ] We have no comments and do not require any further involvement with this proposal.

Additional Comments:

_____

_____

_____

_____

_____

Signature

Ministry of the Environment

Standards Development Branch

40 St. Clair Ave. West
7th Floor
Toronto ON M4V 1M2

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Tel.: 416 327-5519
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Ontario

July 7, 2009

MEMORANDUM

TO: Gavin Battarino, Project Officer
Environmental Assessment and Approvals Branch

FROM: Aden Takar, Senior Scientist
Ecological Standards Section, Standards Development Branch

CC: Craig Kinch, Manager
Ecological Standards Section, Standards Development Branch

SUBJECT: Preliminary Comments on the ERA Component of the Draft Site Specific Human Health and Ecological Risk Assessment Report for the proposed Durham/York Residual Waste Processing Facility Prepared by Jacques Whitford

The purpose of this memorandum is to provide SDB's preliminary comments on the ecological risk assessment (ERA) component of the draft site specific human health and ecological risk assessment technical study report for the proposed Durham/York residual waste processing facility prepared by Jacques Whitford.

The following are major deficiencies in the ERA component of the report which need to be addressed before the report is accepted by SDB. Additional issues may be identified when the final version of the report is received.

Specific Review Comments

Section 5.1 Baseline Soil and Biota Data

1. The statistical analysis protocol followed for estimating baseline chemical concentrations for different media is highly questionable especially when calculating 95% upper confidence limit of the mean (UCLM) for few data points. It is not acceptable to fit a distribution to a very small sample size (five data points in this case) and calculate 95% UCLM based on this distribution.

2. The descriptive statistics of environmental media samples such as soil, sediment, surface water and biota should be included in the main report.

Section 8.4.3 Derivation of Exposure Point Concentrations

3. The 95% UCLM of sample distribution of chemicals of potential concern (COPC) was used to calculate risk to all ecological receptors. This exposure estimate may be appropriate for mobile organisms with extensive home ranges but not for organisms with limited mobility such as plants and soil invertebrates. Therefore, the maximum concentrations of COPC should be used to calculate risk to immobile ecological receptors.

Section 8.5.1 Derivation of Wildlife TRVs

4. When deriving wildlife TRVs, studies reporting IC20s should be considered first if available before choosing LOAEAL and NOAEL data. Only bounded LOAEAL and NOAEL data should be used.

5. Allometric dose scaling should not be applied to chronic toxicity data as this approach is not appropriate and was originally developed for acute toxicity data.

9.2 Ecological Risk Assessment Conclusions

6. Higher hazard quotients (HQs) were reported for several parameters such as PAHs, PCBs, phosphorous, zinc and others in surface water and sediment due to higher MDLs for these parameters. Other lines of evidence such as benthic assessment surveys and bioassays should be explored to justify that the higher HQs found are merely the result of the higher MDLs.

Ministry of the Environment

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Ontario

September 25, 2009

MEMORANDUM

TO: Gavin Battarino, Project Officer
Environmental Assessment and Approvals Branch

FROM: Aden Takar, Senior Scientist
Ecological Standards Section, Standards Development Branch

CC: Craig Kinch, Manager
Ecological Standards Section, Standards Development Branch

SUBJECT: Review Comments on the ERA Component of Site Specific Human Health and Ecological Risk Assessment Report for the proposed Durham/York Residual Waste Processing Facility Prepared by Jacques Whitford

The purpose of this memorandum is to provide SDB's review comments on the ecological risk assessment (ERA) component of the site specific human health and ecological risk assessment technical study report for the proposed Durham/York residual waste processing facility prepared by Jacques Whitford dated July 31, 2009.

Overall, the report is well presented and has addressed satisfactorily my previous comments dated in July 7, 2009. The review of this ERA is based on the fact that others at MOE have reviewed the air models used to estimate emissions from the facility and the predicted concentrations will not be substantially different from those presented in the report.

Specific Review Comments

Section 8.5.7 Inhalation Toxicity

1. The inhalation pathway is considered negligible in most ecological risk assessments as indicated in the first paragraph of this section; however, it could be the most dominant pathway in certain cases such as the proposed incinerator facility, where air emissions are the main source of contamination. The report assesses this pathway indirectly by assuming that the TRVs developed for human health airborne contaminants will be lower and therefore protective for ecological receptors. Although the assumptions bulleted in this section are reasonable, the report should provide examples of airborne

contaminants where human TRVs are more stringent than wildlife TRVs.

Section 8.6.2 Ecological Risk Assessment Baseline Case

2. In this section and in many other parts of the report, it is stated that the higher Hazard Quotients (HQs) calculated for a number of contaminants in different environmental media were purely driven by baseline concentrations of these contaminants which could be found everywhere else in Ontario. While this statement maybe true for some contaminants, it should be supported by data or references which show similarities.

Section 8.6.7.2 Exposure of Vegetation to SO_2, NO_2 and HF

3. It is not clear why the estimated annual NO_2 concentrations listed in Table 8-14 and Table 8-24 are similar for the 140,000 tpy and 400,000 tpy scenarios. It is not also clear why these NO_2 estimates are similar for the project case and process upset project case.

Section 8.6.8.1 Effects on Vegetation from SO_2 and NO_2 Traffic Case Emissions

4. The impact of the exceedances of NO_2 phytoxicity benchmarks listed in Table 8-17 and Table 8-27 for all assessed ecological receptor locations should be discussed in this section. The fact that NO_2 participates in photochemical oxidation reaction which lead to the production of ozone and peroxyacylnitrates (PAN) which are well documented phytoxicants and are more harmful than NO_2 should be discussed. The report should include analysis of the potential impact of these secondary contaminants on sensitive vegetation, particularly sensitive crops in farm A (ECO 17).

5. The synergetic effects on vegetation of low concentrations of NO_2 and SO_2 should also be discussed in this section.

6. It is not clear why the annual NO_2 concentrations listed in Table 8-17 and Table 8-27 for the two different scenarios (baseline traffic case and total project impact) are similar.

7. The final Beryllium TRV used for muskrat listed in Table 1 in Appendix J is 0.427 mg/kg-bw/day whereas the ERA worked example for this TRV in Appendix O is 0.393 mg/kg-bw/day. This discrepancy should be clarified.

8. The units of measurement for the parameters listed in the Table (baseline concentrations before and after MOE comments) in Appendix B-2 are missing.

MEMORANDUM September 24, 2009

From: Jinliang (John) Liu, EMRB

To: Gavin Battarino, Project Coordinator, EAAB

RE: Review of the draft Durham York Residual Waste Study Air Quality Assessment Technical Study Report

A review was undertaken of the air dispersion modelling aspects of the Durham/York Residual Waste Study ("Project") contained in the following documents:

- Appendix C-1 - Air Quality Assessment Technical Study Report, Draft Environmental Assessment (EA) Study Document (May 25, 2009) (http://www.durhamyorkwaste.ca/ea_study_doc_archive.php) ("Draft Appendix C-1") – this includes assessment of initial design capacity of 140,000 tonnes per year only
- Appendix C-1 – Air Quality Assessment Technical Study Report Final Environmental Assessment (EA) Study Document (July 31, 2009) (http://www.durhamyorkwaste.ca/ea_study_doc.php) ("Final Appendix C-1") – this document includes assessments of both initial design capacity (140,000 tonnes per year) and maximum design capacity (400,000 tonnes per year)

While I was the principal reviewer, other modellers from the Environmental Monitoring and Reporting Branch (EMRB) also provided help during the reviewing process.

This Project involves a proposed energy-from-waste (EFW) facility which has a maximum design capacity of 400,000 tonnes, with the initial stage scheduled to process approximately 140,000 tonnes of waste. EMRB's review focused on the air dispersion modelling conducted by the proponent's modelling consultant, based on the 140,000 tonnes per year scenario. The model results for the 400,000 tonnes per year scenario were reasonable relative to those for the 140,000 tonnes per year scenario considering both the increased emissions and the changes to the source release characteristics. The EMRB review did not include a review of the emission estimates. Primary objectives of the EMRB review were to verify whether the modelling options selected were reasonable and whether the source characteristics were correctly transferred into the model input files. No significant issues, concerns or problems were identified, but specific comments on some minor issues will be provided in this Memorandum.

Chronology of EMRB Review of the Air Dispersion Modelling

Between January and April 2009, EMRB undertook extensive pre-consultation with the modelling consult on air dispersion model (CALMET/CALPUFF) methodology and undertook the following:

- reviewed terrain and landuse inputs to CALMET;
- provided correct landuse to the modelling consultant;
- reviewed 3 month of sample CALMET outputs and provided suggestions on the appropriate lake temperature to use and the proper use of mesoscale model gridded data (i.e., instead of

using all the mesoscale grid locations, use only 3 grids far inland and 1 grid over the lake south of the site);
- verified CALMET results, especially winds, were reasonable; and
- reviewed options in a sample CALPUFF input file and verified their reasonableness.

Between May 25 and June 6, 2009, EMRB reviewed the Draft Appendix C-1 and sent you a Memorandum dated June 5, 2009. In response to the comments contained in the EMRB Memorandum, in mid-July, the modelling consultant provided all meteorological input data to CALPUFF, some model input files and details of the roadway modelling to EMRB.

After receiving the Final Appendix C-1, EMRB undertook the following review:
- verified that the precipitation was correctly processed
- verified how the emission rates were determined in the CAL3QHCR input file;
- identified a mistake in the "Facility +On-site Traffic" scenario for PM2.5, after undertaking a few model runs;
- replicated location and time for the maximum 1hour and 24hour ground level concentrations listed in the report for PM2.5; and
- verified the dry deposition velocity and wet scavenging rates through both manual calculations and model results replication, and checked associated references listed in the report.

EMRB Comments on the Air Dispersion Modelling Aspects of the Final EA Report

The following are comments based on EMRB's review of the modelling aspects of the Final Appendix C-1:

- The emission rate from the main stack was incorrectly input into the PM2.5 model run for the "Facility+ On-site Traffic" scenario. The emission rate listed in Appendix B - Emission Inventory of the Final Appendix C-1 was 0.372g/s, which was correctly input to the "Facility-only" model run; but it was incorrectly input into the "Facility+ On-site Traffic" model run as 0.327g/s. This mistake, resulted in a maximum ground level concentration about 15% lower than it should be, and explaining the inconsistency we identified in our June 5, 2009 EMRB Memorandum.
- In the deposition model run reviewed by EMRB, the modelling consultant used the same EMRB-approved particle size of 2.5 microns for both dry and wet deposition estimates for particles although a different particle size of 1 micron was quoted for wet deposition estimate (Appendix D – CALPUFF Methodology of the Final Appendix C-1, Page D-50, 3rd bullet from the top).
- The emission rates listed in Table B3-5 of Appendix B - Emission Inventory of the Final Appendix C-1, do not agree with those listed in Table G1 of Appendix G - Deposition Predictions at Special Receptors, of the Final Appendix C-1, for at least the following compounds, acetaldehyde, bromodichloromethane, bromoform, carbon tetrachloride and ethylene dibromide.

In summary, EMRB's review did not identify any significant issues with the air dispersion modelling aspects of the Draft Appendix C-1 and the Final Appendix C-1. Correction of the above mentioned minor issues would not change the general conclusion of the air dispersion

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June 25, 2009

MEMORANDUM

TO: Gavin Battarino, Project Coordinator, EAAB

FROM: Barry Lubek, Supervisor, Human Toxicology, Standards Development Branch

CC: Minnie de Jong, Manager, Human Toxicology and Air Standards
Brendan Birmingham, Senior Research Toxicologist,
Samir Abdel-Ghafar, Regulatory Toxicologist,

SUBJECT: *Review of "Site Specific Human Health and Ecological Risk Assessment – Technical Study Report", Durham/York Residual Waste EA Study, prepared by Jacques Whitford, dated May, 2009 (Project No. 1009497),(Received May 20, 2009)*

SUMMARY

The risk assessment was comprehensive and covered the four main components of a human health risk assessment. The proponent has conducted the assessment on a facility processing 140,000 tonnes of waste per year, which will not suffice for the 400,000 tonnes/year of processing that the proposed facility is expected to process. Improvements as described below are needed in order for the Ministry to determine if the risks of adverse effect to human health have been appropriately characterized, and determine what the risks are, if any.

BACKGROUND

This memorandum provides SDB's comments following a review of the Site Specific Human Health Risk Assessment (HHRA) technical report prepared by *Jacques Whitford* as part of an environmental assessment of the proposed thermal treatment facility to be located in the Municipality of Clarington . The proposed site is located south of Highway 401 within the Municipality of Clarington (Clarington Site 01). The Courtice Water Pollution Control Plant is located south of the site.

The proposed facility is expected to process up to 400,000 tonnes of waste/yr for 30 years. The proponent has assumed for the purpose of this risk assessment that the initial processing capacity of the facility would be 140,000 tonnes of waste/year.

The proponent stated that the objective of this HHRA was to examine the potential for emissions from the proposed facility to pose an unacceptable risk to human health in the short- and long-term (after 30 years of operating the facility). The risk assessment was undertaken for the surrounding area within a 10 km radius of the site and was defined in the report as "Local Risk Assessment Study Area" (LRASA). This area incorporated light industrial, agricultural, rural, urban residential and natural areas.

The proponent has assessed risk to human receptors via inhalation exposure at 309 locations within the LRASA. In addition, potential risks to human health in 132 of the 309 receptor locations were assessed in soil, water and food.

The proponent assessed four (4) main scenarios: 1. The background conditions within the assessment area of the Facility, termed in the report as the 'existing scenario', 2. The time in which the Facility would be constructed, termed the 'construction scenario', 3. the time during which the Facility would be operated, termed the 'operational scenario', and 4. The time at which the Facility would cease to operate, termed the 'decommissioning scenario'.

The proponent has evaluated eighty seven (87) chemicals as possible emissions that can cause risk to human health via inhalation as the primary route of exposure. Of these, fifty seven (57) chemicals were carried forward in the risk assessment because they are either persistent (half life is 6 months or more) or bio-accumulate (Log K_{ow} greater than or equal to 5) (K_{ow}, the octanol/water partition co-efficient) in the environment. Risks from these chemicals have been evaluated in all media such as air, soil, surface water, garden and farm produce and fruit, agriculture products, wild game, fish, and breast milk.

Receptors considered in this risk assessment included local residents, local farmers, daycare/school staff and pupils, and recreation users (sport and camping). In addition, exposure from swimming, hunting and fishing has been considered in the HHRA.

The proponent concluded that the overall results of the HHRA indicate that no adverse health risks are expected from the Thermal Treatment Facility to local residents, farmers or other receptors in the Local Risk Assessment Study Area (LRASA).

The ministry has identified areas where the risk assessment needs improvement in order to determine if risks of adverse affect to human health have been appropriately characterised and whether this conclusion is supportable. This is elaborated on below.

SPECIFIC COMMENTS

PROBLEM FORMULATION

1. The proponent assumed *"for the purpose of this risk assessment"* that the initial processing capacity of the facility would be 140,000 tonnes of waste/yr. All risks modelled (including traffic) in this report apply to a 140,000 tonne/ year. However, in Section 3.1.1 (page 11) the proponent informs that the proposed facility is expected to process up to 400,000 tonnes of waste/yr for 30 years. This HHRA will not suffice for a facility with increased production since the risk of adverse effect to human health from exposure to contaminants from the

140,000 tonnes/year capacity facility is unlikely to be the same as that for 400,000 tonnes/year capacity facility.

2. The proponent has used the CALPUFF air dispersion model to predict ground level concentration (GLC) of Contaminants of Potential Concern (COPCs) and its dispersion prediction. SDB understands that the proponent is currently in discussion with EMRB about the use of this particular model. Any change to the information in this HHRA as a result of advice from EMRB may have a bearing on our comments provided in this memo.

Statistical Analysis

3. SDB is concerned that the 95% Upper Confidence Limit of the Mean (95% UCLM) was used to determine contaminant concentration. Although statistically valid, the use of the 95% UCLM for small numbers of samples creates inconsistency and uncertainty. The proponent should use the maximum concentration in all cases to avoid inconsistencies and reduce uncertainty, or the Method of Detection Limit (MDL) for non-detectable samples.

COPC Selection

4. The proponent determined airborne COPCs from available lists of chemicals emitted by thermal treatment facilities incinerating municipal waste. The list of COPCs was then screened against the criteria of $t_{1/2} < 182$ days and $K_{ow} > 5$. It is not clear that these criteria are valid for a continuously emitting source such as a thermal treatment facility. Using these criteria may eliminate VOCs from the multi-pathway analysis, specifically the uptake from air to vegetation contribution. Further, it would appear that USEPA recommends $K_{ow} = 4$ as a transition between volatile and persistent COPCs (page 5-35). As noted in section 5.3.2 (USEPA HHRAP document), a more detailed approach to removing COPCs from consideration in the multi-pathway analysis is preferred. It is suggested that the procedures in section 5.3.2 be followed. The consultant also should consider the use of the Hazard Ranking System (HRS), (USEPA, 2006).

5. Exposure through consumption of locally grown produce is a concern. The consultant should use Canadian data to validate the model.

6. The Conceptual Site Model (CSM) is incomplete because it does not include possible pathways such as soil build-up resulting from uptake by vegetation with subsequent leaf fall, and accumulation or airborne organics being directly absorbed by crops and produce. The CSM should be revised appropriately.

7. The report states that Ozone (O_3) was not assessed because it was considered a regional Air Quality issue (page 45). The consultant based this decision on its analysis of background (baseline) monitoring at the Courtice Rd. monitoring station (section 2.4, Air Quality Assessment). However, emissions from the facility that are the subject of this risk assessment may affect local O_3 concentrations and therefore the magnitude of this effect (risk characterization) should be discussed.

8. The report should include background air data for inorganic mercury (Hg^0) (Table 7-11). If

the proponent does not have this data, EMRB should be contacted for recent air monitoring data. Federal air monitoring data from the CAMNet sites (Point Petre and Egbert) is also extensive and available. This information should be incorporated into the report.

EXPOSURE ASSESSMENT

Dietary exposure

9. The consultant applied US child-specific exposure parameters to the toddler. Health Canada /CEPA has toddler specific values that should be incorporated into the report as appropriate.

   It should be noted that when using the CEPA 1994 food consumption data for all foods (toddler = 1,493 g /day and 5-11 year = 1,833 g/day) the child appears to consume about 23% more food than the toddler. However, correcting for BW (toddler = 1492.5 g/day/13 kg = 114g/kg/d; child = 1833 g/day/ 27 kg = 68 g/kg/d), the use of the child food consumption factor underestimates the toddler intake. This issue should be discussed in the uncertainty section of the report.

MDL issues

10. As noted above, over 60% of COPCs were Non-Detect (<MDL, Method of Detection Limit) in background monitoring.. In the absence of detectable concentrations, the risk assessor has to default to MDLs, which results in uncertainty for Hazard Quotient (HQ) and Lifetime Cancer Risk (LCR). The implication of defaulting to the MDL to the calculated risk should be discussed in the uncertainty section.

11. The report refers to models of exposure to contaminants via breast and dairy milk. All modeled results need validation / ground-truthing against published Canadian or other North American data.

12. In the text (page 159), it is noted that predicted exceedences for the resident infant / farmer infant are related to the use of MDL in the breast milk model. Similarly, exceedences for the farm toddler may be related to the use of MDL in the dairy model. The consultant should discuss this in the uncertainty section.

Soil Exposure

13. In Section 6.2 (page 57) the proponent indicated that the US EPA (2005) model was used to predict the deposited contaminants in the soil mixing zone. A rational as to the appropriateness of this model should be provided as well as a complete citation included in the reference section.

14. The proposed MOE standard for the toddler Soil Ingestion Rate (SIR) is 200 mg soil/day (MOE, 2008) for soil and dust. The proponent adopted the Health Canada (2004) SIR of 80 mg soil/day and calculated the dust ingestion rates based on the rational document of MOE (1996). The proposed MOE toddler SIR should be used for this risk assessment.

15. The MOE proposed soil standard for arsenic is 11 ug/g and should be used in the report. The arsenic value of 14 ug/g used in this report (Table 2) is outdated.

TOXICITY ASSESSMENT

TRV Selection:

16. SDB's preferred TRVs are the WHO value of 0.02 ug/kg/day for PCBs and the MOE (1994) value of 1.85 ug/kg/day for lead. These values should be incorporated into the report and calculations revised where appropriate.

17. SDB does not recommend the automatic use of air standards or AAQC to screen or characterize inhalation risks (Table 7-2). By definition, HQ are based on comparison of estimated exposure with TRVs (RfCs, REL,etc). AAQC or air standards are not necessarily TRVs and on an individual basis may not be health protective – for example, new science may have emerged since they were set. Appropriate TRVs should be used. If no inhalation TRV is available, the proponent could explore extrapolation from a RfD, use of a surrogate TRV from a chemical with a similar structure, or derivation of a TRV based on current science, or in the absence of any such information, assess the chemical qualitatively.

18. SDB noted the following:

- The proponent referred to the Cadmium TRV proposed for the AAQC in 2006. It is unclear why a proposal was relied on, when a decision document for cadmium was posted in 2007.
- The Arsenic inhalation TRV citation is incorrect. The reported value by the CalEPA REL is 0.03 $\mu g/m^3$, not 0.015 as shown in the Table.
- The US EPA IRIS RfC values were all cited as US EPA 2009, not by the year the individual RfC was derived. This should be corrected and other references used in the TRV Tables confirmed.

RISK CHARACTERIZATION

19. The risk assessment for such a proposed facility is associated with many uncertainties. Further, whereas some parameters may be 'conservative', others may not be. Statements used in the report such as: 1. the MOE uses a very conservative benchmark of 10^{-6} ; 2. That conservative means that the risk is overestimated; and 3. That 'conservative overestimates' of the risk have been followed, is subjective and also may be misleading. The proponent is requested to remove such statements.

20. The Procedures Document (2004) and Rationale Document November 2008 specify HQ = 0.2 or 10^{-6} risk per medium and associated pathways (also called "components"). The calculated risk for all media should be summed for each contaminant

21. The consultant proposes comparing Lifetime Cancer Risk (LCR) with typical observed

cancer incidence (*for all cancers combined, reviewer's italics*) in Canada (0.38 (F); 0.44 (M)), which is highly inappropriate since "all cancers" were not assessed. This position ignores the specific endpoint cancer incidence/mortality associated with each TRV. Each cancer slope factor or inhalation risk factor is associated with a specific cancer endpoint (lung, liver, skin, etc). Further, prevailing cancer rates reflect a multitude of causal factors (e.g. smoking, second hand smoke, lifestyle (diet, lack of exercise), and occupational and environmental pollution). To do an accurate comparison, one would need to compare to the cancer incidence of the specific cancer endpoint associated with exposure to that environmental pollutant.

22. It would be useful to provide a chart comparing the health based limit (TRVs) to a) the background concentrations, b) the concentrations from the facility, and c) the total of the background plus the facility.

EDITORIAL COMMENTS

22. The proponent has used terms or abbreviations without explaining the meaning at first use. For example, the abbreviations RFP, Addendum # 21 (November 20, 2008), CACs, "Upset Case" and "Upset Project Case" were not identified when first mentioned. This is also true with the terms Bioaccumulation and Persistence.

23. The proponent relied on a generic risk assessment report by Jacques Whitford, 2007 to determine the COPCs. This report should be provided by the proponent.

24. In appendix A "COPC Screening" in Table 2, some cells are included but do not appear to serve a purpose – e.g. the cell titled "Carried forward irrespective ?"

25. In Table 2, Log and days are missing from the K_{ow} and $t_{½}$ cells. Also, the proponent used references such as Mackay et al (2000) and EpiSuite without providing complete citations in the references.

26. The calculation and the parameters (body weight and inhalation rate) used to derive the inhalation TRV from RfD (route-to-route extrapolation) should be included as footnote to Table 7-3 and appropriate citations should be provided.

27. In Appendix B "Baseline Soil and Biota", the proponent should confirm that the Garden produce samples from local markets are indeed locally grown to enhance the respective evaluation.

28. In page (109), the equation shown to derive the Secondary Particulate Matter (SPM) is not comprehensible. It should be reformatted. Also, an explanation of the parameters used for the conversion (1.376 & 1.291) of the sulphate and nitrate should be provided.

PROVISO

The comments and conclusions presented in this review assume that the site description, facility

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September 25, 2009

MEMORANDUM

TO: Jim McKay
Stantec

FROM: Gavin Battarino
Project Officer
Environmental Assessment and Approvals Branch

RE: York/Durham Residual Waste Study Environmental Assessment
EA FILE NO. 04-EA-02-08

The Ministry of the Environment's (ministry) Environmental Assessment and Approvals Branch Environmental Assessment Project Coordination Section has reviewed the above noted document and associated appendices, dated July 31, 2009 and has the following comments pertaining to the environmental assessment (EA) planning process:

Section 1.0 Introduction and Background

1. This section provides a brief overview the of previous efforts by the Regional Municipalities of Durham and York (Regions) to establish the required waste management capacity to manage their residual municipal waste (MSW) remaining after diversion within their respective regional boundaries. The EA entitled *The Greater Toronto Area Interim Waste Authority Environmental Assessment* is referenced as an example of the most recent efforts carried out by the Regions. It is concluded that these efforts did not yield any new landfill capacity.

   It should be noted although no new landfill capacity was developed out of the Greater Toronto Area Interim Waste Authority EA several potential sites were identified, including sites in Durham and in York. The failure to establish new landfill capacity was not of a technical or legislative nature, nor a result of public opposition, but

rather a result of the process prematurely ending, as a direct result of the election of a new provincial government.

Section 2: Identification of Proponents

1. It is not clearly understood as to why a joint initiative, to manage the residual MSW generated by the Regions, is considered a better alternative then each municipality managing its waste independently. A clear rational as to why a joint initiative was pursued instead of each municipality developing an independent waste management strategy and the merits (advantages and disadvantages) of a joint initiative versus an independent strategy should be provided.

2. In subsection 2.1.2.1 of the EA study York Region's current waste management practices are identified as a combined strategy of landfill and the processing of waste to produce "fuel pellets". York has committed to sending 100,000 tonnes of residual MSW a year to the Dongara plant in Vaughan. The waste is processed into pellets that can be used as fuel substitute for conventional fossil fuel. The remaining residual MSW generated by York is sent to the Green Lane Landfill. The conclusion of this subsection claims that the current York Region waste management strategy is only short term and that York Region still requires long term waste disposal capacity. It is not clear as to why York Region's current waste management strategies are considered short term. An explanation substantiating this claim should be provided.

3. In subsection 2.1.2.1 of the EA study it is stated that in 2008 York Region ceased shipping residual waste to Michigan. A key component of the purpose of the undertaking for which the EA study is seeking approval is the lack of long term waste disposal capacity resulting from the 2010 closing of the border to municipal waste from Canada to the US. If the current waste management practices of York Region are not proven to be short term then the current waste management practices of York Region should be accounted for and their impact taken into consideration on the problem that the EA study sets out to address.

4. In the section 2 summary of the EA study it is stated that the continued transport of waste to a landfill located outside Ontario is not sustainable and that a non-local landfill option would expose the Regions to significant public policy risks that are not within their control. It is not understood why this assessment of a non-local landfill option was not applied to the assessment of the management of process residual waste (bottom and fly ash) or in the development of contingency planning to address operational shut downs.

Section 3: Statement of Purpose

1. In subsection 3.2 of the EA study a description of the waste to be managed and the service area for the proposed undertaking is discussed. The waste to be managed includes MSW remaining after diversion generated from sources in the Regions and from neighbouring non Greater Toronto Area (GTA) municipalities. The service area

proposed falls outside the EA study area (as described in Section 6 of the EA). The study area for the EA has been defined to include only the jurisdictional boundaries of the Regions, and therefore only considers this defined area for study and evaluation in the EA process. The evaluation and study of the other jurisdictions identified in the proposed service area on the undertaking for which approval is being sought has not been undertaken. An explanation should be provided as to why the EA study references other jurisdictions outside the study area.

2. In subsection 3.3.1.2 and 3.3.1.4 of the EA study an overview of the Regions current waste management systems and MSW generation volumes are discussed. It is not apparent as to the current volumes of residual MSW that will require management for each Region by the proposed undertaking. The current amounts of residual MSW requiring disposal capacity by the Regions should be clearly defined, including an explanation of how the capacity requirements were determined.

3. In subsection 3.4 of the EA a description of the "Do Nothing" alternative that will be used during the evaluation of "Alternatives To" is identified. The "Do Nothing" alternative is defined as the continuation of current practices, namely the continued export of waste by the Regions to Michigan. It should be noted that although Durham Region continues to export its waste to Michigan the EA study has indicated that York Region ceased shipping waste to Michigan in 2008. The ministry's Code of Practice: Preparing and Reviewing Environmental Assessments in Ontario (Codes) states that the "Do Nothing" alternative should represent what is expected to happen if none of the alternatives being considered in the EA study are carried out. The identification and description of the "Do Nothing" alternative should therefore accurately reflect the current waste management practices of both Regions.

4. In subsection 3.4 of the EA it is acknowledged that each of the processing system alternatives being carried forward for comparison and evaluation in the EA study will require landfill disposal capacity for process residuals. It is stated that the successful vendor of the preferred technology will be responsible for the identification of landfill capacity. Although the Regions can enter into a contract or agreement with the preferred technology vendor for the disposal of process residues, the management of any process residues requiring disposal is ultimately the responsibility of the Regions. The EA study should therefore consider the requirement of landfill capacity as a component of the undertaking for which approval is being sought and be carried forward for consideration throughout the EA Study where appropriate.

Section 7: The "Alternatives To" The Undertaking

1. In subsection 7.1 of the EA study the "Do Nothing" alternative is described as a landfill only system, consisting of a new landfill site capable of managing all wastes that remain after diversion. The description of the "Do Nothing" alternative is not an adequate representation of the current waste management practices for the Regions, as set forth in section 2 of the EA study. The Codes state that the "Do Nothing" alternative represents what is expected if none of the alternatives being considered are

carried out. The "Do Nothing" alternative identified in this section should be amended to accurately reflect the current waste management practices of the Regions.

Furthermore, subsection 7.1 of the EA study states that the "Do Nothing" alternative described in the EA does not meet the purpose of the undertaking and will therefore not be considered in this study. This statement contradicts the requirement set forth in subsection 3.4 of the EA study, which states that for the purposes of comparison and evaluation of the "Alternatives To", a "Do Nothing" system is a required component of this EA process.

The Codes require that the "Do Nothing" alternative should always be considered in the evaluation and comparison of "Alternatives To". The "Do Nothing" alternative is considered the bench mark against which the consequences of the "Alternatives To" being examined can be measured in order to determine, amongst other things, the extent to which each alternative addresses the problem or opportunity which prompted the EA study. The "Do Nothing" alternative is also used to highlight the advantages of proceeding with a particular alternative.

The EA study should identify the "Do Nothing" alternative in a manner that accurately reflects the current waste management practices of the Regions. The EA study should also include the "Do Nothing" alternative in the systematic evaluation of "Alternatives To".

2. In subsection 7.3.2 of the EA study it is stated that priorities and weighting were not assigned to individual indicators or criteria, but only to the broader environmental categories set forth in the evaluation methodology. The Codes require that in order to determine the undertaking for which approval will be sought the proponent must carry out a systematic evaluation of alternatives. The EA should provide a list of environmental categories (such as natural, social, economic and cultural) and the criteria that will be used to assess the effects of each alternative as related to each environmental category. Each criterion will then be supported by indicators that will identify how the potential environmental effects will be measured for each criterion. This is to ensure that the evaluation method is able to produce an assessment that is clear, logical and traceable. By not assigning priorities or weighting to individual criteria and indicators the evaluation method it is not clear, logical or traceable, and it is difficult for the reader to reach the same conclusion using the information provided without any additional assumptions. The EA study should therefore include the assignment of priorities or weighting to the criteria and indicators used in the evaluation of alternatives.

3. In subsection 7.4.1.1 of the EA study the current waste diversion programs and proposed initiatives for increased diversion rates by the Regions are discussed. It is not apparent if the Regions are intending to commit to the increased diversion targets (70 percent for Durham by 2013 and 70 percent for York by 2016) or how these diversion targets will be specifically achieved.

4. In subsection 7.4.1.6 of the EA study the rationale for the assumptions used to determine system capacity for the proposed undertaking are discussed. It is not apparent why the assumptions for population increase and waste diversion targets differ between the 250,000 tonnes per year and 400,000 tonnes per year scenarios. If a potential exists for changes to diversion rates or population growth they should be accounted for in each scenario. Consideration should be given to the possibility that diversion rates and population rates may not increase as anticipated in the evaluation of each scenario.

   Furthermore, it is also not understood why two scenarios for waste residual system capacity were developed. If the EA is seeking approval for a processing system to manage up to 400,000 tonnes of residual MSW per year then only an evaluation of the capacity for which approval is being sough is required.

5. In section 7 of the EA study a description of the waste to be managed by the proposed undertaking is discussed in reference to the required residual system processing capacity. The EA study carries forward an evaluation of "Alternatives To" on the basis that only residual MSW, generated by the Regions, remaining after at source diversion will be managed. In other sections of the EA study, in particular section 8, reference is made to the possibility of including dewatered bio-solids, Industrial, Commercial and Institutional Waste, and residual MSW from neighbouring non-GTA municipalities.

   The waste to be managed for the EA study that has been defined in sufficient detail includes only the residual MSW remaining after diversion generated by the Regions, and therefore only considers this waste supply for study and evaluation in the EA process. The evaluation and study of the other waste types or streams on the undertaking for which approval is being sought has not been undertaken. An explanation should be provided as to why the EA study references other waste types or streams on the undertaking for which approval is being sought.

6. Subsection 7.7 of the EA study discuss the different waste management approaches that were identified, compared and evaluated in order to identify the advantages, disadvantages and net effects of each approach relative to one another. The comparison undertaken used a qualitative methodology that compared each "Alternative To", based on relative advantages and disadvantages. Priorities and weighting were not assigned to individual indicators or criteria, but only to the broader environmental categories.

   The EA study premised that given the potential effects associated with each waste management approach, there was no rationale for determining that one or more criteria or indicators would be more important than the others within the same broad category. Categories were assigned a priority of either Most Important, Important or Least Important. A significant advantage or disadvantage was considered one that represented the best or worst of all waste management approaches.

The selection of a qualitative approach was applied on the assumption that it could provide a descriptive rationale for certain choices and the consideration of priorities that allowed the broader public to understand the decision making process. Much of this analysis relied on the professional skills and opinions of the EA study team and the assembly of relevant information.

The EA study states that although it is easier for qualified reviewers to follow the results of a quantitative evaluation approach, the challenge of translating qualitative information to data sets or numbers with defined limits representing the scope of a particular impact and the point at which different impacts are distinguished are usually difficult to link advantages and disadvantages in terms that the general public can understand. Therefore a qualitative approach was adopted instead of a quantitative approach to avoid the risk of losing the human side of what makes sense and is considered reasonable and understandable to the general public.

The Codes state that there is no requirement to apply any specific methodology except that the process must be rational, traceable and replicable and must consider advantages and disadvantages based on a net effects analysis of alternatives. The application of the qualitative approach is difficult to follow and at times untraceable. It is not understood what determines a major advantage, an advantage, a neutral ranking, a disadvantage or a major disadvantage nor how theses advantages and disadvantages are compared to arrive at an overall conclusion of potential net effects. Without a specified weighting or priority the conclusion reached can not be replicated. And, although a summary is provided of the significant advantages and disadvantage of each waste management approach, the measure by which a determination is made is not clear and therefore difficult to understand. The EA study should provide an explanation as to how each indicator, criteria and category are weighted or prioritized and also include an explanation of how these weighting or priorities are compared and evaluated to determine the conclusions reached.

7. In subsection 7.8.1 of the EA study a description of the preferred residual processing system is discussed. The EA study evaluation of "Alternatives To" concluded that System 2a (thermal treatment with the recovery of material from ash/char) was identified as the Preferred Long Term Residual Processing System. However, the residual processing system that is carried forward for further evaluation and comparison is System 2b (thermal treatment of solid recovered fuel).

The EA study suggests that although System 2a was identified as the preferred alternative at the conclusion of the evaluation and comparison of "Alternatives To", System 2b was considered to exhibit an acceptable range of advantages and disadvantages. In particular, System 2b provided for the ability for the Regions to capture additional recyclables and compostables in the waste stream should the Regions not meet their projected waste diversion projects. It is also suggested many of the technologies that would be used to thermally treat solid recovered fuel in system 2b are regarded as new technologies and minimal information was available regarding these technologies at the scale required by the Regions during the

evaluation and comparison of "Alternatives To". The lack of detailed information is considered to have had a relative impact on the assessment of the advantages and disadvantages of System 2b. It was therefore recommended by the EA study that System 2b also be carried forward with the preferred waste processing system.

It is not understood why a residual processing system technology was considered in the evaluation and comparison of "Alternatives To" if the information available about the system technology was limited. Subsection 7.4.2 of the EA comments that the technological approaches used to formulate the alternative residual processing systems were reviewed to ensure that they could address the problem and purpose of that prompted the EA study. The review of residual processing system technologies should have screened out those technologies that did not have the required information at the scale required by the Regions. The rational substantiating the recommendation to carry forward System 2b with the preferred system arrived at through the evaluation of "Alternatives To" does not provide enough detail to support the change. The EA should include a more detailed rational and explanation to support the proposed change.

8. In subsection 7.8.5 of the EA study the identification of existing landfill capacity and/or the siting of new landfill capacity to manage the residual materials resulting from the thermal treatment of waste is stated as being outside the scope of the EA study. It is not understood why existing landfill capacity and/or the siting of new landfill capacity was excluded from the EA study considering that the management of any process residual materials from the thermal treatment of waste will ultimately require landfill disposal capacity and forms part of the undertaking for which approval will be sought.

   The EA study acknowledges the requirement for the disposal of process residuals. Therefore the manner in which these residual are processed and ultimately disposed should be included in the scope of the EA. The management of any process residual materials requiring disposal are the responsibility of the Regions and should be addressed with the context of the EA. This is to ensure that should approval be given to the undertaking the implementation and operation of the undertaking will not be delayed or impeded by the process to identify or site an approved landfill to receive the process residuals.

Section 8 Evaluation of Alternative Methods of Implementing the Undertaking

1. Section 8 of the EA study discusses the application of the long list and short list of sites evaluation criteria. Several criteria are presented that are to be used in the evaluation of the advantages and disadvantages of the long list and short list of sites. It is not understood why proximity to an electrical grid connection and steam and/or heat load are considered in the requirement for proximity to infrastructure criterion.

2. Subsection 8.8 of the EA study discusses the application of a qualitative approach to evaluate "Alternative Methods". Each of the potential sites are to be compared and

evaluated in order to identify the advantages, disadvantages and net effects of the short list of sites relative to one another. The comparison and evaluation process used a qualitative methodology that compared each potential site based on relative advantages and disadvantages. Priorities and weighting were not assigned to individual indicators or criteria, but only to broader environmental categories.

The selection of a qualitative approach was applied on the assumption that it could provide a descriptive rationale for certain choices and the consideration of priorities that allowed the broader public to understand the decision making process. Much of this analysis relied on the professional skills and opinions of the EA study team and the assembly of relevant information. The EA study states that although it is easier for qualified reviewers to follow the results of a quantitative evaluation approach, the challenge of translating qualitative information to data sets or numbers with defined limits representing the scope of a particular impact and the point at which different impacts are distinguished are usually difficult to link advantages and disadvantages in terms that the general public can understand. A qualitative approach was adopted instead of a quantitative approach to avoid the risk of losing the human side of what makes sense and is considered reasonable and understandable to the general public.

The Codes state that there is no requirement to apply any specific methodology except that the process must be rational, traceable and replicable and must consider advantages and disadvantages based on a net effects analysis of alternatives. The application of the qualitative approach is difficult to follow and at times untraceable. It is not understood what determines a major advantage, an advantage, a neutral ranking, a disadvantage or a major disadvantage nor how theses advantages and disadvantages are compared to arrive at an overall conclusion of potential net effects. Without a specified weighting or prioritizing of criteria and indicators the conclusion reached can not be replicated. And, although a summary is provided of the significant advantages and disadvantage of each of the potential sites, the measure by which they are determined or compared is not provided and therefore not understood. The EA study should provide an explanation as to how each indicator, criteria and category are weighted or prioritized and also include an explanation of how these weighting or priorities are compared and evaluated to determine the conclusions reached.

3. Subsection 8.8.7 of the EA study identifies that for the comparison of alternative sites two scenarios for the proposed facilities annual tonnage were analyzed in detail: 150,000 tonnes and 250,000 tonnes. A qualitative analysis of a maximum annual tonnage scenario of 400,000 tonnes was also undertaken (in some instances the evaluation of the 400,000 tonnes was not considered for certain categories). It is not understood why the maximum scenario of 400,000 tonnes was not evaluated to the same level of detail as the 150,000 tonnes and 250,000 tonnes scenarios, considering that the EA seeks approval for a facility to process 400,000 tonnes of waste. The Codes states that in order to determine the undertaking for which approval is being sough, a proponent must carry out a systematic evaluation of alternatives that address the problem or opportunity that prompted the EA study.

Section 9 Vendor Identification Process

1. In subsection 9.2 of the EA study the evaluation of rated criteria for the Request for Proposals (RFP) process is discussed. Each criterion that is to be used in the RFP evaluation is identified and an overall weighting or score has been assigned. The weighting for the indicators that were used to determine how points were awarded under each criterion have not been provided. Without a specified weighting of indicators the conclusion reached in the evaluation of the RFP process can not be replicated. The EA study should provide an explanation as to how each indicator, criteria and category are weighted and also include an explanation of how these weightings are compared and evaluated to determine the conclusions reached.

2. In subsection 9.2 of the EA study the evaluation of the submissions received during the RFP process are evaluated to determine a preferred technology vendor. There is no information on the evaluation of submissions or how the preferred technology vendor was compared to other technologies being considered.

   The Codes state that the EA process should be open and transparent. This includes, but is not limited to, sharing complete information to support the conclusions and recommendations reached at each stage of the EA process. The EA study should provide a description of each technology being considered, an explanation of how the technologies were compared and evaluated, and the score or ranking each technology considered received for each indicator, criteria and category used in the comparative process.

3. Subsection 9.2.1.3 of the EA study discusses the technical considerations that will be applied to the evaluation and comparison of the RFP vendor submissions. It is not understood why vendors are being requested to submit a proposal to design and build a thermal treatment waste management facility capable of processing 140,000 tonnes of MSW annually when the EA is seeking approval for a facility capable of managing 400,000 tonnes. The Codes state that alternatives to the undertaking should provide a viable solution to the problem or opportunity the EA sets out to address.

4. Subsection 9.3 of the EA study discusses confidentiality and the procurement process. Information and details related to the evaluation used in the procurement process have not been provided. While the information is know it is not included in the EA due to the potential implications discloser may have on the finalization of the procurement process. The Codes state the EA process should be open and transparent. This includes, but is not limited to, sharing complete information to support conclusions and recommendations at each phase of the process. This provides for the process to traceable and allows for the process to be followed through its various stages until a conclusion is reached. The EA study should therefore include all relevant information on the evaluation of vendor submissions and how the preferred technology vendor was identified.

Section 10 Identification and Description of the Undertaking

1. In subsection 10.3.1 of the EA study the quantity of waste requiring management is discussed. It is not clearly understood how the maximum system capacity required by the Regions was determined to be 400,000 tonnes per year. Following the rationale for the assumptions used to determine system capacity, in section 7 of the EA, it is concluded that 11.1 million tonnes of residual waste would require management over a 35 year period or 318,000 tonnes annually. An additional 82,000 tonnes of waste is incorporated into the capacity requirements to account for failure to meet diversion targets, inaccuracies in population and per capita waste generation estimates, and the receipt of waste from other sources.

   The assumed residual waste processing capacity defined by the EA Statement of Purpose and carried forward for evaluation includes only municipal solid waste remaining after at source diversion from residential sources generated within the Regions. Although the EA does contemplate the management of waste from other sources, the evaluation and study of these other sources of waste on the undertaking for which approval is being sought has not been carried out. Therefore it is not understood why capacity for other sources of waste were considered in determining the maximum system capacity.

2. In subsection 10.3.2 of the EA study consideration of energy generation potential in the EA is discussed. As the EA study progressed and alternative technologies were reviewed and evaluated it became apparent that many of the technologies under consideration exhibited a potential to generate energy in excess of the amount required to meet operational energy demands. The potential to generate excess energy was viewed as benefit and the opportunity to reduce the financial impacts of the proposed facility through the sale of energy was incorporated into the EA Purpose of the Undertaking.

   Although the EA process does allow for minor changes or adjustments to such things as the Purpose of the Undertaking (as set forth in the approved ToR), any change or adjustment should be addressed and accounted for when first identified. When a problem or opportunity arises that may require or prompt a change to the framework or methodology of the approved ToR, the change is to be acknowledged and an explanation for the change and its impact on the EA study should be included in the appropriate section of the EA.

   It is not understood why the potential to generate excess energy and the opportunity to reduce the financial impacts of the proposed facility through the sale of energy was not referenced until Section 10 (description of the Preferred Undertaking) of the EA study. The potential to generate excess energy should be referred to in the EA study when it was first determined that this potential would prompt a change to the framework or methodology proposed in the approved ToR. A detailed explanation of when the potential to generate excess energy was identified and how it was

incorporated into the EA study framework or methodology should be included in the EA.

3. In subsection 10.6 of the EA study a description of the proposed facility is provided. The description of the proposed facility for which approval is being sought is described in detail for a waste management facility processing 140,000 tonnes of MSW per year. This includes a description of the conceptual design, process flow and mitigation measures. The expansion of the facility to 250,000 tonnes and 400,000 tonnes is contemplated but not described in the same level of detail.

   The Codes require that a proponent must thoroughly describe and provide the rational for the undertaking for which approval is being sought. The description of the undertaking should be more detailed than the description of alternatives and must cover the entire life cycle of the undertaking. As the EA is seeking approval for a waste management system capable of processing up to 400,000 tonnes of MSW per year, the EA should provide a detailed description of the facility for which approval is being sought and for each proposed expansion phase.

4. In subsection 10.6.1 of the EA study a description of the conceptual process flow is discussed. The description of the process flow is described in detail for a waste management facility processing 140,000 tonnes of MSW per year only. As the EA is seeking approval for a waste management system capable of processing up to 400,000 tonnes of MSW per year, the EA should provide a conceptual process flow for the facility for which approval is being sought and for each proposed expansion phase.

5. In subsection 10.6.1.1 waste delivery, receiving, storage and handling is discussed. The discussion also includes an overview of a proposed strategy for the receipt of unacceptable materials and hazardous waste. Should unacceptable or hazardous waste materials be discovered during routine truck inspections the material will either be returned to the vehicle or set aside for disposal at an appropriate landfill. The information pertaining to the identification, isolation and final disposal of unacceptable or hazardous waste materials is not provided in a sufficient level of detail. There is also no information on the process to follow if unacceptable materials or hazardous wastes are identified after being placed in the refuse pit. An explanation of how and where unacceptable or hazardous waste will be identified, managed, stored and disposed of should be included in the EA.

6. Subsection 10.7 of the EA study discusses the potential for facility expansion. The EA is seeking approval for a facility capable of processing up to 400,000 tonnes of residual MSW annually but only requires an initial operating capacity of 140,000 tonnes annually. The expansion of the proposed facility to the capacity for which approval is sought is planned in two phases. The first phase anticipates the facility expanding from its initial design capacity of 140,000 tonnes to an expanded capacity of 250,000 tonnes. The second phase will see the facility expand to a maximum operating capacity of 400,000 tonnes. For each proposed expansion phase the

quantity of waste that will be delivered to the facility by each Region is accounted for. For the initial processing capacity of 140,000 tonnes, York is accountable for the delivery of 20,000 tonnes of waste and Durham 110,000 tonnes of waste. An additional 10,000 tonnes of waste capacity has been allocated as a contingency. During the first phases of expansion the York will be responsible for 130,000 tonnes and Durham 120,000 tonnes. The final phase of expansion has both Regions delivering 200,000 tonnes of waste annually to the facility. In addition it is contemplated that during each expansion phase waste from other non-GTA neighbouring municipalities as well as IC&I waste could be accommodated.

The assumed residual waste processing capacity as defined by the EA Statement of Purpose and carried forward for evaluation in the EA study includes only municipal solid waste remaining after at source diversion from residential sources generated within the Regions. Although the EA does contemplate the management of waste from other sources, the evaluation and study of these other sources of waste on the undertaking for which approval is being sought has not been carried out. Therefore it is not understood why capacity for other sources of waste were considered in the proposed expansion of the facility from its initial design capacity to the final maximum operating capacity. It is also not understood why the initial design capacity includes a contingency of additional capacity and the subsequent expansion phases do not or why the additional capacity is only required during the initial design stage.

In addition, subsection 2.1.2.1 of the EA study York Region's current waste management practices are identified as a combined strategy of landfill and the processing of waste to produce "fuel pellets". The conclusion of this subsection claims that the current York Region waste management strategy is only short term and that York still requires long term waste disposal capacity. Should the current waste management practices of York not be proven to be short term then the current waste management practices of York should be accounted for and their impact taken into consideration on the potential for facility expansion.

7. Subsection 10.7 of the EA study discusses the potential for facility expansion. It is suggested that should the facility be expanded within the next five years that the site specific study documents supporting expansion, as set forth in appendices C-1 to C-23, will not be require updating.

The Codes state that an EA study should provide sufficient information about the potential effects of a proposed undertaking in order to demonstrate that the proposed undertaking should proceed. Proponents should be aware that while assumptions can be used in the earlier steps in the EA planning process, it is expected that there will be a transition to original data for the analysis and evaluation in later stages of the planning process. It is expected that the level of detail will increase as the process proceeds. A commitment to confirm the assumptions used in the development of site specific studies should be undertaken prior to expansion and this commitment should not be excluded should expansion take place within the first five years of operation.

It is also not apparent what protocols and processes will be applied to determine and facilitate the expansion of the facility. The EA should include a detailed description on the process that will be followed to determine the need for expansion, an overview of the commitments to confirm the conclusions of all site specific studies, the identification of any legislative requirements or contract agreements, and an overview of how any proposed expansion will be carried out.

8. Subsection 10.10 of the EA study discusses facility contingency plans. Should operations at the facility cease it is suggested that waste will be stored on site until operations resume or an alternative disposal site selected by Covanta will be utilized for short term management needs. The level of detail in the description of the facility contingency plan is not sufficient nor is it apparent if the plan is feasible. The EA should include a more detailed description of a contingency plan to account for both short term and long term disruptions to operations. The plan should include, but not be limited to, the identification of alternative disposal capacity, the legislative requirements and contact agreements associated with the use of alternative disposal capacity, how waste collection and transfer will be modified, and any notification procedures. The EA should also include a contingency plan to address the possibility that the EA could be refused.

Section 11 Assessment of the Undertaking

1. Section 11 of the EA study is organized into two subsections. The first considers an assessment of the preferred undertaking at an initial design capacity of 140,000 tonnes of post residual MSW annually. The second subsection provides a summary discussion of the potential effects of the preferred undertaking at a maximum design capacity of 400,000 tonnes of post residual MSW annually. It is stated that a more definitive assessment of the preferred undertaking was completed for the initial design capacity of 140,000 tonnes as there is a clearer understanding of the process design components and related potential effects of the facility during the initial stage of development. The assessment of the potential effects at the maximum design capacity of 400,000 tonnes, is by necessity, more general since many of the design and performance elements used in an effects assessment are not specifically know at this time.

   It is not understood why the maximum scenario of 400,000 tonnes was not assessed at the same level of detail as the initial design capacity of 140,000 tonnes, considering that the EA is seeking approval for a facility to process 400,000 tonnes of waste. The Codes state a proponent must thoroughly describe and provide the rationale for the undertaking for which approval is being sought. The description of the undertaking should be more detailed than the description of alternatives. The description must also cover the entire life cycle of the undertaking. The level of detail should provide a clear understanding of the process design components and related potential effects of the preferred undertaking so to ensure that the Minster can have a clear understanding about the undertaking on which an approval decision is to be made.

The EA study should include an assessment of the maximum operating capacity at the same level of detail used to assess the initial design capacity.

Section 12 Changes to the EA

1. It is not considered acceptable to undertake any change to an undertaking approved under the EAA, no matter how insignificant, without first consulting with the ministry. Any changes to the EA, whether they require an amendment or not, must be discussed in consultation with the ministry and receive ministerial approval before the change can be undertaken.

Section 16 Consultation

1. In section 16 of the EA study a summary of consultation activities undertaking during the EA process is discussed. There is no information pertaining to the locations of the consultation events discussed in this section. The Codes state that consultation with interested persons is a cornerstone of the EA process and is a legal requirement under the EAA. Proponents are required to present sufficient and varied opportunities for consultation. Although the EA study does reference the dates when consultation events took place, the location of theses events are not provided. The EA should include both the dates and locations of consultation events.

Should you have any further questions or concerns, please feel free to contact the undersigned, at (416) 314-8214.

Regards,

Gavin Battarino
Project Officer
Environmental Assessment and Approvals Branch

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October 19, 2009

MEMORANDUM

TO: Gavin Battarino, Project Coordinator, EAAB

FROM: Samir Abdel-Ghafar, Regulatory Toxicologist

CC: Minnie de Jong, Manager, Human Toxicology and Air Standards
Brendan Birmingham, Senior Research Toxicologist,
Barry Lubek, Supervisor, Human Toxicology, Standards Development Branch

SUBJECT: *Responses to Jacques Whitford responses on first round of MOE comments on "Site Specific Human Health and Ecological Risk Assessment – Technical Study Report", Durham/York Residual Waste EA Study (Project No. 1009497), (Received August, 2009)*

BACKGROUND

The following are the MOE comments to the proponent's responses dated July 31, 2009 to MOE's comments of June 25, 2009. This is a re-submission of the risk assessment for a site described by the proponent to have the following characteristics:

- The proposed thermal treatment facility site is located south of Highway 401 within the Municipality of Clarington (Clarington Site 01).
- The proposed facility is expected to process up to 400,000 tonnes of waste/yr (t/y) for 30 years. The proponent has assessed both the 140,000 and the 400,000 t/y scenarios in the new report.
- The proponent stated that the objective of this HHRA was to examine the potential for emissions from the proposed facility to pose an unacceptable risk to human health in the short-term and long-term (after 30 years of operating the facility).
- The risk assessment was undertaken for the surrounding area within a 10 km radius of the site and was defined in the report as "Local Risk Assessment Study Area" (LRASA). This area incorporated light industrial, agricultural, rural, urban residential and natural areas.
- The proponent has assessed risk to human receptors via inhalation exposure at 309 locations within the LRASA. In addition, potential risks to human health in 132 of the 309 receptor locations were assessed in soil, water and food.

- The proponent assessed four (4) main scenarios: 1. The background conditions within the assessment area of the Facility, termed in the report as the 'existing scenario', 2. The time in which the Facility would be constructed, termed the 'construction scenario', 3. the time during which the Facility would be operated, termed the 'operational scenario', and 4. the time at which the Facility would cease to operate, termed the 'decommissioning scenario'.
- The proponent has evaluated eighty seven (87) chemicals as possible emissions that can cause risk to human health, considering inhalation as the primary route of exposure. Of these, fifty seven (57) chemicals were carried forward in the risk assessment because they are either persistent (half life is 6 months or more) or bio-accumulate (Log K_{ow} greater than or equal to 5) (K_{ow}, the octanol/water partition co-efficient) in the environment. Risks from these chemicals have been evaluated in all media such as air, soil, surface water, garden and farm produce and fruit, agriculture products, wild game, fish, and breast milk.
- Receptors considered in this risk assessment included local residents, local farmers, daycare/school staff and pupils, and recreation users (sport and camping). In addition, exposure from swimming, hunting and fishing has been considered in the HHRA.
- The proponent reported that estimations from the 140,000 t/y scenario were interpreted to indicate that no adverse health risks to local residents, farmers or other receptors in the Local Risk Assessment Study Area (LRASA) would be expected from the Thermal Treatment Facility
- However, assessment of exposure via inhalation for the 400,000 t/y scenario showed risk from hydrogen chloride at the maximum 1-hr concentration for the Commercial/industrial receptor group. In addition, human health multi-pathway assessment under the process Upset Case showed risk from dioxin and furan exposure to an infant fed breast milk from a mother living in close proximity to the facility. The proponent attributed both risks to high background concentrations of the substances.

SPECIFIC COMMENTS

The following are the SDB responses to the proponent comments in the memo to MOE dated July 31, 2009. The numbering of comments corresponds directly to the proponent's comment number.

Comments on the Human Health Risk Assessment

Tables in the Multi-Pathway Risk Assessment for the 400,000 tpy scenario indicate that for the COPCs listed, the hazard quotient (HQ) values for the baseline (background) case are always the same as HQ values for the "project case" and "process upset project case" for all receptors (Tables 7-58 through 7-78). This means there is no incremental contribution from the facility. The proponent should provide an explanation to address how the emissions from a 400,000 tpy municipal solid waste thermal conversion facility would not affect the HQ of the cumulative exposure.

Problem Formulation

1. The SDB understands that other MOE review team members have identified some outstanding issues in regard to the 400,000 tonnes of waste/yr scenario. These issues included problems with validating some parameters in the air dispersion and disposition models, data errors in executing the traffic model, and that some reported values can not be reproduced. Thus SDB defers to the MOE Air Quality Assessment (AQA) reviewers for confirmation of accuracy of the data on which this HHRA is based. Any change to the data inputs used in the air quality modeling (model parameters, operational assumptions etc.) and subsequent air quality model outputs, will directly impact the human health risk characterization.

2. The response is reasonable and no further response is required.

Statistical Analysis

3. The response is reasonable and no further response is required.

COPC Selection

4. The response is reasonable and no further response is required.

5. The response is reasonable and no further response is required.

6. The response is reasonable and no further response is required.

7. The response is reasonable and no further response is required.

8. The response is reasonable provided that any data provided by the EMRB should be incorporated in the report.

Exposure Assessment-Dietary Exposure

9. The response is reasonable and no further response is required.

Exposure Assessment-MDL Issus

10. The response is reasonable and no further response is required.

11. The response is reasonable and no further response is required.

12. The response is reasonable and no further response is required.

Exposure Assessment-Soil Exposure

13. The response is reasonable and no further response is required.

14. The response is reasonable and no further response is required.

15. The response is reasonable and no further response is required.

Toxicity Assessment-TRV Selection

16. The response is reasonable and no further response is required.

17. The response to this comment does not address MOE's concerns. Air guidelines, standards and criteria are not necessarily a toxicity reference value (TRV). For one, they may be dated, and superseded by new scientific information. Therefore, risk calculations resulting from these 'regulatory' values may not be valid risk characterizations. Appropriate TRVs should be incorporated and the risks for adverse effects to human health recalculated.

18. (1-3). The response to these three comments is reasonable and no further response is required.

Risk Characterization

19. The response is reasonable and no further response is required.

20. The response is reasonable and no further response is required.

21. The response is reasonable and no further response is required.

22. The response is reasonable and no further response is required.

Editorial Comments

23. The response is reasonable and no further response is required.

24. A risk assessment report should be a stand-alone document. A detailed summary of all information used to understand and interpret data must be included in the main text of the report. Any reference to supporting documents should be included either as an appendix in the report or at least be in a CD that accompanies the report. A risk assessor will not review web sites to reveal important documents and/or information. Any reports referred to should be available as mentioned in our earlier comment. Information in appendices or attachments pertinent to the report must be included in the report.

25. The response is reasonable and no further response is required.

26. The response is reasonable and no further response is required.

27. The response is reasonable and no further response is required.

28. The response is reasonable and no further response is required.

29. The response is reasonable and no further response is required

SUMMARY AND CONCLUSION

The proponent responses adequately address most of MOE's comments. However, outstanding issues identified by other MOE team members for the 400,000 t/y scenario such as emissions and deposition modeling need to be resolved before SDB would be able to thoroughly assess information, calculations, interpretations and conclusions on this scenario. In addition, the SDB has the following general comment on the 400,000 tpy scenario.

1. The proponent asserted that the lifetime cancer risk (LCR) (Table 7-12) and HQ values reported in Tables 7-14 & 7-15 that are in excess of the regulatory benchmarks of (10^{-6} and 0.2, respectively) are entirely driven by the high baseline (background) concentrations and that such baseline (background) results would be expected for any community in Southern Ontario. The risk assessment would benefit from the inclusion of data to support the assertion that similar high background concentrations would be found in any community in Southern Ontario.

PROVISO

The comments and conclusions presented in this review assume that the site description, facility description, and modelled air concentrations used in the site-specific risk assessment are accurate and appropriate and have been deemed satisfactory by other members of the review team, unless specifically noted. Our comments and conclusions apply only to the current or proposed use of the site, and to the receptors, exposure scenarios, and chemicals of concern assessed in this screening level risk assessment. New developments in toxicology and environmental sciences not available at the time of this review, inconsistencies raised by other MOE review team members, or changes in the selection of site use, receptors, or chemicals of concern may alter the comments and conclusions presented here.

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June 25, 2009

MEMORANDUM

TO: Gavin Battarino, Project Coordinator, EAAB

FROM: Barry Lubek, Supervisor, Human Toxicology, Standards Development Branch

CC: Minnie de Jong, Manager, Human Toxicology and Air Standards
Brendan Birmingham, Senior Research Toxicologist,
Samir Abdel-Ghafar, Regulatory Toxicologist,

SUBJECT: *Review of "Site Specific Human Health and Ecological Risk Assessment – Technical Study Report", Durham/York Residual Waste EA Study, prepared by Jacques Whitford, dated May, 2009 (Project No. 1009497),(Received May 20, 2009)*

SUMMARY

The risk assessment was comprehensive and covered the four main components of a human health risk assessment. The proponent has conducted the assessment on a facility processing 140,000 tonnes of waste per year, which will not suffice for the 400,000 tonnes/year of processing that the proposed facility is expected to process. Improvements as described below are needed in order for the Ministry to determine if the risks of adverse effect to human health have been appropriately characterized, and determine what the risks are, if any.

BACKGROUND

This memorandum provides SDB's comments following a review of the Site Specific Human Health Risk Assessment (HHRA) technical report prepared by *Jacques Whitford* as part of an environmental assessment of the proposed thermal treatment facility to be located in the Municipality of Clarington . The proposed site is located south of Highway 401 within the Municipality of Clarington (Clarington Site 01). The Courtice Water Pollution Control Plant is located south of the site.

The proposed facility is expected to process up to 400,000 tonnes of waste/yr for 30 years. The proponent has assumed for the purpose of this risk assessment that the initial processing capacity of the facility would be 140,000 tonnes of waste/year.

The proponent stated that the objective of this HHRA was to examine the potential for emissions from the proposed facility to pose an unacceptable risk to human health in the short- and long-term (after 30 years of operating the facility). The risk assessment was undertaken for the surrounding area within a 10 km radius of the site and was defined in the report as "Local Risk Assessment Study Area" (LRASA). This area incorporated light industrial, agricultural, rural, urban residential and natural areas.

The proponent has assessed risk to human receptors via inhalation exposure at 309 locations within the LRASA. In addition, potential risks to human health in 132 of the 309 receptor locations were assessed in soil, water and food.

The proponent assessed four (4) main scenarios: 1. The background conditions within the assessment area of the Facility, termed in the report as the 'existing scenario', 2. The time in which the Facility would be constructed, termed the 'construction scenario', 3. the time during which the Facility would be operated, termed the 'operational scenario', and 4. The time at which the Facility would cease to operate, termed the 'decommissioning scenario'.

The proponent has evaluated eighty seven (87) chemicals as possible emissions that can cause risk to human health via inhalation as the primary route of exposure. Of these, fifty seven (57) chemicals were carried forward in the risk assessment because they are either persistent (half life is 6 months or more) or bio-accumulate (Log K_{ow} greater than or equal to 5) (K_{ow}, the octanol/water partition co-efficient) in the environment. Risks from these chemicals have been evaluated in all media such as air, soil, surface water, garden and farm produce and fruit, agriculture products, wild game, fish, and breast milk.

Receptors considered in this risk assessment included local residents, local farmers, daycare/school staff and pupils, and recreation users (sport and camping). In addition, exposure from swimming, hunting and fishing has been considered in the HHRA.

The proponent concluded that the overall results of the HHRA indicate that no adverse health risks are expected from the Thermal Treatment Facility to local residents, farmers or other receptors in the Local Risk Assessment Study Area (LRASA).

The ministry has identified areas where the risk assessment needs improvement in order to determine if risks of adverse affect to human health have been appropriately characterised and whether this conclusion is supportable. This is elaborated on below.

SPECIFIC COMMENTS

PROBLEM FORMULATION

1. The proponent assumed *"for the purpose of this risk assessment"* that the initial processing capacity of the facility would be 140,000 tonnes of waste/yr. All risks modelled (including traffic) in this report apply to a 140,000 tonne/ year. However, in Section 3.1.1 (page 11) the proponent informs that the proposed facility is expected to process up to 400,000 tonnes of waste/yr for 30 years. This HHRA will not suffice for a facility with increased production since the risk of adverse effect to human health from exposure to contaminants from the

140,000 tonnes/year capacity facility is unlikely to be the same as that for 400,000 tonnes/year capacity facility.

2. The proponent has used the CALPUFF air dispersion model to predict ground level concentration (GLC) of Contaminants of Potential Concern (COPCs) and its dispersion prediction. SDB understands that the proponent is currently in discussion with EMRB about the use of this particular model. Any change to the information in this HHRA as a result of advice from EMRB may have a bearing on our comments provided in this memo.

Statistical Analysis

3. SDB is concerned that the 95% Upper Confidence Limit of the Mean (95% UCLM) was used to determine contaminant concentration. Although statistically valid, the use of the 95% UCLM for small numbers of samples creates inconsistency and uncertainty. The proponent should use the maximum concentration in all cases to avoid inconsistencies and reduce uncertainty, or the Method of Detection Limit (MDL) for non-detectable samples.

COPC Selection

4. The proponent determined airborne COPCs from available lists of chemicals emitted by thermal treatment facilities incinerating municipal waste. The list of COPCs was then screened against the criteria of $t_{1/2} < 182$ days and $K_{ow} > 5$. It is not clear that these criteria are valid for a continuously emitting source such as a thermal treatment facility. Using these criteria may eliminate VOCs from the multi-pathway analysis, specifically the uptake from air to vegetation contribution. Further, it would appear that USEPA recommends $K_{ow} = 4$ as a transition between volatile and persistent COPCs (page 5-35). As noted in section 5.3.2 (USEPA HHRAP document), a more detailed approach to removing COPCs from consideration in the multi-pathway analysis is preferred. It is suggested that the procedures in section 5.3.2 be followed. The consultant also should consider the use of the Hazard Ranking System (HRS), (USEPA, 2006).

5. Exposure through consumption of locally grown produce is a concern. The consultant should use Canadian data to validate the model.

6. The Conceptual Site Model (CSM) is incomplete because it does not include possible pathways such as soil build-up resulting from uptake by vegetation with subsequent leaf fall, and accumulation or airborne organics being directly absorbed by crops and produce. The CSM should be revised appropriately.

7. The report states that Ozone (O_3) was not assessed because it was considered a regional Air Quality issue (page 45). The consultant based this decision on its analysis of background (baseline) monitoring at the Courtice Rd. monitoring station (section 2.4, Air Quality Assessment). However, emissions from the facility that are the subject of this risk assessment may affect local O_3 concentrations and therefore the magnitude of this effect (risk characterization) should be discussed.

8. The report should include background air data for inorganic mercury (Hg^0) (Table 7-11). If

the proponent does not have this data, EMRB should be contacted for recent air monitoring data. Federal air monitoring data from the CAMNet sites (Point Petre and Egbert) is also extensive and available. This information should be incorporated into the report.

EXPOSURE ASSESSMENT

Dietary exposure

9. The consultant applied US child-specific exposure parameters to the toddler. Health Canada /CEPA has toddler specific values that should be incorporated into the report as appropriate.

   It should be noted that when using the CEPA 1994 food consumption data for all foods (toddler = 1,493 g /day and 5-11 year = 1,833 g/day) the child appears to consume about 23% more food than the toddler. However, correcting for BW (toddler = 1492.5 g/day/13 kg = 114g/kg/d; child = 1833 g/day/ 27 kg = 68 g/kg/d), the use of the child food consumption factor underestimates the toddler intake. This issue should be discussed in the uncertainty section of the report.

MDL issues

10. As noted above, over 60% of COPCs were Non-Detect (<MDL, Method of Detection Limit) in background monitoring.. In the absence of detectable concentrations, the risk assessor has to default to MDLs, which results in uncertainty for Hazard Quotient (HQ) and Lifetime Cancer Risk (LCR). The implication of defaulting to the MDL to the calculated risk should be discussed in the uncertainty section.

11. The report refers to models of exposure to contaminants via breast and dairy milk. All modeled results need validation / ground-truthing against published Canadian or other North American data.

12. In the text (page 159), it is noted that predicted exceedences for the resident infant / farmer infant are related to the use of MDL in the breast milk model. Similarly, exceedences for the farm toddler may be related to the use of MDL in the dairy model. The consultant should discuss this in the uncertainty section.

Soil Exposure

13. In Section 6.2 (page 57) the proponent indicated that the US EPA (2005) model was used to predict the deposited contaminants in the soil mixing zone. A rational as to the appropriateness of this model should be provided as well as a complete citation included in the reference section.

14. The proposed MOE standard for the toddler Soil Ingestion Rate (SIR) is 200 mg soil/day (MOE, 2008) for soil and dust. The proponent adopted the Health Canada (2004) SIR of 80 mg soil/day and calculated the dust ingestion rates based on the rational document of MOE (1996). The proposed MOE toddler SIR should be used for this risk assessment.

15. The MOE proposed soil standard for arsenic is 11 ug/g and should be used in the report. The arsenic value of 14 ug/g used in this report (Table 2) is outdated.

TOXICITY ASSESSMENT

TRV Selection:

16. SDB's preferred TRVs are the WHO value of 0.02 ug/kg/day for PCBs and the MOE (1994) value of 1.85 ug/kg/day for lead. These values should be incorporated into the report and calculations revised where appropriate.

17. SDB does not recommend the automatic use of air standards or AAQC to screen or characterize inhalation risks (Table 7-2). By definition, HQ are based on comparison of estimated exposure with TRVs (RfCs, REL,etc). AAQC or air standards are not necessarily TRVs and on an individual basis may not be health protective – for example, new science may have emerged since they were set. Appropriate TRVs should be used. If no inhalation TRV is available, the proponent could explore extrapolation from a RfD, use of a surrogate TRV from a chemical with a similar structure, or derivation of a TRV based on current science, or in the absence of any such information, assess the chemical qualitatively.

18. SDB noted the following:

- The proponent referred to the Cadmium TRV proposed for the AAQC in 2006. It is unclear why a proposal was relied on, when a decision document for cadmium was posted in 2007.
- The Arsenic inhalation TRV citation is incorrect. The reported value by the CalEPA REL is 0.03 $\mu g/m^3$, not 0.015 as shown in the Table.
- The US EPA IRIS RfC values were all cited as US EPA 2009, not by the year the individual RfC was derived. This should be corrected and other references used in the TRV Tables confirmed.

RISK CHARACTERIZATION

19. The risk assessment for such a proposed facility is associated with many uncertainties. Further, whereas some parameters may be 'conservative', others may not be. Statements used in the report such as: 1. the MOE uses a very conservative benchmark of 10^{-6} ; 2. That conservative means that the risk is overestimated; and 3. That 'conservative overestimates' of the risk have been followed, is subjective and also may be misleading. The proponent is requested to remove such statements.

20. The Procedures Document (2004) and Rationale Document November 2008 specify HQ = 0.2 or 10^{-6} risk per medium and associated pathways (also called "components"). The calculated risk for all media should be summed for each contaminant

21. The consultant proposes comparing Lifetime Cancer Risk (LCR) with typical observed

cancer incidence (*for all cancers combined, reviewer's italics*) in Canada (0.38 (F); 0.44 (M)), which is highly inappropriate since "all cancers" were not assessed. This position ignores the specific endpoint cancer incidence/mortality associated with each TRV. Each cancer slope factor or inhalation risk factor is associated with a specific cancer endpoint (lung, liver, skin, etc). Further, prevailing cancer rates reflect a multitude of causal factors (e.g. smoking, second hand smoke, lifestyle (diet, lack of exercise), and occupational and environmental pollution). To do an accurate comparison, one would need to compare to the cancer incidence of the specific cancer endpoint associated with exposure to that environmental pollutant.

22. It would be useful to provide a chart comparing the health based limit (TRVs) to a) the background concentrations, b) the concentrations from the facility, and c) the total of the background plus the facility.

EDITORIAL COMMENTS

22. The proponent has used terms or abbreviations without explaining the meaning at first use. For example, the abbreviations RFP, Addendum # 21 (November 20, 2008), CACs, "Upset Case" and "Upset Project Case" were not identified when first mentioned. This is also true with the terms Bioaccumulation and Persistence.

23. The proponent relied on a generic risk assessment report by Jacques Whitford, 2007 to determine the COPCs. This report should be provided by the proponent.

24. In appendix A "COPC Screening" in Table 2, some cells are included but do not appear to serve a purpose – e.g. the cell titled "Carried forward irrespective ?"

25. In Table 2, Log and days are missing from the K_{ow} and $t_{½}$ cells. Also, the proponent used references such as Mackay et al (2000) and EpiSuite without providing complete citations in the references.

26. The calculation and the parameters (body weight and inhalation rate) used to derive the inhalation TRV from RfD (route-to-route extrapolation) should be included as footnote to Table 7-3 and appropriate citations should be provided.

27. In Appendix B "Baseline Soil and Biota", the proponent should confirm that the Garden produce samples from local markets are indeed locally grown to enhance the respective evaluation.

28. In page (109), the equation shown to derive the Secondary Particulate Matter (SPM) is not comprehensible. It should be reformatted. Also, an explanation of the parameters used for the conversion (1.376 & 1.291) of the sulphate and nitrate should be provided.

PROVISO

The comments and conclusions presented in this review assume that the site description, facility

description, and modelled air concentrations used in the site-specific risk assessment are accurate and appropriate and have been deemed satisfactory by other members of the review team, unless specifically noted. Our comments and conclusions apply only to the current or proposed use of the site, and to the receptors, exposure scenarios, and chemicals of concern assessed in this screening level risk assessment. New developments in toxicology and environmental sciences not available at the time of this review, inconsistencies raised by other MOE review team members, or changes in the selection of site use, receptors, or chemicals of concern may alter the comments and conclusions presented here. This review has not considered the potential human health impacts of noise, vibration, or odours generated by the proposed facility. These issues may need to be addressed by other reviewers.

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July 7, 2009

MEMORANDUM

TO: Gavin Battarino, Project Officer
Environmental Assessment and Approvals Branch

FROM: Aden Takar, Senior Scientist
Ecological Standards Section, Standards Development Branch

CC: Craig Kinch, Manager
Ecological Standards Section, Standards Development Branch

SUBJECT: Preliminary Comments on the ERA Component of the Draft Site Specific Human Health and Ecological Risk Assessment Report for the proposed Durham/York Residual Waste Processing Facility Prepared by Jacques Whitford

The purpose of this memorandum is to provide SDB's preliminary comments on the ecological risk assessment (ERA) component of the draft site specific human health and ecological risk assessment technical study report for the proposed Durham/York residual waste processing facility prepared by Jacques Whitford.

The following are major deficiencies in the ERA component of the report which need to be addressed before the report is accepted by SDB. Additional issues may be identified when the final version of the report is received.

Specific Review Comments

Section 5.1 Baseline Soil and Biota Data

1. The statistical analysis protocol followed for estimating baseline chemical concentrations for different media is highly questionable especially when calculating 95% upper confidence limit of the mean (UCLM) for few data points. It is not acceptable to fit a distribution to a very small sample size (five data points in this case) and calculate 95% UCLM based on this distribution.

2. The descriptive statistics of environmental media samples such as soil, sediment, surface water and biota should be included in the main report.

Section 8.4.3 Derivation of Exposure Point Concentrations

3. The 95% UCLM of sample distribution of chemicals of potential concern (COPC) was used to calculate risk to all ecological receptors. This exposure estimate may be appropriate for mobile organisms with extensive home ranges but not for organisms with limited mobility such as plants and soil invertebrates. Therefore, the maximum concentrations of COPC should be used to calculate risk to immobile ecological receptors.

Section 8.5.1 Derivation of Wildlife TRVs

4. When deriving wildlife TRVs, studies reporting IC20s should be considered first if available before choosing LOAEAL and NOAEL data. Only bounded LOAEAL and NOAEL data should be used.

5. Allometric dose scaling should not be applied to chronic toxicity data as this approach is not appropriate and was originally developed for acute toxicity data.

9.2 Ecological Risk Assessment Conclusions

6. Higher hazard quotients (HQs) were reported for several parameters such as PAHs, PCBs, phosphorous, zinc and others in surface water and sediment due to higher MDLs for these parameters. Other lines of evidence such as benthic assessment surveys and bioassays should be explored to justify that the higher HQs found are merely the result of the higher MDLs.

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September 25, 2009

MEMORANDUM

TO: Gavin Battarino, Project Officer
Environmental Assessment and Approvals Branch

FROM: Aden Takar, Senior Scientist
Ecological Standards Section, Standards Development Branch

CC: Craig Kinch, Manager
Ecological Standards Section, Standards Development Branch

SUBJECT: Review Comments on the ERA Component of Site Specific Human Health and Ecological Risk Assessment Report for the proposed Durham/York Residual Waste Processing Facility Prepared by Jacques Whitford

The purpose of this memorandum is to provide SDB's review comments on the ecological risk assessment (ERA) component of the site specific human health and ecological risk assessment technical study report for the proposed Durham/York residual waste processing facility prepared by Jacques Whitford dated July 31, 2009.

Overall, the report is well presented and has addressed satisfactorily my previous comments dated in July 7, 2009. The review of this ERA is based on the fact that others at MOE have reviewed the air models used to estimate emissions from the facility and the predicted concentrations will not be substantially different from those presented in the report.

Specific Review Comments

Section 8.5.7 Inhalation Toxicity

1. The inhalation pathway is considered negligible in most ecological risk assessments as indicated in the first paragraph of this section; however, it could be the most dominant pathway in certain cases such as the proposed incinerator facility, where air emissions are the main source of contamination. The report assesses this pathway indirectly by assuming that the TRVs developed for human health airborne contaminants will be lower and therefore protective for ecological receptors. Although the assumptions bulleted in this section are reasonable, the report should provide examples of airborne

contaminants where human TRVs are more stringent than wildlife TRVs.

Section 8.6.2 Ecological Risk Assessment Baseline Case

2. In this section and in many other parts of the report, it is stated that the higher Hazard Quotients (HQs) calculated for a number of contaminants in different environmental media were purely driven by baseline concentrations of these contaminants which could be found everywhere else in Ontario. While this statement maybe true for some contaminants, it should be supported by data or references which show similarities.

Section 8.6.7.2 Exposure of Vegetation to SO_2, NO_2 and HF

3. It is not clear why the estimated annual NO_2 concentrations listed in Table 8-14 and Table 8-24 are similar for the 140,000 tpy and 400,000 tpy scenarios. It is not also clear why these NO_2 estimates are similar for the project case and process upset project case.

Section 8.6.8.1 Effects on Vegetation from SO_2 and NO_2 Traffic Case Emissions

4. The impact of the exceedances of NO_2 phytoxicity benchmarks listed in Table 8-17 and Table 8-27 for all assessed ecological receptor locations should be discussed in this section. The fact that NO_2 participates in photochemical oxidation reaction which lead to the production of ozone and peroxyacylnitrates (PAN) which are well documented phytoxicants and are more harmful than NO_2 should be discussed. The report should include analysis of the potential impact of these secondary contaminants on sensitive vegetation, particularly sensitive crops in farm A (ECO 17).

5. The synergetic effects on vegetation of low concentrations of NO_2 and SO_2 should also be discussed in this section.

6. It is not clear why the annual NO_2 concentrations listed in Table 8-17 and Table 8-27 for the two different scenarios (baseline traffic case and total project impact) are similar.

7. The final Beryllium TRV used for muskrat listed in Table 1 in Appendix J is 0.427 mg/kg-bw/day whereas the ERA worked example for this TRV in Appendix O is 0.393 mg/kg-bw/day. This discrepancy should be clarified.

8. The units of measurement for the parameters listed in the Table (baseline concentrations before and after MOE comments) in Appendix B-2 are missing.

MEMORANDUM September 24, 2009

From: Jinliang (John) Liu, EMRB

To: Gavin Battarino, Project Coordinator, EAAB

RE: Review of the draft Durham York Residual Waste Study Air Quality Assessment Technical Study Report

A review was undertaken of the air dispersion modelling aspects of the Durham/York Residual Waste Study ("Project") contained in the following documents:

- Appendix C-1 - Air Quality Assessment Technical Study Report, Draft Environmental Assessment (EA) Study Document (May 25, 2009) (http://www.durhamyorkwaste.ca/ea_study_doc_archive.php) ("Draft Appendix C-1") – this includes assessment of initial design capacity of 140,000 tonnes per year only
- Appendix C-1 – Air Quality Assessment Technical Study Report Final Environmental Assessment (EA) Study Document (July 31, 2009) (http://www.durhamyorkwaste.ca/ea_study_doc.php) ("Final Appendix C-1") – this document includes assessments of both initial design capacity (140,000 tonnes per year) and maximum design capacity (400,000 tonnes per year)

While I was the principal reviewer, other modellers from the Environmental Monitoring and Reporting Branch (EMRB) also provided help during the reviewing process.

This Project involves a proposed energy-from-waste (EFW) facility which has a maximum design capacity of 400,000 tonnes, with the initial stage scheduled to process approximately 140,000 tonnes of waste. EMRB's review focused on the air dispersion modelling conducted by the proponent's modelling consultant, based on the 140,000 tonnes per year scenario. The model results for the 400,000 tonnes per year scenario were reasonable relative to those for the 140,000 tonnes per year scenario considering both the increased emissions and the changes to the source release characteristics. The EMRB review did not include a review of the emission estimates. Primary objectives of the EMRB review were to verify whether the modelling options selected were reasonable and whether the source characteristics were correctly transferred into the model input files. No significant issues, concerns or problems were identified, but specific comments on some minor issues will be provided in this Memorandum.

Chronology of EMRB Review of the Air Dispersion Modelling

Between January and April 2009, EMRB undertook extensive pre-consultation with the modelling consult on air dispersion model (CALMET/CALPUFF) methodology and undertook the following:

- reviewed terrain and landuse inputs to CALMET;
- provided correct landuse to the modelling consultant;
- reviewed 3 month of sample CALMET outputs and provided suggestions on the appropriate lake temperature to use and the proper use of mesoscale model gridded data (i.e., instead of

using all the mesoscale grid locations, use only 3 grids far inland and 1 grid over the lake south of the site);
- verified CALMET results, especially winds, were reasonable; and
- reviewed options in a sample CALPUFF input file and verified their reasonableness.

Between May 25 and June 6, 2009, EMRB reviewed the Draft Appendix C-1 and sent you a Memorandum dated June 5, 2009. In response to the comments contained in the EMRB Memorandum, in mid-July, the modelling consultant provided all meteorological input data to CALPUFF, some model input files and details of the roadway modelling to EMRB.

After receiving the Final Appendix C-1, EMRB undertook the following review:
- verified that the precipitation was correctly processed
- verified how the emission rates were determined in the CAL3QHCR input file;
- identified a mistake in the "Facility +On-site Traffic" scenario for PM2.5, after undertaking a few model runs;
- replicated location and time for the maximum 1hour and 24hour ground level concentrations listed in the report for PM2.5; and
- verified the dry deposition velocity and wet scavenging rates through both manual calculations and model results replication, and checked associated references listed in the report.

EMRB Comments on the Air Dispersion Modelling Aspects of the Final EA Report

The following are comments based on EMRB's review of the modelling aspects of the Final Appendix C-1:

- The emission rate from the main stack was incorrectly input into the PM2.5 model run for the "Facility+ On-site Traffic" scenario. The emission rate listed in Appendix B - Emission Inventory of the Final Appendix C-1 was 0.372g/s, which was correctly input to the "Facility-only" model run; but it was incorrectly input into the "Facility+ On-site Traffic" model run as 0.327g/s. This mistake, resulted in a maximum ground level concentration about 15% lower than it should be, and explaining the inconsistency we identified in our June 5, 2009 EMRB Memorandum.
- In the deposition model run reviewed by EMRB, the modelling consultant used the same EMRB-approved particle size of 2.5 microns for both dry and wet deposition estimates for particles although a different particle size of 1 micron was quoted for wet deposition estimate (Appendix D – CALPUFF Methodology of the Final Appendix C-1, Page D-50, 3rd bullet from the top).
- The emission rates listed in Table B3-5 of Appendix B - Emission Inventory of the Final Appendix C-1, do not agree with those listed in Table G1 of Appendix G - Deposition Predictions at Special Receptors, of the Final Appendix C-1, for at least the following compounds, acetaldehyde, bromodichloromethane, bromoform, carbon tetrachloride and ethylene dibromide.

In summary, EMRB's review did not identify any significant issues with the air dispersion modelling aspects of the Draft Appendix C-1 and the Final Appendix C-1. Correction of the above mentioned minor issues would not change the general conclusion of the air dispersion

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MEMORANDUM

DATE: Sept 25, 2009

TO: Gavin Battarino, Project Officer, EAAB MOE

FROM: Dorothy Moszynski, Central Region MOE

RE: TSS Comments: Durham/York Residual Waste Study- Environmental Assessment Study Document

Technical Support Section (TSS) has reviewed the above document and associated appendices, dated July 31, 2009 and has the following comments pertaining to water quality, air quality and the EA planning process:

Groundwater

The report states that excavation to 7.6 m below ground surface may be necessary and that groundwater will likely be encountered during excavation. The Regions acknowledge that a Permit to Take Water (PTTW) may be required if construction requires dewatering of greater than 50,000 L per day, and indicate that a Category 2 Permit may be required. As Category 2 Permits have limited applicability, TSS recommends Durham/York Regions review PTTW Classifications and determine which classification is appropriate for the construction dewatering.

TSS recommends the Regions identify private water wells within the projected zone of influence during construction dewatering and develop a monitoring and mitigation plan for these private water wells.

As the proponents acknowledge, further hydrogeological assessment will be necessary for a Permit to Take Water application. The attached guide contains information on the level of detail that would need to be provided in support of an application for a Category 3 Permit to Take Water (if required).

Surface Water

The proposed Stormwater Water Management system will require a Certificate of Approval under Section 53 of the *Ontario Water Resources Act* (OWRA).

Effluent discharge, if any, from the residual waste facility will also require a Certificate of Approval for Sewage Works including a monitoring plan under Section 53 of the OWRA.

Air Quality

TSS comments on the EA Study Report are contained in this section. All modeling input and output will be reviewed by the Environmental Monitoring and Reporting Branch (EMRB) and emission estimates/ source summary information will be reviewed by the Environmental

Assessment and Approvals Branch (EAAB) of the ministry. These comments will be issued by the applicable division to EAAB separately from TSS comments.

Appendix C-1: Air Quality Assessment Technical Study Report

Executive Summary

On page i (and page 40 of the main report), the four waste trains listed add up to 410,000 tonnes per year (tpy). The Regions should confirm if total waste to be accepted by the facility is 400,000 tpy or 410,000 tpy.

The report does not mention the CCME *Operating and Emission Guidelines for Municipal Solid Waste Incinerators, June 1989* or the CCME *Canada-Wide Standards for Dioxins and Furans, 2001.* The Regions should ensure that the project complies with all relevant regulations/ standards/ guidelines.

2.4 Contaminants of Potential Concern

On page 7, Table 2-2 Summary of Contaminants of Potential Concern does not list furans.

4.1.4 Potential Facility Emissions Sources

The list of emission sources on page 46 does not list the HVAC in the scale house or the emissions from front end loaders in the tipping building. Please include a discussion of why these sources were not included in the list, or include potential emissions from these sources.

4.2.1.1 Normal Facility Operation (Scenarios 1 and 2)

On page 49, the report concludes that contaminants without emission data available would be emitted from the facility in negligible amounts. Contaminants with Ministry standards (such as acetone, styrene and acrolein) were omitted using this rationale. TSS recommends the Regions provide testing data from similar facilities or peer-reviewed scientific literature to confirm that the contaminants considered negligible (and therefore, not assessed in the Air Quality or Human Health Risk Assessments) are not being emitted in significant amounts.

The third column of Tables 4-1 to 4-2 on pages 50-54 is erroneously labelled Scenario 1A – MCR (it should be labelled Scenario 1B – MCR).

The report does not mention if the effects of the air pollution controls (APCs) have already been considered in the emission estimates in Scenario 1 or whether the emissions listed are conservative because they do not include the proposed APCs. The Regions should clarify this information.

4.2.3 Odour Emissions

The report lists mitigation measures for odour, but no modelling or monitoring has been completed for the project. As odour is often the major complaint by residents surrounding waste facilities, TSS recommends that further modelling or monitoring results from similar facilities be presented to substantiate the Regions' conclusion that adverse off-property odour effects are not expected.

TSS also recommends an odour monitoring program be implemented for this facility. Monitoring should be conducted prior to construction (for background values) and after construction is complete on Phase I, II and III of the facility (although further monitoring may be required by the Ministry based on complaints). The proponents should submit an ambient air monitoring plan to TSS for review prior to the beginning of construction.

4.5 Decommissioning (Closure Period) Emissions

The Regions have not listed any mitigation measures to address air quality issues during decommissioning. Dust control and other measures should be utilized during this time period (i.e. paving roads, washing trucks, etc).

5.1 Construction Emission Control

Non-chlorine based dust suppressants are recommended to protect water quality if dust suppression techniques will be utilized.

6.4 Offsite Traffic

The Regions have only examined truck traffic following the shortest path to the site using Highway 401. Other routes should be modeled as traffic will also arrive/depart from transfer stations within the two Regions and potentially via other routes.

Appendix A: Review of Ambient Air Quality

Table A-2-5 presents the summary of ambient $PM_{2.5}$ measurements. The maximum concentration is reported as the 98th percentile. TSS recommends adding the actual maximum $PM_{2.5}$ concentration and re-labelling the 28.6 µg/m^3 concentration as the 98th percentile concentration to maintain consistency with the other tables in the report.

Additionaly, the hourly SO_2 average concentrations from the electronic spreadsheet provided is 7.42 µg/m^3 and the Appendix A, Table A2-1 reports as 3.5 µg/m^3. In addition, values are also inconsistent for hourly and daily ambient NO_2 measurements; and daily ambient $PM_{2.5}$ measurements.

Appendix A refers to the supplementary document *Final Report on Ambient Air Monitoring at the Courtice Road Monitoring Station*, dated June 15, 2009. The comments below refer to this report:

- Tall trees were situated less than 20 metres northeast (NE) of the monitoring station which does not meet the siting criteria from the MOE document *Operations Manual for Air Quality Monitoring in Ontario,* March 2008. Based on the windrose patterns, interference in wind flow in the NE quadrant is observed.

- Typically, the predominant winds during the winter are north (N)/northwest (NW) and during the summer are southwest (SW) (this may be somewhat different when the site is situated in close proximity to the lake, such as in this case). The influence of the trees on the ambient measurements (background) for the above noted parameters may impact measurement efficiency.

- TSS is also concerned with the editing of the raw data for the Courtice Station and data validity. At this time, a detailed review cannot be done based on the information and electronic spreadsheets provided. In order to do a thorough review the following items are required:

    - As stipulated in the *Operations Manual for Air Quality Monitoring in Ontario*, March 2008, zero drifts beyond 5 ppb for SO_2 and NO_x require an off-set adjustment. Although, the Regions noted that concentrations between 0 and -5 $\mu g/m^3$ were assumed to be zero and anything lower than -5 $\mu g/m^3$ were invalidated, it is not clear if the hourly measurements before or after these edits were adjusted. For this reason, TSS suggests that an edit log table be provided for the continuous parameters (NO_2, SO_2, $PM_{2.5}$ and O_3).

    - Zero, Span and Calibration curves should be provided to ensure that the hourly measurements are within the tolerance limit of +/- 10% of the calibration standard as noted on the Operations Manual (MOE, March 2008).

EA Planning Process

TSS has reviewed the EA Study Document and concludes that it is deficient in some aspects of the process for an Individual EA as laid out in the Code of Practice 2008 and the Environmental Assessment Act:

- The Statement of Purpose for the project states that Durham and York Regions have entered into contracts with the private sector to export municipal waste primarily to Michigan. However, in Section 2.1.2.1 the report states that in 2008, York Region ceased all shipments of residual waste to Michigan, made possible by diversion initiatives, commitment to Dongara plant, and contract with the Green Lane landfill. The statement of purpose of the project should be updated to reflect this change in York's current practices. It is not evident from the report why this strategy can only be maintained in the short-term.

- The "Do Nothing" alternative is described as landfill-only system and has not been included for analysis. This does not appropriately characterize the existing system in York Region, as materials potentially sent to the Dongara plant will result in material/fuel recovery. The Do Nothing alternative should be carried through the evaluation for each of the alternatives to create an accurate representation of the benefits and costs of current practices compared to the other alternatives.

- Section 8.8.8.1 and Section 11 state that detailed analysis was used for comparing sites for the 150,000 tpy and 250,000 tpy design capacity scenarios, and only a qualitative analysis was undertaken for the maximum plant capacity of 400,00 for which approval is being sought. The rationale for this is that many of the design and performance elements of the facility are not specifically known at the time of report writing. TSS believes that in order for the 400,000 tpy design capacity scenario to be properly evaluated and approved by the ministry, the Regions should compare, evaluate and assess each of the Alternatives To, Alternative Methods and the Preferred Undertaking at this maximum scenario at the same level of detail as the lesser scenarios.

Thank you for the opportunity to provide comments. Please contact me at 416-326-5745 if you have any questions.

Sincerely,

Dorothy Moszynski
Environmental Resource Planner and EA Coordinator
APEPp Unit

c. Dan Panko
Dan Orr

Potential Impacts of De-watering:
Environmental Issues to Consider when Applying for Permits to Take Water

1. Introduction

One way that construction de-watering projects may cause environmental impact is due to lowering of groundwater levels which in turn may cause:

a) interference with wells in the area;
b) damage to structures due to land subsidence;
c) groundwater quality problems by inducing movement of contaminant plumes;
d) impact to surface water features (such as drying up of streams and wetlands) due to loss of baseflow
e) loss of spawning habitat due to loss of groundwater upwelling etc.

Impact as a result of lowering groundwater levels may also persist long after completion of the de-watering project if the new structures begin to serve as a conduit for groundwater flow.

Another cause of impact from such projects is the discharge of water into local streams and watercourses. Excessive discharge may cause erosion of stream channels and change in the flow regime and water quality of the receiving water body to the extent that it is harmful to aquatic life (for example, change in temperature and chemistry of the water). Technical review of the PTTW application considers these issues and assesses the likelihood of impact, proposed measures to avoid/ mitigate impact, proposed monitoring etc.

Site-specific issues include the proposed rates of water taking and disposal and the complexity and sensitivity of the environment. Consequently, not all of the above items may be applicable for a particular project and there may be other projects which require issues that are not mentioned above to be addressed. It is the responsibility of the applicants and their consultants

to determine what issues are relevant and how to address them. It is also important to indicate that all items, including the non-applicable items, have been considered.

Other Approval Requirements

While the Ministry of the Environment is the agency responsible for the Permit to Take Water program, other agencies have their own approvals requirements. For this reason, the concerns of the other agencies may need to be reflected in the conditions written into the final Permit to Take Water. Moreover, the Ministry itself may have other requirements, such as in the areas of planning, environmental assessment or certificates of approval that are not directly dealt with by the Permit to Take Water process. It is therefore essential that the regulatory interests of the Ministry of the Environment and other agencies, such as the local conservation authority and the Ministry of Natural Resources, be considered by the applicants at all stages of the Permit application process.

2. Technical Information Requirements

Demonstration that the following areas have been addressed should be provided in support of the application:

2.1 Baseline Data

- collection of available data and baseline information on the hydrogeology, hydrology, aquatic ecology, etc. of the area,
- inventory of existing wells and well owners, obtaining relevant records, recording of water levels, water quality, water supply system operation and other information,
- inventory of existing well contamination potential involving identification of possible contaminant plume sources (such as existing septic systems, agricultural activity, known spills), sampling for relevant substances (such as E.coli and nitrate in the case of septic systems), prediction of changes in direction of plume migration and development of a well water quality monitoring program,

2.2 Characterization and Prediction

- a de-watering plan,
- locations of all de-watering wells and pumping rates and schedules,
- analysis of pumping test data, carried out at the maximum rates of taking,
- proposed location of groundwater monitoring points, whether existing wells or dedicated monitoring wells, representing various aquifers and at various distances from pumping wells,
- extent and degree of drawdown and the aquifers and wells that will be affected,
- possibility of ground subsidence and damage to infrastructure,
- impact on baseflow to surface water, wetlands and other surface features,
- impact of disposal of water on surface features with respect to erosion and sedimentation, flooding, changes in water quality including temperature, effect of seasonality, etc.
- possible creation of permanent changes in groundwater flow paths due to drainage via subsurface infrastructure,

- development of conceptual model of hydrologic systems and development of a groundwater model and calibration and prediction using flow and quality data as it is acquired.

2.3 Monitoring Plans

- all variables to be monitored and frequencies,
- monitoring of locations, amounts and quality of water extracted and discharged,
- monitoring of existing wells, selection of representative wells in various aquifers and at various distances, monitoring of drawdown and well water sampling relative to possible local contaminant plumes, monitoring of effects on well owners' use of the wells,
- monitoring of dedicated monitoring wells, contingency plan to expand monitoring network as necessary,
- monitoring of baseflow changes, use of piezometers to monitor gradient changes near surface features of interest,
- monitoring quality and quantity of discharge to surface features, impacts on channels, and water quality,
- plans to extend monitoring network as necessary,
- monitoring of water levels until a high percentage of recovery and establishment of stable trend in recovery,
- use of monitoring data to calibrate and update conceptual and groundwater models,
- ensure proper abandonment of all de-watering wells and monitoring wells according to relevant regulations and by licensed personnel,

2.4 Contingency Plans

- complete and detailed plans for notifying well owners in potentially-affected areas prior to pumping,
- pro-active mitigation of well problems where these are highly likely to occur,
- investigation of complaints of interference with quantity or quality of well water supplies,
- short and long term supply of water to complainants and to those others whose wells are in imminent danger of being affected, cut-off dates for change from interim replacement of water supply to permanent replacement, bottled drinking water (immediately), whole-house supply by tanks and hauled water and associated winter heating and plumbing, changes in well plumbing, pump replacement, drilling new wells and providing associated plumbing and any treatment that may be necessary to provide potable water of good quality, continued water quality monitoring as necessary, proper abandonment of decommissioned wells, all work by licensed personnel,
- contingency measures to be implemented in the event of unacceptable impacts to surface water features, the triggers at which contingency measures are to be implemented.

2.5 Documentation and Reporting

- for large projects, the final Permit to Take Water application package must indicate that the Project Owner is the applicant or a co-applicant,
- identification of Permit Holders' agents who will be responsible for continuous supervision, monitoring, implementation of contingency plans and reporting to the Ministry relating to all conditions of the Permit,
- final application package must include a list of supporting documents and the documents themselves and, since some of these documents will become a formal part of the Permit and the commitments or recommendations that they contain will become formal conditions of the Permit, these final documents must be edited to incorporate all the most recent updates and amendments,

- final application package must include final comments and recommendations from all other agencies having input to or jurisdiction over environmental aspects of the proposal,
- routine monthly reports to the District Office of the MOE with primary focus on problems encountered and solutions implemented and predictions of imminent or likely problems in future, plus all monitoring data, updates of maps of drawdown, maps of wells affected, new wells installed and wells abandoned and their associated Water Well Records, etc.,
- routine monthly summary reports to Tech Support Section of the MOE including problems encountered or imminent and solutions implemented or proposed, maps of drawdown, any unusual or problematic occurrences, significant trends in water quality or water levels,
- immediate reporting of interference with well water supplies, undesirable impacts on surface water features, etc., to the MOE District Office,
- immediate notification of the MOE District Office of any inability to meet any conditions of the Permit,
- immediate notification of the MOE Tech Support Section where the Permit Holders expect to have to apply for amendment of any conditions of the Permit,

3. Additional Considerations

The complexity of the environmental issues requires, in all cases, that qualified professionals be involved in the planning and execution of the project. The involvement of hydrologists, hydrogeologists, aquatic ecologists and other environmental specialists is usually required to ensure that the issues are dealt with properly.

It may be necessary, pursuant to the Environmental Bill of Rights, to post the proposal on the Ministry's Environmental Registry. The applicants should provide the basic information required for these postings and in their project planning, should take into account the legislated posting periods.

Previous Permits for similar work in similar environments, including correspondence among the applicants, their consultants and the various interested agencies and the reports required under those Permits all contain a wealth of information that may relate to future Permit applications. MOE encourages applicants to make use of any such information when preparing their applications.

MOE Central Region Water Resources Unit, June 15, 2004.

Ministry of the Environment

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Environmental Assessment and Approvals Branch

September 25, 2009

TO: Gavin Battarino
Project Officer
Environmental Assessment and Approvals Branch

FROM: Header Merza
Air and Noise Unit

RE: NOISE COMMENTS CONCERNING;
THE DURHAM AND YORK RESIDUAL WASTE STUDY
ENVIRONMENTAL ASSESSMENT
EA FILE NO. 04-EA-02-08

This office was requested to review the noise aspects of the document "Durham/York Residual Waste Study, Environmental Assessment Study Document, Appendix C-5, Acoustic Assessment Technical Study Report" dated July 31, 2009, prepared by Jacques Whitford Stantec Limited.

The following comments resulted from the review:

(1) Points of Reception: Three points of reception [POR01 (house on Courtice Road), POR02 (house at #255 Osborne Road) and POR03 (house at #1797 Baseline Road)] were selected to represent the nearby residences. Additional points of reception need to be assessed due to their close proximity and wide exposure to the Facility. These include but are not limited to the following:

   (a) House to the south-west of Facility (south of CN rail tracks and west of Courtice Road); and
   (b) House to the north-west of Facility (south of Highway 401 between Courtice Road and Osborne Road).

(2) Ambient Noise: Ambient noise levels were measured at two locations [Monitoring Location 1 (rear yard of house west of Courtice Road and south of CN rail tracks) and Monitoring Location 2 (rear yard of house at #1797 Baseline Road)]. The measured ambient noise levels are conflicting as they show higher levels at the house located farther (±750m) from Highway 401 (the major source of ambient noise in the study area) and lower levels at the house located closer (±300m) to Highway 401. If higher

sound levels are to be used as the performance limits in lieu of the MOE Exclusion Limits for Class 2 Areas (Urban) (ref. MOE Publication NPC-205), then such levels need to be verified by noise predictions at all points of reception using the most up-to-date road traffic data secured from the authorities having jurisdiction on the roads within the study area.

(3) Noise Abatement Action Plan: Not included. Instead, several noise controls (both physical and administrative) were considered (more as assumptions than recommendations) in the noise analysis and results. These include the following:

(a) Physical measures: acoustical mufflers capable of providing at least 20dB overall noise reduction for the emergency diesel generators and the diesel fire pump engines.
(b) Administrative measures: testing of the emergency diesel generators and the diesel fire pump engines during the daytime hours of 07:00 to 19:00.

The Acoustic Assessment Report must incorporate a Noise Abatement Action Plan that includes but is not limited to the following:

(i) required Noise Control Measures (both physical and administrative) to reduce the noise emissions from the facility to comply with the limits set in Publication NPC-205;
(ii) a timetable for submitting an Acoustic Audit Report to demonstrate compliance with the Performance Limits for the Facility regarding noise emissions; and
(iii) a revision, if required, to the Noise Abatement Action Plan based on the results of the Acoustic Audit.

(4) Acoustic Audits: An acoustic audit is recommended once the facility is operational to ensure that the applicable noise criteria are met at the offsite receptors. Acoustic audits should be recommended for both Facility design capacity scenarios: initial scenario (140,000 Tonne per year (tpy)) and maximum scenario (400,000 tpy). The acoustic audits are required for the following reasons:

(i) to address all noise sources at the site and to verify their sound power and/or sound pressure levels,
(ii) to verify applicable sound level limits for each point of reception (POR);
(iii) to verify assessment of sources noise impacts at the chosen POR's location;
(iv) to assess excesses above the applicable noise limits (if any); and
(v) to recommend (if needed) noise control measures.

(5) Acoustic Assessment Report Check-List: The provided Check-List (in Appendix A) is blank. The Acoustic Assessment Report and must contain a completed and signed Acoustic Assessment Report Check-List (available at http://www.ene.gov.on.ca/envision/gp/5356e.pdf).

We trust the above review comments would be of assistance to you in processing this Environmental Assessment project.

If you have any questions, please contact the undersigned at 416-327-6575.

H. Merza, P.Eng.
Senior Noise Engineer

V. Low, P.Eng.
Supervisor, Air and Noise Unit

Ministry of the Environment

Environmental Assessment and Approvals Branch

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September 25, 2009

MEMORANDUM

TO: Gavin Battarino
Project Officer
Environmental Assessment and Approvals Branch

FROM: Victor Low, P.Eng.,
Director, Section 9, Environmental Protection Act

RE: York/Durham Residual Waste Study Environmental Assessment
EA FILE NO. 04-EA-02-08

Further to your letter dated July 31, 2009 regarding the above-noted Environmental Assessment (EA) submitted by the Regional Municipalities of Durham and York, please find below comments on Air Quality Assessment included in the EA.

The undertaking, as defined by the Durham and York Residual Waste Study EA, is a thermal treatment waste management facility (Energy-From-Waste (EFW) facility) capable of processing 400,000 tonnes of post-diversion residual waste per year. The facility is to be located in the municipality of Clarington, in the east end of Durham Region, south of Highway 401 near Courtice Road and adjacent to the Darlington nuclear power plant. The site is owned by Durham Region and is surrounded by agricultural lands, commercial properties, and undeveloped land.

In general, the methodology followed in the EA for the assessment of environmental impacts due to air emissions of contaminants from the undertaking is consistent with regulatory and ministry requirements, and includes the development of an emissions inventory that is to be used as input into an atmospheric dispersion model; the dispersion modelling of the emissions to obtain a spatial distribution of ground-level contaminant concentrations within a modelling domain around the facility; and the assessment of human health and ecological impacts based on the exposure concentrations at several receptors, as provided by the spatial distribution obtained from the model output.

The scope of review completed and comments provided are limited to the onsite air emissions inventory, in support of the remainder of the EA being reviewed by the ministry review team. The following comments are provided for consideration and are important when consideration is given for an application under section 9 of the Environmental Protection Act:

1. Uncertainties in the emissions inventory may potentially result in directly-proportional uncertainties in the assessment of human health and ecological impacts. The emissions inventory compilation and assessment completed in the EA utilizes emissions information and emission factors that may be considered uncertain, and the quality of some of the emissions estimation methodologies may be classified under the marginal data quality classification in accordance with O.Reg. 419/05. The EA uses publicly available emission factors and information that is not necessarily site-specific to the undertaking, does not necessarily correlate to the amount of wastes to be processed on site, and does not provide sufficient information on the proposed site-specific processes and sources of emissions. A characterization of the wastes to be handled at the facility was not included (e.g., typical waste composition expected, odour analysis). In addition, information on similar facilities that are currently being operated by Coventa, the preferred EFW Proponent, was not included to justify that the proposed undertaking and the proposed operational practices would not significantly deviate from the environmental emissions and inventory assessed in the EA.

2. The EA identified a list of contaminants of potential concern that are expected to be emitted from similar EFW facilities, in support of the development of the emissions inventory for the undertaking. However, the EA disregarded some contaminants (Table B3-6) due to a lack of publicly available emission estimation methodologies for these contaminants. Some of these contaminants have ministry point of impingement limits (e.g., Acetone, Acrolein), and their assessment would be required for applications for approval under section 9 of the Environmental Protection Act.

3. The EA selected the use of the CALPUFF atmospheric dispersion model based on technical considerations, given that the facility is located in close proximity to a lake. The use of a different model may potentially result in a different spatial distribution of ground-level contaminant concentrations within the modelling domain, and may therefore potentially impact the results of both the human health and ecological impact assessments. Given the above, and given that any future approval under section 9 of the Environmental Protection Act would be based on the human health and ecological impact assessments completed in support of approval of the EA, it is recommended that:

   - *the CALPUFF atmospheric dispersion model, and associated model-related parameters (such as, for example, the meteorological data) as approved under the EA, is to be used for all future applications for approval under section 9 of the Environmental Protection Act.*

4. The EA includes limited information on the technical details and specifications of the processes and sources of emissions in the proposed undertaking, or on the technologies and processes to be implemented by Coventa, the preferred EFW Proponent, to allow for a detailed technical review of these sources, their emissions, and operations, as would be required for approval under section 9 of the Environmental Protection Act.

5. Page 26 of the EA's Executive Summary states that inclusion of "process upsets" in the maximum emissions scenario will not result in adverse ecological impacts, however the same paragraph does not say the same about human health effects. Further, on page 30 of the Executive Summary, the report states that consideration of process upsets will result in exceedances of ministry acute limits (1-hour) for two contaminants. These exceedances should be addressed by the proponent. In addition, demonstration of compliance with regulatory and ministry requirements and limits would be required prior to issuance of approval under section 9 of the Environmental Protection Act.

6. Odour is typically a contaminant of concern for EFW facilities in general. Adverse odour impacts may potentially occur primarily due to the handling, processing, and storage of received wastes on the front end of an EFW facility. However, the EA does not adequately address odour impacts, and primarily states that odour impacts would be mitigated through proper design of the facility. The EA does not include a description or characterization of the expected wastes to be received at the facility, odour characteristics of the wastes, the potential odour emissions that may occur during the handling, processing and transportation of the wastes, nor does the EA include odour-related emissions and impacts based on operation of the similar EFW facilities operated by Coventa, the preferred EFW Proponent, to demonstrate that the proposed undertaking is not likely to cause an adverse effect.

7. The EA was primarily completed for a capacity of 140,000 tonnes per year of waste processing at the facility, and was scaled to include an alternate 400,000 tonnes per year operating scenario. However, the analysis does not adequately support the expansion to 400,000 tonnes per year, and the estimation of emissions does not necessarily correlate to the quantity of wastes being processed. Sufficient and detailed information was not necessarily provided in support of the environmental impacts at a maximum capacity of 400,000 tonnes per year. For example, truck traffic, waste receipt and odour impacts as a result of the increase have not been assessed in details to justify that an adverse effect may not occur in accordance with section 14 of the Environmental Protection Act.

8. Ambient air quality monitoring data included in the EA indicates that, for two contaminants (PM2.5 and ozone), the monitored data marginally complies or exceeds applicable ministry limits.

9. The EA indicates that there are currently no sensitive receptors in the newly developed industrial park adjacent to the facility, and that the surrounding land is primarily undeveloped land owned by the Region of Durham. The region of Durham should include environmental considerations in decisions on any future developments in the industrial park.

Should you have any further questions or concerns, please feel free to contact Sherif Hegazy, P.Eng., Senior Air Engineer, at (416) 212-4624.

Regards,

Victor Low, P.Eng.,
Director,
Section 9, Environmental Protection Act

c: Sherif Hegazy, P.Eng., Environmental Assessment and Approvals Branch

SH/

Ministry of the Environment

Environmental Assessment and Approvals Branch

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Ontario

September 25, 2009

MEMORANDUM

TO: Gavin Battarino
Project Officer
Environmental Assessment and Approvals Branch

FROM: Tesfaye Gebrezghi, P.Eng.,
Director, Section 39, Environmental Protection Act

RE: York/Durham Residual Waste Study Environmental Assessment
EA FILE NO. 04-EA-02-08

The currently submitted Environmental Assessment Study Document, (EA Document), does not contain sufficient details on the conceptual design and the operational procedures for the preferred undertaking.

Although recommendations to consolidate all information pertaining to waste management were made during the review of the draft EA Document, the final version of the EA Document continues to remain significantly fragmented. The review of the information presented in such a format has presented the Ministry with a challenge, due to the large size of the submission.

In addition, the information contained in the various study reports is occasionally inconsistent, creating uncertainty with respect to the final design of the proposed undertaking.

The technical reviewer of the Waste Unit (Environmental Assessment and Approvals Branch) offers the following comments on the technical aspects of the EA Document as they relate to the proposed waste management activities:

1. The incoming waste stream has not been fully characterized. The EA Document indicates that the waste stream will contain 18% of the organics, however, the proper description of the current collection programs has not been included with this information. The applicants have also indicated that they plan a continued expansion of the diversion programs, which will further alter the composition of the incoming waste stream. However, the description of any contemplated future diversion programs has also been omitted from the EA Document. On the other hand, the applicants stated that their future diversion goals are very optimistic when compared with the existing programs in other jurisdictions. Since the quality of the waste affects the combustion process as well as other aspects of waste management at the site, a more accurate waste characterization must be undertaken. This characterization must be accompanied by description of any existing and future diversion programs and realistic participation rates.

2. A buffer of 100 metres to mitigate potential offsite impacts has been proposed as appropriate for the site. The justification for this value was based on the minimum buffer requirement for composting sites. However, the 100-metre buffer is used for municipal leaf and yard composting sites that meet the other criteria from the Ontario Regulation 101/94 made under the *Environmental Protection Act* and that are exempt from a Part V approval requirement. The odour impacts from such composting sites are more predictable than and not as significant as those from other waste processing sites. Waste management proposals that are subject to requirements of Section 27 of the *Environmental Protection Act* are reviewed on a case by case basis. We cannot consider odour emissions from a site handling and thermally treating a wide range of municipal wastes as minimal and comparable to a leaf and yard composting site. The proposed buffer must be determined on the basis of a distance required to mitigate site specific impacts.

3. The detailed conceptual design of the waste-receiving building has not been provided. However, the information that has been provided shows that the design of the waste receiving pit is not adequate. The proposal does not include provisions to handle excessive leachate generation rates. In addition, there is no detailed information provided on the building's ventilation system and how the negative pressure will be maintained and monitored to ensure no fugitive emissions of odours to the atmosphere.

4. The combustion air is proposed to be withdrawn from the waste receiving building. However, there is no discussion on how the seasonal temperature swings will affect the ventilation of the building and the combustion process. Since the summer to winter temperatures can range between 39 deg C to -34.5 deg C, this aspect of the combustion process must be considered and explained.

5. The tipping floor cleaning is proposed, however no information on the design of the necessary infrastructure or the operational procedures has been provided.

6. The waste storage is proposed to be distributed above and below the tipping floor, however, no details on how the above the tipping floor storage will be undertaken, has been provided.

7. Several references to drains, wastewater pits and containment areas are made throughout the various reports, however, none of the reports shows the location of these wastewater holding areas or their design features. Since the infrastructure foundation is likely to intercept local groundwater resources, the design details are required, including the proposal for leak monitoring.

8. The design of the outdoor storage areas includes gravel surfaces. The full description of the materials that will be stored outdoors and the design of the storage facility, including the spill containment must be provided. The design features of the storage facility must comply with the requirements in the Ministry's Chemical Storage Guideline.

9. There is insufficient information on the design of the residuals' building. Conceptual design must be provided for the filtered ventilation system, the various processing and waste storage areas and the waste loading/unloading areas. This design must also consider handling of the particulate matter collected in the air pollution control equipment and a potential for odours. A procedure for loading of waste for offsite transport must also be included.

10. The fly ash surge bins have been proposed, but no information on their design or their proposed locations have been included in the EA Document. This information must be included in Section 10.0 of the EA Document, along with consideration of the potential emissions to the atmosphere.

11. The "Air Quality Assessment" Report includes consideration of impacts from emergency power generation equipment. However, no identification of the critical processes and/or equipment has been provided in the submitted EA Document. Therefore, further details on handling of power outage situations need to be included in Section 10.0 of the EA Document.

Should you have any further questions or concerns, please feel free to contact Margaret Wojcik, P.Eng., Senior Waste Engineer at (416) 314-7993.

Regards,

Tesfaye Gebrezghi, P.Eng.,
Director,
Section 39, Environmental Protection Act

c: Margaret Wojcik, P.Eng., Environmental Assessment and Approvals Branch

MJ/

Ministry of Agriculture, Food and Rural Affairs

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Food Safety and Environmental Policy Branch
Environmental Land Use Policy Unit

September 24, 2009

Gavin Battarino
Project Officer
Environmental Assessment and Approvals Branch
EA Project Coordination Section
Ministry of the Environment
2 St. Clair Avenue West, Floor 12 A
Toronto, Ontario
M4V 1L5

Dear Mr. Battarino:

Subject: EA for the Durham & York Residual Waste Study
EA File Number: 04-EA-02-08

Staff of this Ministry have completed a review of the above-noted report. Consideration has been given to the matter in terms of the goals, objectives, programs and policies of this Ministry.

The purpose of the proposed EA is to identify a long term sustainable solution for the management of the post-diversion residual waste generated by the Regions of Durham and York. The proposed Clarington 01 Site is approximately 12.1 hectares in area and is located within the Clarington Energy Business Park.

In light of the above this Ministry is has no concerns with the proposed EA.

Should you have any questions or wish to discuss this matter further, please contact this office.

Yours truly,

ORIGINAL SIGNED BY

Ray Valaitis
Rural Planner

Ministry of Agriculture, Food and Rural Affairs

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Food Safety and Environmental Policy Branch
Environmental Land Use Policy Unit

September 24, 2009

Gavin Battarino
Project Officer
Environmental Assessment and Approvals Branch
EA Project Coordination Section
Ministry of the Environment
2 St. Clair Avenue West, Floor 12 A
Toronto, Ontario
M4V 1L5

Dear Mr. Battarino:

Subject: EA for the Durham & York Residual Waste Study
EA File Number: 04-EA-02-08

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The purpose of the proposed EA is to identify a long term sustainable solution for the management of the post-diversion residual waste generated by the Regions of Durham and York. The proposed Clarington 01 Site is approximately 12.1 hectares in area and is located within the Clarington Energy Business Park.

In light of the above this Ministry is has no concerns with the proposed EA.

Should you have any questions or wish to discuss this matter further, please contact this office.

Yours truly,

Ray Valaitis
Rural Planner

Ministry of Health and Long-Term Care

Ministère de la Santé et des Soins de longue durée

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Public Health Division
Environmental Health Section
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Division de la santé publique
Direction de l'hygiène du milieu
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TO:

Mr. Gavin Battarino, Project Officer
Environmental Assessment &
Approvals Branch
2 St. Clair Avenue West
Floor 12A
Toronto, ON M4V 1L5

Ms. Amy Hogan
Regional Municipality of Durham
Works Department
105 Consumers Drive
Whitby, ON L1N 6A3

RE: Durham and York Residual Waste Study - Environmental Assessment, EA File no. 04-EA-02-08, Provision of the Environmental Assessment Study Document, Volumes 1 - 5 (2 sets)

As stated in the Ministry of Health and Long-term Care's letter of July 20, 2005, the Public Health Division is interested in the public health aspects of this Environmental Assessment and wishes to be kept informed of any further developments.

We recommend that you request input from the local Medical Officers of Health for the health unit in which the EA is located. It is noted that both Medical Officers of Health are on your contact list, and, therefore we are returning the Environmental Assessment Study Documents, Volume 1 - 5 (2 sets).

Thank you,

Paul McCue
Senior Program Consultant
Environmental Health Section
Public Health Division

Ministry of Health and Long-Term Care

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e-mail: paul.mccue@moh.gov.on.ca

July 20, 2005

Ms. Amy Hogan
Regional Municipality of Durham
Works Department
105 Consumers Drive
Whitby ON L1N 6A3

Dear Ms Hogan:

Re: Durham/York Residual Waste Study – Development of Environmental Assessment Terms of Reference – Notice of Project Initiation and Partnership

Thank you for your letter dated July 11, 2005 with regard to the above Environmental Assessment (EA).

Although the Public Health Division is interested in the public health aspects of this EA and wishes to be kept informed of any further developments, we recommend that you request input from the local Medical Officer of Health for the health unit in which the EA is located, in this case Dr. Robert Kyle and Dr. Helena Jaczek. Their addresses are:

Dr. Robert Kyle
Medical Officer of Health
Durham Regional Health Department
Suite 210, Lang Tower
1615 Dundas Street East
Whitby ON L1N 2L1

Dr. Helena Jaczek
Medical Officer of Health
York Region Health Services Department
17250 Yonge Street
Newmarket ON L3Y 6Z1

.../2

Ms. Amy Hogan

We appreciate you taking the time to bring this EA to our attention.

Yours truly,

Paul W. McCue, C.P.H.I.(C)
Senior Public Health Inspector

Environmental Health and Toxicology,
Food Safety and Safe Water Unit

c: Dr. Robert Kyle, Medical Officer of Health, Durham Regional Health Department
Dr. Helena Jaczek, Medical Officer of Health, York Region Health Services Department

TORONTO AND REGION Conservation
for The Living City

August 13, 2009 CFN: 36790

BY MAIL AND EMAIL (gavin.battarino@ontario.ca)

Gavin Battarino, Project Officer
Environmental Assessment and Approvals Branch
Ministry of the Environment
2 St. Clair Avenue, West, Floor 12A
Toronto, ON M4V 1L5

Dear Mr. Batttarino:

Re: Response to Final Environmental Assessment Document
Durham/York Residual Waste Study
Individual Environmental Assessment (IEA)
MOE EA File No. 04-EA-02-08
Municipality of Clarington; Regional Municipality of Durham

On August 6, 2009 Toronto and Region Conservation Authority (TRCA) staff received a final copy of the Environmental Assessment (EA) document.

TRCA staff understands that the preferred Energy from Waste (EFW) site for the thermal treatment facility will be operated on the "Clarington Parcel 01," which is located between Courtice Road and Osbourne Road, south of Highway 401 in the Municipality of Clarington. This preferred site is not within TRCA's jurisdiction; therefore, TRCA staff has no comments on the final EA document.

Should you have any questions please contact June Murphy, the TRCA Project Manager for this file, at 416-661-6600 extension 5304.

Sincerely,

June Murphy, B.A., M.A.
Planner II
Environmental Assessment Planning
Planning and Development

JM/ag

BY E-MAIL
cc:
Jim McKay, Jacques Whitford Stantec (jim.mckay@jacqueswhitford.com)
Andrea Quinn, Study Co-ordinator (info@durhamyorkwaste.ca)
Mirka Januszkiewicz, Regional Municipality of Durham (mirka.januszkiewicz@region.durham.on.ca)
Laura McDowell, Regional Municipality of York (laura.mcdowell@york.ca)
Carolyn Woodland, TRCA, Director
Beth Williston, TRCA, Manager – EAs
Steve Heuchert, TRCA, Manager – Durham - West

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MEMO TO FILE ☐ RECORD OF CONVERSATION ☐ MEETING NOTES ☐ SITE NOTES ☐ INTERNAL MEMO ☐ EXTERNAL MEMO ☒

DATE: August 10, 2009.
SUBJECT: Durham York Residual Waste Study
TO: Melodee Enfield
FROM: Patti Fourie
NVCA FILE: n/a

Melodee.

Thank you for keeping NVCA informed on the progress of this study. As the study area is outside of our watershed, we are returning this report to you.

Regards
Patti Fourie

Oshawa
Prepare To Be Amazed

John Henry
Regional & City Councillor, Ward 5

09/21/2009

Mr. Gavin Battarino
Project Officer
Ministry of the Environment
Floor 12A, 2 St.Clair Ave. W.
Toronto, Ontario
M4V 1L5

Dear Sir:

Please find enclosed a section of the Executive Summary from the Durham/ York Residual Waste Study dated May 2009.

The section that I want to draw your attention to is page A-35 section 3.1. This section deals with Volatile Organic Compounds. I have highlighted all of the sections so that you will see where testing occurred.

When I had the opportunity to quest the author of this study, Jacques Whitford on why they did not conduct the testing in Clarington their answer was that it would cost close to $300,000.00 to bring in the equipment.

First of all Clarington is the only city in Canada that has a nuclear power plant, a rubber plant and an open pit mine. This makes this area unique.

On a project of 272 million dollars the residents deserve the very best testing as promised by the region. An estimated guess is not what I would call the very best testing.

My second issue with this report is that there is no reference to the cost of super sizing this project to 400 tons per year. The residents of Durham Region have the right to know what this is going to cost.

In closing I have included a copy of the last regional council meeting some 16 hours in length. I have personally paid for the cost of theses disks, some $430.00. I would suggest you have someone take the time to watch and record the comments from the members of public that came forward to speak.

Yours Truly

John Henry

Encl: Regional Council June 24, 2009 DVD (3)

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DURHAM REGION

Battarino, Gavin (ENE)

From: Melanie Lalani [melanie_lalani@hc-sc.gc.ca]
Sent: September 28, 2009 8:06 AM
To: Battarino, Gavin (ENE)
Cc: Atis Lasis; Kitty Ma; Gregory Kaminski
Subject: HC Comments on Durham/York EASD

Attachments: ML Durham-York EASD Comments Sept 2009.pdf

ML Durham-York EASD Comments S..

Hi Gavin,
As per my message, please find attached HC's comments on the above document.

Please let me know if you have any questions.

Thank you.
Melanie

(See attached file: ML Durham-York EASD Comments Sept 2009.pdf) Melanie Lalani Regional Environmental Assessment Coordinator Ontario Region Health Canada 180 Queen Street West, 10th floor Toronto, Ontario M5V 3L7

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email: melanie_lalani@hc-sc.gc.ca

Health Canada / Santé Canada

Regions and Programs Branch
Health Canada
180 Queen Street West, 10th Floor
Toronto, ON M5V 3L7

September 25, 2009

Gavin Battarino
Ministry of the Environment
Project Officer - Project Coordination Section
14th Flr
2 St Clair Ave W
Toronto ON M4V1L5

Subject: Health Canada's Comments on *Durham/York Residual Waste Study Environmental Assessment Study Document, July 31, 2009*

Dear Gavin,

Thank you for your email dated August 24, 2009 requesting Health Canada's (HC) advice on the environmental assessment (EA) for this project. Based on noise and air quality information presented in the *Environmental Assessment Study Document (EASD),* HC has the following comments for this thermal treatment facility:

Air Quality

Please note that HC does not evaluate modelling inputs or procedures and instead relies upon other federal and provincial experts in this area who are involved in the EA process to ensure that modelling has been carried out via accepted procedures and that modelling results reflect expected airborne levels of contaminants of potential concern (COPC) as accurately as possible. Any errors or omissions in the modelling results render HC comments invalid.

Particulate Matter

Tables 7-2 and 7-3 of the *Air Quality Assessment Technical Study Report (AQTSR)* indicate that the 24-hour particulate matter less than 2.5 microns ($PM_{2.5}$) maxima predicted for both the 140,000 tonnes per year (tpy) and 400,000 tpy project scenarios reach 70% and 71%, respectively of the Canada Wide Standard (CWS) (CCME, 2000). Data from the National Air Pollutant Surveillance (NAPS) monitor located in Oshawa (Environment Canada, 2009)

Sent by email: gavin.battarino@ontario.ca

indicates that for the years 2002-2004 (the most recent years for which data is available on NAPS) the average 98th percentile for $PM_{2.5}$ (24 hour averaging) is approximately 30 $\mu g/m^3$, a level which corresponds to the Canada Wide Standard for $PM_{2.5}$. Given that airborne levels of $PM_{2.5}$ are already elevated in the vicinity of the project and that this contaminant is considered to be a non-threshold contaminant (i.e. adverse human health effects may be observed at any level of exposure), (CCME, 2000) HC suggests that the AQTSR discuss best available technologies and procedures that may be applied to mitigate $PM_{2.5}$ emissions from the proposed facility.

Nitrogen oxides

Tables 7-3, 7-5 and 7-7 of the *AQTSR* and Tables 7-22 and 7-54 of the *Site Specific Human Health and Ecological Risk Assessment - Technical Study Report (HHERATSR)* identify considerable increases in NO_2 levels as a result of the project. For example, the *AQSTR* indicates that the maximum predicted 1-hour NO_2 level is approximately 40% of the provincial air quality standard, with a large proportion of this attributable to the proposed project. Further, the predicted project-related NO_2 levels at receptors for both project scenarios (140,000 tpy and 400,000 tpy) are predicted to increase approximately two times over baseline.

Given that NO_2 plays a major role in the atmospheric reactions that produce ground-level ozone, which is known to be associated with respiratory and cardiovascular health effects, and that NO_2 by itself is linked with respiratory health effects (EPA, 1995), HC advises that the AQTSR discuss mitigation measures that may be applied to minimize project-related emissions.

Chloroform

Pages 7-3 and 7-5 of the *AQTSR* indicate that annual maximum ground level concentrations (GLC) and maximum concentrations at special receptors for chloroform are predicted to reach 81% of the provincial air quality criterion. Chloroform exposure through inhalation is associated with central nervous system depression and effects on the liver (EPA, 2000). While the background concentration accounts for virtually all of the maximum GLC, HC suggests that the *AQTSR* includes monitoring of this COPC to confirm that the proposed project will not contribute significantly to the overall airborne levels of this COPC.

Cadmium

Table 7-8 of the *AQTSR* indicates that under the 400,000 tpy scenario, the 24-hour concentrations of cadmium are predicted to increase considerably, more than doubling over background to 73% of the provincial air quality criterion at receptors. The *Priority Substances List Assessment Report* of cadmium and its compounds completed under the *Canadian Environmental Protection Act (CEPA)*

indicates that *"cadmium is entering the environment in a quantity or concentration or under conditions that may constitute a danger in Canada to human health"* (Government of Canada, 1994), thereby meeting the criteria to be added to the *Schedule 1* list of toxic substances under *CEPA*. Therefore, HC suggests that the *AQTSR* discusses mitigation measures that may be implemented to reduce project-related emissions of this COPC.

Process Upset COPC Emissions

Tables 7-11 and 7-12 of the *AQTSR* indicate that airborne levels of sulphur dioxide (SO_2), hydrogen fluoride (HF), particulate matter less than 2 microns ($PM_{2.5}$), particulate matter less than 10 microns (PM_{10}), cadmium, bromodichloromethane, chloroform, and xylenes are predicted to increase considerably in the case of process upsets. Given the potential human health implications of these substances, HC advises that the *AQTSR* discuss measures to minimize the air quality impacts of process upsets to the extent possible.

Respiratory Irritants

Tables 7-24 and 7-56 of the Human Health and Environmental Risk Assessment (*HHAERA)* present concentration ratio (CR) values for respiratory irritants that are predicted to increase considerably for the 1-hour and 24-hour timescales, both for project and process upset scenarios. Given that exposure to respiratory irritants may be associated with acute and chronic human health effects (Rom and Markowitz, 2007), HC advises that the *EASD* discusses methods to mitigate project- related emissions of all respiratory irritant COPCs to the extent feasible.

Noise

Page 13 *Appendix C-5 Acoustic Assessment Technical Study Report (TSR)* states that "*a total of 53 different land users are located in the <Acoustic Study Area> (ASA), but only residential and farm houses are considered as critical receptors for detail modelling purpose.*" HC also considers schools, hospitals, daycares, places of worship, recreational spaces and nursing homes as critical receptors. Therefore, HC suggests that the *TSR* confirms the presence of absence of these receptors. Should these additional receptors be present in the study area, HC suggests that they be included in the acoustic assessment.

Page 14 of the *TSR* states that HC uses the hours of 23:00h to 0:700h to define the nighttime portion of the day-night sound level (DNL). Please note that HC uses 22:00h rather than 23:00h as the starting point for the nighttime period.

Page 13 of the *TSR* identifies three critical receptors as being "*representative"* for noise modelling purposes. However, Page 24 of the *TSR* states that two noise *"monitoring locations were chosen to be representative of noise sensitive receptors."* It is unclear to HC the reason for selecting two monitoring locations,

rather than three. Therefore, HC suggests that the selection of noise monitoring locations is explained further so that HC is able to review the representativeness of the baseline conditions.

Page 30 of the *TSR* discusses human perception of loudness. Table 5-2 "*Human Perception to a Change in Loudness"* indicates that a 1-3 dB change in sound level is *"insignificant due to imperceptibility."* This statement can be misleading to readers in the way it conveys potential impacts. For example, backup alarm sounds can be readily noticeable, yet barely change the average sound level. HC suggests that references to audibility based on a change in sound levels be avoided unless the new source of noise is very similar to the existing source with respect to the frequency spectrum (e.g. traffic plus more traffic).

Construction Noise

Page 10 of the *TSR* indicates that construction activities may last up to 30 months. However, the *TSR* does not provide the duration of exposure for each representative noise receptor. HC suggests that the *TSR* provides this information to enable HC to provide advice on the potential human health implications from noise during construction activities.

Page 10 of the *TSR* states that "*construction of the Facility for the 140,000 tpy scenario was considered as the worst case* <for construction noise> *and no modelling was performed for 400,000 tpy scenario.*" HC has noted that section 6.1.3 of the report indicates that the 400,000 tpy scenario is the worst case in the context of traffic-related construction activities. In each of these scenarios, it is difficult for HC to verify these conclusions about worst case scenarios without further information. Therefore, HC suggests that evidence is provided to support these conclusions in order to ensure that potential human health effects are not underestimated.

Table 3-2 of the *TSR, "Construction Noise Source Summary"* does not include backup alarms. Therefore, it is unclear whether or not they have been considered as a tonal source, with an adjustment made for the relative contribution of this source in estimating the change in percentage highly annoyed (%HA) at each receptor. As backup noise alarms can generate a considerable number of noise complaints for projects in general, HC suggests that this source be included in the noise assessment.

Page 22 of the *TSR* identifies *"minor sources"* of noise, including trucks and forklifts. However, the *TSR* states that these sources are not included in the noise assessment because *"the number and nature of these smaller noise sources are not known and the contribution of these smaller sources is expected to be insignificant due to the setback distances involved between the process areas and the closest receptors."* To prevent underestimating the potential

human health impact of these sources, HC suggests that a worst-case scenario for these noise sources is estimated and included in the noise assessment.

Page 32 of the *TSR* includes Table 6-2 "*Comparison to Federal Guidelines (Facility for 140,000 tpy Scenario Site Preparation).*" The table does not appear to have applied applicable noise adjustments (e.g. seasonal, time of day, type of area – rural or suburban, pure tone or impulse correction, construction duration longer than a year) in calculating the %HA and change in %HA for the three noise receptors (CSA, 2005). Therefore, HC suggests applying applicable noise adjustments in the noise assessment in order to account for potential human health implications that may be associated with the project.

Page 32 of the *TSR* also states that the noise assessment "*analysis assumes that the Facility would not include nighttime construction activities.*" If it is the case that nighttime construction activities will not occur, HC suggests that this is confirmed in the *TSR*. If construction may occur during nighttime hours, HC suggests that the noise impacts of these activities on receptors are reflected in the assessment.

Table 6-4 on page 34, "*Comparison to Federal Guidelines (Facility for 140,000 tpy Scenario Structural Phase with Daytime Pile Driving*) shows that the change in %HA exceeds the suggested level of 6.5% at each receptor. The *TSR* indicates that pile driving may not be required or that vibratory pile driving is a possible method of lessening noise impacts associated with this activity. However, the TSR does not provide information to indicate the potential effectiveness of using vibratory pile driving. Therefore, HC suggests that the *TSR* includes information to estimate noise impacts from vibratory pile driving activities if it is used in the project.

Operational Noise

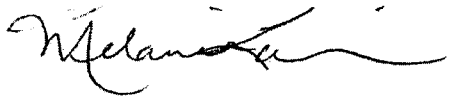
Page 21 of the *TSR* identifies noise sources that may have a significant amount of acoustic energy in the low frequency range (e.g. pumps, compressors, turbine, boilers, condenser, a back-up power generator, and ID and process fans.) Although the human ear is less sensitive to low-frequency noise, perception can sometimes occur by way of vibrations in residences because of noise-induced "rattle" in these environments. Research indicates that annoyance related to noise is greater when low frequency noise is present (CSA 2005; Schomer and Averbuch, 1989). Assessment of sound environments is usually undertaken using A-weighted decibel levels (dBAs) which reflect the frequencies most audible to the human ear. Since low-frequency noise is not typically included in such assessments, HC suggests that the *TSR* include an assessment of the impacts of low frequency noise on receptors, including mitigation measures as appropriate to ensure that potential annoyance effects are addressed.

Page 40 of the *TSR* concludes that a change in %HA from operational noise will not exceed 6.5% at any noise receptor because the predicted sound level at points of reception will be 45dBA or less. HC suggests that the *TSR* clarify whether or not this conclusion includes consideration of all applicable adjustments (as described under HC's comments on Construction Noise, above) in the operational sound levels.

Thank you for providing HC with the opportunity to comment on this project. Should you have any questions concerning HC's comments or identify any other specific human health concerns with respect to this project, HC would be pleased to provide expertise upon request as a Federal Authority, pursuant to subsection 12(3) of the Canadian Environmental Assessment Act, or under a territorial / provincial process.

Please feel free to direct your questions, concerns, or requests to the undersigned.

Sincerely,



Melanie Lalani
Regional Environmental Assessment Coordinator
Health Canada, Ontario Region
Phone: (416) 954-5013
Fax: (416) 952-4444

cc: Atis Lasis, Manager of Safe Environments Programme, ON Region, Health Canada
Kitty Ma, Regional Environmental Assessment Coordinator, ON Region, Health Canada
Gregory Kaminski, Senior Environmental Health Assessment Specialist, Health Canada

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DIRECTION MEMORANDUM

Clerk's Department

TO: R.J. Kyle, Commissioner & Medical Officer of Health

FROM: P.M. Madill, Regional Clerk

DATE: July 7, 2009

RE: Direction as per minutes of the Regional Council meeting held on June 24, 2009

REPORT OF: Committee of Whole **ITEM # 1**

SEE ATTACHED

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

c: C. Curtis, Commissioner of Works
B.J. Roy, Regional Solicitor

"Service Excellence for our Communities"

1. EFW RISK ASSESSMENT AND ENVIRONMENTAL SURVEILLANCE (2009-COW-01)

RECOMMENDATIONS TO COUNCIL (AS AMENDED)

a) THAT the final Site Specific Human Health Risk Assessment (SSHHRA) for the proposed 140,000 tonnes EFW facility is accepted and submitted to the Ontario Ministry of the Environmental for its review, if and when the EFW environmental assessment is approved, subject to it being in concordance with the caveats expressed in Appendix D of Report #2009-COW-01;

b) THAT if the EFW environmental assessment is approved and the proposed EFW facility is constructed, once operational, an environmental surveillance program is implemented in accordance with all applicable legislation, policies, guidelines, and instruments and the following guiding principles:

i.) THAT continuous and periodic stack testing of chemical emissions, including dioxins and furans, that meet or exceed the more stringent of the Ontario Guidelines A-7 and EU Directive chemical emissions standards forms the basis of environmental surveillance in accordance with the International Best Practices Review,

ii.) THAT stack testing be supplemented by independent ambient air and soil testing for a minimum of three years at which time its effectiveness will be evaluated,

iii.) THAT independent testing of flora and fauna be considered if in-stack, ambient air and soil test results regularly exceed levels predicted by the SSHHRA,

iv.) THAT stack testing not be supplemented by human biomonitoring, and further that in the future human biomonitoring not be precluded as an option,

v.) THAT the environmental surveillance results are communicated to the public in as an accessible, accurate, open, timely, transparent, and understandable a manner as possible,

vi.) THAT a Durham waste diversion and management advisory committee, or similar advisory group, which is appointed by and is accountable to the Regional Council, is in place to act as a forum for, and comprises Clarington and Durham residents and representatives from Clarington, the EFW facility, Ontario Ministry of the Environment (MOE), and the Region of Durham to assess, monitor, review, and advise the Region on the effectiveness of the environmental surveillance program, independent environmental testing, the quality of public reporting of environmental performance

of the facility, and other related strategic waste diversion and management issues,

vii.) THAT the Health Department is consulted by the MOE before it finalizes its requirements for the Region's environmental surveillance program;

c) THAT the Region continue to pursue the goal of 70% waste diversion and to advocate for amendments to the *Waste Diversion Act, 2002* to be enacted and implemented;

d) THAT the Region adequately supports the environment surveillance program, independent environmental testing, the public reporting of environmental surveillance data, and the work of the proposed Durham waste diversion and management advisory committee;

e) THAT the Minister of Environment, Durham's MPPs and municipalities, Joint Waste Management Group, Site Liaison Committee, and the Regional Municipality of York be so advised.

APPENDIX A

DURHAM REGION

Report To: Chair A. Cullen and Members
Health & Social Services Committee

Report No.: 2007-MOH-20

Date: September 6, 2007

SUBJECT: Energy from Waste (EFW) Facilities

RECOMMENDATION:

That the Health & Social Services recommends that the Regional Council receives this report for information.

REPORT:

1. On June 20, 2007, the Regional Council requested that the Commissioner & Medical Officer of Health (MOH) comment on the Durham/York Generic Human Health Risk Assessment (GHHRA) and review the health-related health chapters of the Halton EFW Business Case (Halton 4a Report).

2. Owing to the limited expertise of the Health Department respecting air quality science and toxicology, the MOH commissioned Dr. Lesbia Smith to:

   - Review the Halton 4a Report, including the general conclusions of environmental epidemiologic studies of waste incinerators, and the pitfalls inherent in such studies.
   - Comment on the soundness of the Durham/York GHHRA, including any missing information that may have a bearing on either the generic or site specific HHRA.
   - Assess the extent to which Durham/York GHHRA conforms to the basic tenets of risk assessments.
   - Advise regarding best practices for establishing an environmental monitoring program.

Dr. Smith is well-recognized in the public health community and beyond as a medical expert in occupational and environmental health. She was a reviewer of the Durham/York GHHRA. Appendix A is her report. It includes a Précis (p. 4), Executive Summary (p. 6), Main Report (p. 12) and Appendices (p, ii).

3. Dr. Smith's main conclusions are as follows:

- In essence, the Halton 4a Report concluded that EFW facilities using modern (thermal) methods and pollution control technology are not expected to pose a significant risk to the public. In addition, the Report stated that any new EFW facility should be subject to a site specific risk assessment to identify local issues and ensure that it will not pose a risk to the public.

- The current epidemiologic literature (2000-2007) is inconclusive and does not demonstrate one way or another that modern incinerators have associated health effects on the people living around them. This conclusion is not materially different from the inferences made in the Halton 4a Report.

- On the whole, the incinerator-generated contaminant load as measured in blood of residents living near-by is similar or the same as contaminant loads in other populations. The "incinerator literature" alone cannot be used to support or dismiss possible health effects from the measured levels of some of the contaminants in people living around incinerators.

- In general, the epidemiologic method is limited in that it can only indicate statistical associations between exposure and diseases, not a cause and effect relationship. A cause and effect relationship can be inferred only after careful analysis of all studies and applying appropriated criteria.

- Risk assessment is the only procedure that can produce quantitative estimates of predicted health effects. The Durham/York GHHRA was properly carried out. The methods are clearly explained, are reproducible and err on the side of health protection or "conservatism". Any future site specific risk assessment should apply upset conditions, if situations with upset conditions are relevant to the EFW facility.

- Epidemiology, risk assessment and biological monitoring assist regulatory and public health agencies and improve public understanding of human health and the environment. Because each method can have limits and challenges, a combination best serves public health.

- Environmental quality oversight and health surveillance can promote engagement of communities with industry, regulatory and public health agencies and can be considered part of a responsible program for environmental monitoring.

- Community surveillance can take the form of environmental monitoring and reporting, timely responses to health concerns, and continued community engagement throughout the life of the facility. Community health studies may have a role, but should be carefully considered with respect to objectives and methodology before undertaking them.

The Health Department has reviewed Dr. Smith's Report and concurs with her findings and conclusions.

Respectfully submitted,

R.J. Kyle, MD, MHSc, CCFP, FRCPC
Commissioner & Medical Officer of Health

APPENDIX F

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Toronto, ON M4V 2M6
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E-mail info@eohplus.com

Environmental & Occupational Health Plus Inc.

Health Impact Evaluation and Issues Management

March 1, 2009

Dr. Robert Kyle
Commissioner and Medical Officer of Health
Durham Region
605 Rossland Road
Whitby, ON L1N 6A3

Dear Doctor Kyle,

RE: Peer review of Final Report: Review of International Practices of Environmental Surveillance for Energy-From-Waste Facilities by Jacques Whitford; February 16, 2009

Thank you for asking me to comment on the Final Report: Review of International Practices of Environmental Surveillance for Energy-From-Waste Facilities by Jacques Whitford; February 16, 2009.

My detailed comments and annotations within the report were provided in January 2009. My current review (a reexamination of the amended report) is more focused on the changes made to accommodate my comments and on any additional analysis or new material which may have affected the final conclusions.

I found the current report a great improvement over the Draft in focus, organization and clarity. The executive summary reflects faithfully the work presented within the report. Its visual presentation is highly effective in that the insets provide a crisp summary finding of the chapter. The report now excludes redundant information which does not derive from the searches and interviews. It separates "findings" from "inferences".

It was clear to me upon reading the Draft Report (and selected references) that the literature supports that Option 1 reflects the appropriate and most prevalently practiced surveillance that protects humans and the environment. It is also concordant with Ontario regulatory requirements.

I agree with a choice of option 1 as optimal and deriving from the Jacques Whitford review. The community living around this facility and public at large would not be at risk from the public health perspective if this surveillance option were chosen.

The decision of Durham Regional Council to adopt the more stringent of the Guideline A-7 and EU Directive chemical emissions standards and to implement an in-stack PCDD/F sampling technology is concordant with a highly protective approach to health and environment in the region.

In conclusion, I agree with the final recommendations provided in this report. They are strongly supported by this comprehensive literature review, wide consultation, and by the scientific framework used in this project to ensure that humans and the environment are protected while in coexistence with a state of the art energy from waste facility such as is planned for Durham region.

Sincerely yours,

Signed copy to be sent by mail

Lesbia F. Smith, MD
Health Consultant
Environmental & Occupational Health Plus Inc.

PROJECT NO. 1009497.06

Final Report: Review of International Practices of Environmental Surveillance for Energy-From-Waste Facilities by Jacques Whitford; March 1, 2004

Comments from Lesbia F. Smith, Peer Reviewer

Introduction

This narrative comprises my review of the Final report: Review of International Practices of Environmental Surveillance for Energy-From-Waste Facilities by Jacques Whitford. A previous review of the Draft Report provided extensive comments which were incorporated into this Final Report. As they were incorporated, this review is therefore shorter and focused exclusively on this final product.

My overall reading found a few minor errors of language and spelling which are outlined at the end. These are trivial and do not take away from this report content and quality which are overall a great improvement on the draft with respect to focus, organization and clarity.

The focus was entirely the reporting of the search, analysis, and findings with selection of a preferred option that derives from the processes undertaken. The objective was to see what was done elsewhere and to find out what is the best option that is both supported by practices and state of the at science. The objective was achieved.

Structure/Organization

The organization was improved considerably with the tightening up of the options discussion and the presentation of the results of each search, interviews and supplementary information.

Report clarity, precision, language and brevity

I thought the report is very clear. Language is now precise and has been tightened considerably. The graphical presentation of summaries in a box within each section provides easy access to the content and conclusion. The presentation of tables summarizing findings is also very useful in understanding the large amount of information gathered.

Content

Methodologies

The contractors have made a colossal effort to gather information relevant to surveillance of energy from waste facilities. The authors cast a wide net in their search of the literature. The methodology is carefully outlined and followed. *Search terms* are used accurately and reflect the objectives and tasks. The "output" of the searches is very well documented. The use of material on facilities operating after 1998 is justified, but comments on the experience of older facilities were also useful.

The *assessment frameworks* for each of the publications are clear.

The search for grey literature and the verification of certificates of approval and compliance for potentially relevant Ontario facilities added a measure of completeness of the literature examination.

The *contact procedures* - methods of seeking, contacting, and following up on contacts for interview were thorough. It is not surprising that some people did not respond despite persistent attempts to contact them. This is not a failure of the authors and it is commonly the case. The authors were able to contact the most prolific contributors to the literature, as well as those involved with grey literature, so I consider this effort successful.

The use of a *standard to assess* each of the reports ensured that evidence could be classified into good quality and poor quality. Therefore, recommendations (or options) coming forward from the stronger evidence can provide a higher level of confidence that the action will do what it is supposed to do.

The evaluation of different types of studies, purely environmental, or purely human, were evaluated within a credible and well organized published framework (GRADE and the evaluation framework used in the September 2008 report[1]).

Studies were examined carefully, and conclusions from the author, additional comments, and implications for this (Durham) facility were very well incorporated.

Their final evaluation of epidemiological studies of health of communities around EFW facilities now includes a weight of evidence approach that supported options about surveillance.

As for *clarity*, the authors did well to consolidate the results of several publications which were relevant to one facility and to assess the overall results, rather than single publications in isolation. This resulted in synthesized information relevant to one facility or singular programs that better supports the options.

This level of completeness and thoroughness of assessment should be reassuring to the clients that as much literature was found as possible to shed light on the question of what

[1] L. F. Smith. Energy from Waste Facility in the Region of Durham. September 28, 2007

is the most appropriate surveillance for EFW facilities from the technical and public health perspective.

Options deriving from the review

The options offered arise from the literature and informant review. The options provided are an orderly progression from the regulatory basic requirements to more complex approaches applied to specific circumstances where public concern was a driving force.

Preferred option 1 derives clearly from the experience published in the literature presented, and is concordant with the framework of emissions and operations surveillance.

The regulatory basic option, Option 1 a - Compliance with Ontario Guideline A-7 Combustion and Air Pollution Control Requirements for New Municipal Waste Incinerators *is sound and is concordant with the literature and Ontario requirements*. That is, those EFW facilities must conform to the country's regulations (e.g., Spain, Belgium, Germany, Italy-- usually EU standards).

Option 1b- an enhanced option 1- Establishment of More Stringent Stack Chemical Emissions Standards than Provided in Guideline A-7; the specific chemicals that differ from the A-7 guideline. These may be of particular environmental concern such as mercury. This may be consideration if there is a possibility that these substances are potentially present in the waste.

Option 1c - Inclusion of New Stack Sampling Technology for Dioxin and Furans not Routinely Sampled in Ontario EFW or Incineration Facilities - is also concordant with the literature and with state of the art technology. This represents and added level of surveillance (of operations).

The added programming continuous (sampling of) stack emissions resonates with both state of the art technology and with the public's need for constant oversight. The public must understand that continuous monitoring means continuous sampling and periodic analysis, not continuous analysis and reporting.

The role of human biomonitoring is placed in perspective for its application as a research tool with stated research objectives, planning and oversight.

Some selected typos and errors:

Page 1 main report "tenant" should be "tenet"

In the summary boxes, several incidents of the word "establishing" should be "establish". All the boxes should be checked for spelling before printing.

A multidisciplinary team of professionals WAS assembled to undertake this study and an independent peer review of the study by Dr. Lesbia Smith was commissioned by the Region of Durham.

P 46 Relevance to Current Study This study did not ESTABLISH a causal link between emissions of PCDD/F from incinerators and monitored human breast milk levels.

P 49 Relevance to Current Study This study did not ESTABLISH a causal link between emissions of PCDD/F from a modern hazardous waste incineration facility and monitored human blood serum levels.

P 52 Relevance to Current Study This study shows that although PCDD/F concentrations were measurable in air after start-up of the MWI facility, the levels were not statistically significant THIS NEEDS .....different from what?

3.2.3.4 Overall Summary of Human Biomonitoring Studies
In summary, the results of the systematic review of the scientific published literature indicate that there is not a significant relationship between exposure to chemical emissions from incinerator and measured chemical levels in human media such as blood, urine, breast milk and hair. With regard to PCDD/Fs, the most commonly referenced chemical assessed in the studies, authors noted occasional differences in individual PCDD/F congeners and measured samples. Congener analysis can be important as it may be possible to correlate a particular individual congener emitted from an EFW facility to those found in exposed residents. However, no two congeners are the same, and some are more or less toxic than others. The toxic equivalent (TEQ) is thus a useful measure, as it provides a single, cumulative number based on the relative toxicity of each congener.

P 49-50 and others where fingerprint mention is made

We use the total TEQ to determine the total toxic impact. However, when a target fingerprint is the same is the fingerprint from a facility emissions and different from other target fingerprints, it has to be inferred that the impact is actually from the facility even though the total toxicity impact may be the same. The logical inference when two fingerprints match is that the source of the exposure is the facility but the total toxicity impact is null. This should be made very clear if in future there should be a request for such efforts as fingerprinting as a form of additional spot surveillance.

APPENDIX D

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Environmental & Occupational Health Plus Inc.

Health Impact Evaluation and Issues Management

June 8, 2009

Dr. Robert Kyle
Commissioner & Medical Officer of Health
Durham Region Health Department
605 Rossland Road East, 2nd Floor
P.O. Box 730
Whitby, ON L1N 2B0

Re: Peer Review of the DRAFT JW SSHHRA Technical Study Report; Durham-York Residual Waste EA Study. May 2009. Report no. 1009497

Dear Doctor Kyle,

In accordance with your mandate, I am attaching the review of the Draft Jacques Whitford (JW) SSHHRA and recommendations for surveillance of the proposed facility.

The detailed review of the Site Specific Human Health Risk Assessment (SSHHRA) was carried out by Ross Wilson, experienced risk assessor and certified toxicologist of the American Board of Toxicology. Mr. Wilson and I participated in the reviewer discussions with JW staff and with other reviewers providing clarifications and justifications of the JW paper, and anticipated changes. Where specific changes were expected and agreed upon by the reviewers and JW, we assumed that these would be made in the Final SSHHRA and made our comments fit accordingly with the agreed upon changes. We also communicated with JW (Dr. Chris Ollson) on several occasions by e-mail and telephone to request additional data, graphs, and related information not available in the Draft SSHHRA report.

Mr. Wilson and I maintained a separate independent approach in carrying out this review which we believe is reflected in our communications with JW and in this report to you. Neither of us has a stated interest in the success or failure of this undertaking and thus, confirm that we do not have a conflict of interest.

Mandate and responses:

1. What are the human health risks? Are the health risks acceptable and if so, according to what standards? If the health risks are acceptable, can the proposed EFW facility be considered "safe"?

Response: Our review supports the findings of the SSHHRA. We find that the key receptors, chemicals and exposure pathways have been evaluated; the methods used to estimate exposures are appropriate; the toxicological reference values used are reasonable and drawn from a variety of reliable international sources; and the risk characterization results are defensible.

We conclude that this SSHHRA is satisfactory. Although it would be possible to use different receptor characteristics, exposure assumptions and toxicological reference values (and, thus, arrive at different Hazard Quotient and Incremental Lifetime Cancer Risk estimates), we consider it unlikely that the conclusions of the SSHHRA would change.

In most cases, we expect the proposed installation will not provide any appreciable change in the concentration of chemicals in air, soil, dust, water or food. For example, the maximum Ground Level Concentration of $PM_{2.5}$ on an annual basis under Normal Operations is expected to be increased by 0.022 $\mu g/m^3$ versus a current baseline concentration of 9.8 $\mu g/m^3$. This, in our opinion, is insignificant. Similarly, the projected increases in the concentration of metals, polycyclic aromatic hydrocarbons, dioxins/furans, polychlorinated biphenyls and other chemicals are very minor relative to current concentrations.

It is noted that specific risk estimates will vary from the draft SSHRA that we reviewed versus the final SSHRA that JW will issue in the future; however, based on our current information, it is not expected that the overall conclusions of the SSHRA will change based on the information provided to us.

Overall, this review team holds the opinion that this industrial installation, if it performs as specified and assumed in this SSHHRA, will not pose unacceptable risks to persons in the vicinity of the site, and by extension, to those residents beyond. Said differently, this installation as proposed will not pose an unacceptable public health risk.

2. Is the SSHHRA methodology sound and consistent with accepted standards such as Health Canada's Canadian Handbook on Health Impact Assessments and Environment Canada's Discussion Paper on the Precautionary Principle?

Response: The SSHHRA used methods that are considered to be acceptable and does meet accepted standards. The SSHRA follows an accepted risk assessment

approach consistent with Health Canada risk assessment guidance provided in various documents that include but are not limited to:

- CCME (Canadian Council of Ministers of the Environment). 2006. A Protocol for the Derivation of Environmental and Human Health Soil Quality Guidelines. CCME, Winnipeg, Manitoba.

- Health Canada. 2004a. Federal Contaminated Site Risk Assessment in Canada - Part I and II: Guidance on Human Health Preliminary Quantitative Risk Assessment (PQRA). Health Canada, Ottawa, Ontario.

- Health Canada, 2004b. Canadian Handbook on Health Impact Assessment. Ministry of Health. Health Canada, Ottawa, Ontario.

- Health Canada. 2008. Federal Contaminated Site Risk Assessment in Canada - Part V: Guidance on Human Health Detailed Quantitative Risk Assessment of Chemicals ($DQRA_{CHEM}$). Health Canada, Ottawa, Ontario.

With respect to the *precautionary principle*, we consider that the SSHHRA meets the requirements of this approach. As noted by Environment Canada (2001)[1], the precautionary principle is "a distinctive approach to managing threats of serious or irreversible harm where there is scientific uncertainty." It represents a regulatory philosophy whereby regulatory action will be taken in the absence of full scientific certainty of risk. Although we don't know with full certainty the actual risks posed by the chemicals released, this uncertainty does not preclude use of risk assessment as part of decision-making process (i.e., it is not a reason to not complete the risk assessment).

Use of the precautionary principle is also inherently found within the methods of the SSHHRA. It can be found through the use of conservative (protective) factors to estimate risks when there is not full certainty of the input parameters (e.g., 95^{th} percentile concentrations, exaggerated time spent at the site, toxicity reference values with uncertainty factors, etc.). The implementation of an environmental surveillance program also is considered to meet the objectives of the precautionary principle.

3. What environmental surveillance program should be recommended to Regional Council and the MOE, taking into account your earliest report to me, the best practices review, and public concern?

---

[1] **Environment Canada. 2001. A Canadian Perspective on the Precautionary Approach/Principle: Discussion Document. Environment Canada, Ottawa, Ontario. Available at:** http://www.ec.gc.ca/econom/discussion_e.htm

Response: The surveillance program suitable to this facility is expected to consist of facility operations monitoring, stack measurements, and environmental media measurements to confirm compliance. Specifically, there is great concern among certain members of the general public about chemicals arising from the facility operations themselves, dioxins and furans.

The standards applied for these chemicals should meet or exceed the more stringent of the Ontario Guidelines or EU directive chemical emissions standards in accordance with the JW Best Practices Review.[2]

In the case of the need for monitoring of environmental media, this is considered to be useful and is recommended. The modelers have predicted that the facility will not appreciably contribute to increased concentrations in the environment. Air and soil monitoring is recommended to ensure compliance. However, if concentrations are found to be greater than those assumed in the SSHHRA, additional flora and fauna monitoring will help to reassure that human health is protected and may also alleviate some of the concern in the general public.

4. Is there any other human health related advice I should be providing Regional Council and the MOE?

   Response: This facility is not likely to pose an unacceptable public health risk, if it functions as assumed in the JW SSHHRA Report. In addition, the environmental surveillance which is likely to be in place will ensure compliance with the emissions requirements by providing hard data to support any conclusions on environmental and health impacts.

   Notwithstanding, communities may expect that the Medical Officer of Health provide ongoing relevant health information as required by the Ontario Public Health Standards and Protocols. Details of what the public expects may be explored through community consultations or other sources of data gathering about community residents available to local public health agencies in Ontario (i.e., Rapid Surveys).

5. Is there any human health reason that the completed EA shouldn't be forwarded to the MOE to complete the process?

   Response: In our opinion, there is no reason relating to the human health impacts forecast by this SSHHRA that precludes forwarding to the MOE to complete the process, provided that the Final Report is in concordance with the caveats expressed in our review.

[2] **Final Report: Review of International Best Practices of Environmental Surveillance for Energy-From-Waste Facilities. February 2009.**

6. Surveillance

Although the act of sampling and chemical analysis of human tissues such as blood or urine is relatively easy, there are more difficult challenges in entertaining human testing. Among these challenges are: 1. the use of humans as sentinels to test exposure hypotheses which are predicted by the SSHHRA to be below a significant signal; 2. The methodological challenges of obtaining large groups to examine given the very low level of exposure forecast; 3. the ethical issues of selective participation, individual interpretation and potential demand of the use of results for diagnostic, prognostic or therapeutic purposes. Interpretation of the significance of individual results is available for a limited number of substances and not for the vast majority of chemicals of concern. For these important reasons, ethical and medical, human biological monitoring is not recommended as a facility surveillance tool in this circumstance.

The above constitutes our team deliberations and is a summary of our report to you, attached.

ORIGINAL
SIGNED BY

Lesbia F. Smith, MD
Ross Wilson, MSc, DABT

Review of JW Site Specific Human Health Risk Assessment, May 2009 and Environmental Surveillance

08 June 2009

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Table of Contents

Introduction

Dr. Lesbia F. Smith (Environmental & Occupational Health Plus Inc.) has been retained as consultant to Dr. Robert Kyle, Commissioner & Medical Officer of Health of the Region of Durham, to review documents arising from the Environmental Assessment process for an energy from waste (EFW) facility to be sited in the Region of Durham. The site selected for the facility is in Clarington. The team undertaking the current Review and development of environmental surveillance advice are Lesbia F. Smith, medical doctor and environmental health specialist, and Ross Wilson, risk assessor and diplomate of the American Board of Toxicology. The team draws its experience for this project from involvement throughout the process as external reviewer for the Generic Risk Assessment[1] (Dr. Smith), authoring the report on health effects of EFW facilities[2] (Dr. Smith), reviewing the methodology report on JW Report on Best Practices[3] (Dr. Smith), Reviewer of the JW DRAFT Best Practices Report[4] (Dr. Smith), numerous risk assessments and standard setting documents in support of risk assessment (Mr. Wilson) and public health protection (Mr. Wilson and Dr. Smith). Details of these activities are highlighted in our Curricula Vitae.

The purpose of this report is to provide Dr. Kyle with an assessment of the Draft JW Site Specific Human Health Risk Assessment, May 2009, and to update advice on environmental surveillance for the proposed facility in consideration of the various reports and public concerns.

Mandate

The specific questions posed of the review team are as follows:

1. What are the human health risks? Are the health risks acceptable and if so, according to what standards? If the health risks are acceptable, can the proposed EFW facility be considered "safe"?

2. Is the SSHHERA methodology sound and consistent with accepted standards such as Health Canada's Canadian Handbook on Health Impact Assessments and Environment Canada's Discussion Paper on the Precautionary Principle?

3. What environmental surveillance program should be recommended to Regional Council and the MOE, taking into account your earliest report to me, the best practices review, and public concern?

4. Is there any other human health related advice I should be providing Regional Council and the MOE?

5. Is there any human health reason that the completed EA shouldn't be forwarded to the MOE to complete the process?

---

[1] Smith LF. York-Durham EFW Peer Review of the Generic Risk Assessment, May 2007

[2] Smith LF. Energy from Waste Facility in the Region of Durham September 28, 2007

[3] JW. Methodology for a Review of International Best Practices of Environmental Surveillance for Energy-From-Waste Facilities. October 2008.

[4] JW. Final Report: Review of International Best Practices of Environmental Surveillance for Energy-From-Waste Facilities. February 2009

The responses to these questions arise from the review of the SSHHRA and consideration of surveillance approaches from the Best Practices Review, and relevant literature.

Review of the Site Specific Human Health Risk Assessment

Scope of the Review

The focus of the review is to examine the conclusions of the Jacques Whitford Environment Limited (JW) site specific human health risk assessment (SSHHRA) and to determine if they are scientifically-defensible and accurate. The main document considered in this review was **JW. 2009**. *Site Specific Human Health and Ecological Risk Assessment – Technical Study Report. May 2009. Draft report.* To supplement the above report, JW provided additional information on various aspects of the SSHHRA through email and telephone correspondence with the review team. This review of the SSHHRA has considered all of the above information available to June 5, 2009.

Validation of exposure point concentrations is considered to be outside of the mandate of this review. We note that this review of the SSHHRA has not evaluated the accuracy of the exposure point concentrations (from the air modelling of emissions) and thus, all of the exposure point concentrations assumed in the SSHHRA are assumed to be accurate.

Review Comments

Review comments are organized within the SSHHRA framework, by responding to a series of review questions, as provided below.

Does the SSHHRA follow the generally accepted SSHHRA framework?

The JW SSHHRA generally follows the accepted framework. The SSHHRA is presented in a straightforward and easy to follow manner. The SSHHRA is based on guidance that is consistent with Health Canada (HC), the World Health Organization (WHO) and the US Environmental Protection Agency (US EPA). These agencies provide a number of guidance documents that are useful for evaluation of health risks from such a facility. Overall, the approach used by JW is considered to follow an acceptable framework for SSHHRA.

Does the SSHHRA problem formulation identify the appropriate chemicals, receptors and exposure pathways?

The SSHHRA has identified the appropriate chemicals, receptors and exposure pathways of concern that are likely to drive human health risks and, thus, require evaluation in the risk assessment. The problem formulation identified the following chemicals requiring evaluation due to their inherent toxic potential *and* presence in stack emissions and other sources of release:

- Criteria pollutants (sulphur dioxide [SO_2], hydrogen chloride, hydrogen fluoride, nitrogen dioxide [NO_2], carbon monoxide [CO], particulate matter [as total, PM_{10} and $PM_{2.5}$] and ammonia);
- Metals and other inorganic elements;

- Polycyclic aromatic hydrocarbons (PAHs);
- Polychlorinated dibenzo-p-dioxins and furans (PCDD/Fs);
- Polychlorinated biphenyls (PCBs);
- Chlorinated monocyclic aromatics; and
- Volatile organic compounds (VOCs).

Although other chemicals may be released from the facility, the chemicals evaluated in the JW SSHHRA represent the substances of greater concern from a toxicological perspective and are typically evaluated in such an assessment. Consequently, if there are acceptable risks[5] from these chemicals, we can conclude with reasonable confidence that there will be no unacceptable risks from other chemicals not formally evaluated in the JW SSHHRA because risks would be even lower.

During our discussions with the JW team, we noted that a number of extended explanations would be required in order to fully justify the conclusions. JW committed to provide additional information in their final report on their rationale for not including ozone, dioxin-like PCBs and acrolein in the SSHHRA. In the case of ozone, JW has noted that the exclusion of ozone from such a facility is commonly accepted by air dispersion modelers at the Ontario Ministry of Environment (MOE). In the case of dioxin-like PCBs and acrolein, JW has indicated that they do not consider these chemicals to be key drivers in the SSHHRA and they will provide the justification for this conclusion.

The receptors of concern evaluated in the SSHHRA were *persons* living, working, going to school/daycare, recreating or consuming food from the area. These notional persons or receptors are considered to be representative of the *maximum exposed persons*. It is noted that Figure 3-4 (showing specific receptor locations) was omitted from the original JW SSHHRA report and was subsequently provided to the review team. Persons of all ages were considered in the SSHHRA. It is noted that pregnant women are inherently included in the assessment (i.e., TRVs are developed for protection of all receptors with special emphasis on pregnant women and their fetuses).

The exposure pathways evaluated in the SSHHRA are consistent with HC and US EPA guidance. The JW SSHHRA represented a multi-pathway analysis where the following exposures routes were considered (depending upon the receptor (*person*) of concern):

- Inhalation of air;
- Incidental ingestion and skin contact with soil/dust;
- Ingestion and skin contact with surface water;
- Consumption of plants, livestock (including beef, poultry, pork, milk and eggs), wild game and fish.

Does the SSHHRA exposure assessment accurately estimate exposures from the site?

The exposure assessment has been completed according to available guidance and has used appropriate input parameters and equations to estimate exposure. We consider that the approach used in the JW SSHHRA provides a reasonable estimate of anticipated exposures for the specific receptors. The JW SSHHRA is based on receptor characteristics and exposure equations that are consistent with HC guidance for estimation of exposures.

[5] Acceptable risks from substances emitted refer to their regulatory level of risk as calculated using methods from Health Canada, US EPA, and WHO guidance documents.

Certain issues were identified in the review of the exposure assessment as follows:

- The assumed air concentrations were not provided in the JW SSHHRA. In subsequent correspondence with JW, the assumed air concentrations for Normal Operations and Upset conditions were provided for our consideration. These were absolutely necessary to determine the integrity of the resulting calculations.
- The assumed exposure point concentrations for certain chemicals were not provided in the JW SSHHRA (e.g., many of the PAHs). In subsequent correspondence with JW, the assumed exposure point concentrations were forwarded to our team. These were absolutely necessary to determine the integrity of the resulting calculations.
- Our initial assessment of the rates of fish and wild game consumption was that they were too low. In subsequent correspondence with JW, we were informed that these have been revised and greater consumption rate has now been assumed that is more representative of upper bound consumption. JW has indicated that it is unlikely that such a revision of intake from this pathway will result in any change in conclusions about risk (i.e., risks will still be well below the acceptable level).
- Communications with JW has indicated that the potential for additional chemicals in breast milk will be discussed in the final SSHHRA.
- Communications with JW has indicated that the significance of slightly higher soil ingestion rates will be discussed in the final SSHHRA.

We note that the expected increase in the concentration of chemicals of concern in air, soil, plants and animals attributable to the proposed facility is very small and is not likely not be detectable from current background conditions. This is of particular importance when considering environmental measurements of chemicals of concern as a form of facility operations surveillance.

Overall, it appears that exposure assessment was appropriately completed and is unlikely to underestimate exposures that persons would experience from the facility. We note again that the methods used to estimate exposure point concentrations were not part of the current review. We have assumed, therefore, that the exposure point concentrations presented provide reasonable estimates of environmental concentrations. If other reviewers identify issues with the predicted exposure point concentrations, our conclusions on the adequacy of the exposure assessment would need to be re-visited.

Does the SSHHRA toxicity assessment accurately estimate the potency of the substances?

The toxicity assessment provides a reasonable estimate of the toxicological potency of the substances of concern. Many agencies provide toxicological reference values (TRVs) and for all chemicals of concern, TRVs were identified from MOE, HC, Environment Canada, Alberta Environment, US EPA, WHO, California EPA and Texas Commission on Environmental Quality, Agency for Toxic Substances and Disease Registry (ATSDR) and the Netherlands Institute of Public Health and the Environment (RIVM).

No pre-defined toxicological hierarchy was used to identify toxicological reference values (i.e., the SSHRA was not based on any predetermined rules that one health agency was preferable to another). Instead, TRVs were selected on a chemical-by-chemical basis. Where appropriate, TRVs were identified for short-term (1 hour and 24 hour exposures) and long-term (continuous exposure for a lifetime).

Emphasis was placed on use of inhalation TRVs to evaluate inhalation routes and oral TRVs to evaluate oral and dermal exposures. This is considered to be consistent with health agency guidance. We consider the approach used by JW acceptable. Although any number of TRVs is available for the same substance, we are not aware of any other values that should have been used and that could have changed the overall conclusions. Notwithstanding the above, certain issues were identified in the review of the toxicity assessment:

- The toxicological reference value for benzene in Table 7-3 was 100 times lower than reported in the Appendix H. However, the correct value (value cited in Appendix H) was used in the JW SSHHRA calculations.
- For criteria pollutants $PM_{2.5}$, SO_2, NO_2 and CO, Health Canada (2004)[6] provides an approach for estimation of *mortality effects* rather than toxicity effects beyond a straight comparison to criteria. In subsequent correspondence, JW stated that consideration of mortality effects would not impact the SSHHRA and has indicated that the rationale for lack of consideration of such effects will be provided in a revised report.
- In some cases, acute toxicity reference values were found to be lower than chronic values (e.g., mercury); however, this was mostly due to variations in approaches by different health agencies and will not influence the SSHHRA results significantly.
- Communications with JW has indicated that the significance of the MOE reference dose for lead (1.8 µg/kg bw/day) will be discussed in the final SSHHRA; however, the conclusions of the SSHRA are not expected to change with this revision. It is also noted that the TRV for lead is currently under review by HC but to date, there is no official position from HC on this. In addition, the exposure that persons in the vicinity of the proposed facility are predicted to be very minor compared to typical non-facility sources of exposure.

Overall, we are not aware of any other TRVs that should have been used and which would have resulted in distinctly contradictory conclusions from those presented in the SSHHRA.

Does the SSHHRA risk characterization accurately represent health risks?

The results of the SSHHRA are considered to accurately represent health risks. Health risks for evaluation of non-carcinogens were presented as Hazard Quotient (HQ) values (acceptable HQ = 0.2 for most chemicals) while risks for carcinogens were provided as Incremental Lifetime Cancer Risks (acceptable Incremental Lifetime Cancer Risk of 1×10^{-6}). This is the usual technical nomenclature to express risks in SSHHRAs.

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[6] Health Canada. 2004. Estimated Number of Excess Deaths in Canada Due to Air Pollution. Health Canada, Ottawa, Ontario.

Key Findings

These are the key findings of this review:

- Risk estimates appear to be accurately estimated.
- Although certain changes to certain exposure assumptions are planned for the final HHRA (e.g., rate of fish/wild game consumption) and will alter the risk estimates provided, we consider it unlikely that these changes would alter the overall conclusions of the SSHHRA.
- Although certain risk estimates in Tables 7-15 and 16 are termed "acute", JW provides some of these risk estimates for chronic exposure durations. Communications with JW indicate that these risk estimates will be revised accordingly for the final SSHHRA.
- Communication with JW indicates that the management of "upsets" (facility upset conditions) will be further discussed. We have no criticism of the resulting risks as presented.
- Communications with JW indicate that the risks from mixtures will be further discussed.
- Although *baseline risks* are elevated above HQ values of 1 and Lifetime Cancer Risk estimates of 1×10^{-6}, the increased risks that are estimated from the proposed facility are considered to be acceptable and much lower than these values. In all cases, the concentrations attributed to the project alone and the upset conditions situations scenarios forecast that exposures will be well below acceptable toxicological reference values, and therefore present no unacceptable risks.
- In some cases, HQ values from background sources are greater than 1 and Lifetime Cancer Risks are greater than 1×10^{-6}. However, such scenarios do not mean that absolutely no additional exposures can occur (at least from a regulatory perspective). Instead, health agencies and scientists tend to evaluate issues on a chemical specific "case-by-case" basis. In the case of PCDD/Fs and PCBs, these are the chemicals contributing the greatest background risks; however, the increased exposure from the facility for these chemicals is quite minor by comparison (on the order of 0.5% increase of total exposures - see Table 7-34) and such values do not increase risk significantly. From the scientific perspective, these small increased risks are considered trivial because the greatest component of risk is from non-facility sources (i.e., food).

Summary

Overall, our review supports the findings of the SSHHRA. Our key findings are highlighted below:

- The key receptors, chemicals and exposure pathways have been evaluated.
- The methods used to estimate exposures are considered appropriate.
- The toxicological reference values used are reasonable and drawn from a variety of reliable international sources.
- The risk characterization results are defensible.

Conclusions

We consider this SSHHRA satisfactory. Although it would be possible to use different receptor characteristics, exposure assumptions and toxicological reference values, we consider it unlikely that the overall conclusions of the SSHHRA would change.

In most cases, we expect the proposed installation will not provide any appreciable change in the concentration of chemicals in air, soil, dust, water or food. For example, the maximum Ground Level Concentration of $PM_{2.5}$ on an annual basis is expected to be increased by 0.022 $\mu g/m^3$ versus a current baseline concentration of 9.8 $\mu g/m^3$. This, in our opinion, is insignificant from a health risk perspective. Similarly, the projected increases in the concentration of metals, PAHs, PCDD/Fs, PCBs and other chemicals are very minor relative to current concentrations and would not result in unacceptable health risks.

In the case of the need for monitoring of environmental media, this is considered to be useful and is recommended under some circumstances. The modelers have predicted that the facility will not appreciably contribute to increased concentrations in the environment. Air and soil monitoring is recommended to ensure compliance. However, if concentrations are found to be greater than those assumed in the HHRA, additional flora and fauna monitoring will help to reassure that human health is protected and may also alleviate some of the concern in the general public.

Overall, this review team holds the opinion that this industrial installation, if it performs as specified and assumed in this SSHHRA, will not pose unacceptable risks to persons in the vicinity of the site, and by extension, to those residents beyond. Said differently, this installation as proposed is not likely to pose a public health risk.

Surveillance Issues and Recommendations

Stakeholders have different knowledge, perspectives, professional and lay opinions about what constitutes the proper oversight for an EFW facility as proposed for Durham Region and to be located in Clarington. The calls for public health surveillance once focused on "human biological monitoring". Two reports were commissioned. The first[7] was a review of health studies and potential health effects associated with energy from waste facilities derived from the published literature of studies of communities around energy from waste facilities. Results indicated that there was no evidence for or against actual impacts. The second[8] examined the surveillance practices around the world related to energy from waste facilities, and the role of biological monitoring as a surveillance tool for these facilities. Results indicated that best practices pointed to stack monitoring as the most prevalent practice, followed by environmental monitoring (air, soil), and less frequently on flora or fauna monitoring. Only one country had engaged in human biological monitoring, with some ambiguity as to

[7] Smith LF. Energy from Waste Facility in the Region of Durham September 28, 2007

[8] JW. Final Report: Review of International Best Practices of Environmental Surveillance for Energy-From-Waste Facilities. February 16, 2009

whether the objective of the human-focused programs was specifically for facility monitoring, research, or to satisfy public concern.

Regional stakeholders continue to press for additional reassurances about the health and environmental impacts of this facility. A number of environmental surveillance options have been discussed, including "ground truth" measurements of stack emissions at the pathway level (i.e., soil, air concentrations) for three years, and fauna and flora monitoring. The results of the JW Best Practices Review indicates that the most prevalent practices involve upstream monitoring of facility operations (stack and air emissions), supplemented by air, soil, and rarely, fauna and flora monitoring under some circumstances.

All considered, for this EFW facility, the recommended monitoring of stack, air, soil and environmental monitoring will provide sufficient sentinel signals to protect public health. The addition of a three year period of environmental monitoring will indicate whether new approaches should be taken for additional surveillance or for additional restrictions on the facility. As part of this additional monitoring, further checking of emissions impacts at the receptor level (i.e., flora and fauna) will not add value to the pathway level measurements unless there is evidence of repeated excursions in emissions above what the SSHHRA and the facility operator predict. The biological monitoring of fauna is the wild animal version of testing human "receptors" for chemicals emitted by the facility. If this is done as part of a planned early monitoring, then it means that there may be an expected failure of upstream monitoring of the facility itself. In similar fashion, the use of humans as sentinel monitors of facility operations represents an acceptance of failure of upstream emissions and operations monitoring. Flora and fauna, and human testing are not good sentinels of current operations.

Notwithstanding, monitoring environmental media is considered useful and is recommended under circumstances as follows. The modelers have predicted that the facility will not appreciably contribute to increased concentrations in the environment. However, if concentrations are found to be greater than those assumed in the HHRA, flora and fauna monitoring will help to reassure that human health is protected and may also alleviate some of the concern in the general public.

Although the act of sampling and chemical analysis of human tissues such as blood or urine is relatively easy, there are more difficult challenges in entertaining human testing. Among these challenges are: 1. the use of humans as sentinels to test exposure hypotheses which are predicted by the SSHHRA to be below a significant signal; 2. The methodological challenges of obtaining large groups to examine given the very low level of exposure forecast; 3. the ethical issues of selective participation, individual interpretation and potential demand of the use of results for diagnostic, prognostic or therapeutic purposes. Interpretation of the significance of individual results is available for a limited number of substances and not for the vast majority of chemicals of concern. For these important reasons, ethical and medical, human biological monitoring is not recommended as a facility surveillance tool in this circumstance.

Communities may expect the Medical Officer of Health to provide ongoing relevant health information as required by the Ontario Public Health Standards and Protocols[9]. Details of what the public expects outside the Standards may be explored through community consultations or other sources of data gathering about community residents accessible to local public health agencies or as considered appropriate by the Medical Officer of Health.

[9] Health Protection and Promotion Act, RSO 1990, c. H. 7

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Health Impact Evaluation and Issues Management

July 24, 2009

Dr. Robert Kyle
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Re: JW SSHHRA Technical Study Report; Durham-York – for the 400 kiloton facility and the Final Report of the Residual Waste EA Study. July 24, 2009.

Dear Doctor Kyle,

In accordance with your mandate, we are following up on our memo to you of June 8, 2009 with an update consisting of our review of the JW SSHHRA Technical Study Report no 100009497 (the 400kton update) of June 24, 2009.

As with our previous report to you, the detailed review of the draft Site Specific Human Health Risk Assessment (SSHHRA) (JW report dated June 11, 2009) was carried out by Ross Wilson, experienced risk assessor and certified toxicologist of the American Board of Toxicology. Mr. Wilson and I communicated with Dr. Chris Ollson of JW/Stantec by e-mail on 15 July 2009, with comments to which he responded on 16 July 2009 that our comments would be addressed to the best of their ability in the Final Report to be available on July 24, 2009 for submission to the Ontario Ministry of Environment (MOE).

Our comments to Dr. Ollson are summarized as follows:

- Risks from dioxin-like PCBs need more rationale
- Discussion on why phthalates are mentioned in certain appendices but not in the main report
- Discussion on whether Acrolein will be added to the monitoring program

- Discussion on expected frequency that hazard quotients (HQs) will be above 1 for certain substances
- Worked example for dioxin exposures resulting in HQ above 0.2 should be provided.
- The tolerable daily intake (TDI)for PCBs should be further discussed
- The TCDD concentrations provided in Table 6-2 should be clarified.

Overall, based on the assumption that all issues above are adequately addressed, this review team holds the opinion that this industrial installation, if it performs as specified and assumed in this SSHHRA, will not pose unacceptable risks to persons in the vicinity of the site, and by extension, to those residents beyond. Said differently, this installation as proposed will not pose an unacceptable public health risk.

Once we receive the revised report, we will be in a better position to provide a recommendation on whether or not the report should be considered acceptable. If appropriate responses are provided, we anticipate that the report should be considered acceptable.

The above constitutes our team deliberations since June 24, 2009. We intend to write you another follow up memorandum confirming responses to our comments once the July 24th Report is available to us and we have had the opportunity to check on our concerns.

Lesbia F. Smith, MD
Ross Wilson, MSc, DABT

Health Canada / Santé Canada

Safe Environments Program
Regions and Programs Branch, Health Canada
1505 Barrington Street, Suite 1817
Halifax, NS B3J 3Y6

October 13, 2009

ON-2009/10-007

Gavin Battarino
Project Officer
Ontario Ministry of the Environment
2 St. Clair Ave. W.
Toronto, ON
M4V 1L5

Subject: Health Canada's Response – Site-Specific Human Health and Ecological Risk Assessment – Technical Study Report – Durham-York Residual Waste EA [Environmental Assessment] Study[1]

Dear Gavin:

Thank you for your August 24, 2009 email requesting Health Canada's comments on the above-mentioned document. Health Canada has reviewed the Human Health Risk Assessment (HHRA) component of report[1] and supporting appendices (Appendices A - I) and is providing the following comments for your consideration.

Assessment of Aluminum

- *Table 4-2 (COPC Considered for the Human Health and Ecological Risk Assessment)* – Aluminum is listed as a contaminant of potential concern (COPC) in Appendix C-1, however, it is not assessed in the risk assessment report.
    - Please provide an explanation as to why aluminum was not included in the risk assessment.

Toxicity Reference Value (TRV) Selection

Disclaimer/Caveat for *Table 7-2 (Summary of TRVs and Inhalation Benchmarks Selected for [criteria air contaminants] CACs in the HHRA), Table 7-3 (Inhalation TRVs and Inhalation Benchmarks for Selected COPC)* and *Table 7-5 (Oral TRVs for Selected COPC)* – Health Canada reviewed Health Canada values selected for use in the assessment and also the parameters for which Health Canada values were identified In Appendix H but not used in the assessment. Health Canada did not review for accuracy the values from other jurisdictions used in the assessment.

[1] Jacques Whitford Ltd. 2009. Site-Specific Human Health and Ecological Risk Assessment – Technical Study Report – Durham York Residual Waste EA Study. Dated July 31, 2009.

Sent by e-mail to: gavin.battarino@ontario.ca

- *Table 7-3 (Inhalation TRVs and Inhalation Benchmarks for Selected COPC) – Benzo(a)pyrene* – The World Health Organization (2000) TRV of 0.087 $(\mu g/m^3)^{-1}$ was used instead of Health Canada's inhalation risk unit of 0.031 $(mg/m^3)^{-1}$ (Health Canada, 2004b). Health Canada would prefer the use of the more recent Health Canada value, and since all carcinogenic PAH values are based on the toxic equivalency (TEQ) to benzo(a)pyrene, this value would have implications with respect to the potential health effects associated with all carcinogenic PAHs that have been assessed using the TEQ method.
    - Health Canada recommends that Canadian TRVs be used preferentially over TRVs from other jurisdictions (Health Canada, 2004a). Please consider using Health Canada's inhalation risk unit value for benzo(a)pyrene instead of the WHO (2000) TRV, and re-assess the human health risks for the carcinogenic PAHs that were assessed using the benzo(a)pyrene TEQ.

- *Table 7-3 (Inhalation TRVs and Inhalation Benchmarks for Selected COPC)* – When converting from an oral TRV to an inhalation TRV, an adult body weight of 70.7 kg and an adult inhalation rate of 15.8 m^3/day were used. HC suggests using a toddler exposure (for non-carcinogens) with a body weight of 16.5 kg and an inhalation rate of 9.3 m^3/day because the toddler is a more sensitive receptor with respect to non-carcinogens. This would apply to the following substances:

    1,2,4,5-tetrachlorobenzene (Appendix H Toxicological Profiles – Section 13.3.2.1.2)
    2,3,4,6-tetrachlorophenol (Appendix H Toxicological Profiles – Section 15.3.2.1.2)
    Biphenyl (Appendix H Toxicological Profiles – Section 24.3.2.1.2)
    Dioxin TEQ (Appendix H Toxicological Profiles – Section 36.3.2.1.2)
    Phosphorus (Appendix H Toxicological Profiles – Section 48.3.2.1.2)

    Using HC's suggested approach, a comparison of values would be:

Substance	**Adult TRV**	**Toddler TRV**
1,2,4,5-tetrachlorobenzene	0.94 $\mu g/m^3$	0.37 $\mu g/m^3$
2,3,4,6-tetrachlorophenol	44.7 $\mu g/m^3$	17.7 $\mu g/m^3$
Biphenyl	224 $\mu g/m^3$	88.7 $\mu g/m^3$
dioxin TEQs	10.3 pgTEQ/m3	4.08 pgTEQ/m3
phosphorus	6.4×10^7 $\mu g/m^3$	2.54×10^7 $\mu g/m^3$

    - Therefore, please consider using the toddler inhalation and body-weight values when converting an oral TRV to an inhalation TRV as this is more conservative.

- *Table 7-5 (Oral TRVs for Selected COPC)* – Health Canada (2004b) values differ from several values used in the assessment. These are presented in the table below. For arsenic and total chromium, no justification was provided in the HHRA or in Appendix H as to why Health Canada values were not used.
    - Health Canada recommends that Canadian TRVs be used preferentially over TRVs from other jurisdictions (Health Canada, 2004a). Health Canada would suggest that Health Canada (2004b) values (where available) be used, or if other values are used, that justification be provided for using the selected values.

Sent by e-mail to: gavin.battarino@ontario.ca

Substance	Health Canada Value (mg/kg-bw-day) for non-carcinogens or $(mg/kg\text{-}bw/day)^{-1}$ for carcinogens	Value reported in Table 7.5 (mg/kg-bw/day) for non-carcinogens or $(mg/kg\text{-}bw/day)^{-1}$ for carcinogens	Justification Provided?
Arsenic (slope factor)	2.8	1.5	No justification provided for why USEPA (1998a) value selected over Health Canada (2004b) value
Barium (non-carcinogenic TRV)	0.016	0.2	Appendix H indicates that the value selected is based on more recent data
Boron (non-carcinogenic TRV)	0.0175	0.2	Appendix H indicates that the value selected is based on more recent data
Cadmium (non-carcinogenic TRV)	0.0008	0.0005	Appendix H indicates that the lowest value was selected
Total Chromium (non-carcinogenic TRV)	0.001	1.5	No justification provided for why USEPA (1998b) value selected over Health Canada (2004b) value
Lead (non-carcinogenic TRV)	0.0036	0.00185	Appendix H indicates that the value selected was the most conservative value

Calculation of Concentration Ratios (CRs)

- *Table 7-10 (Maximum Concentration Ratio (CR) Values using Baseline Ground Level Air Concentrations for CACs)* – The maximum identified concentrations as presented in Section 5.2.1 (*Baseline Ambient Air Quality Results*) were not used when deriving the CR values in Table 7-10. Instead, the 90th percentile values for the CACs (SO_2, NO_2, CO, $PM_{2.5}$ and total PM) were used in calculating the CRs. Section 3.3.1 states that "*to ensure a conservative estimate of risk, the maximum air concentration from a location within each receptor grouping was used to calculate the level of risk for the entire grouping*" (this statement is actually in reference to predicted future concentrations, however, it would be appropriate to compare maximum predicted to maximum identified baseline concentrations).
    - Please indicate the rationale for the selection of the 90th percentile value instead of the 95th percentile or maximum, as this may have an impact on the overall baseline CRs.

- *Table 7-13 (Maximum Concentration Ratio (CR) and Lifetime Cancer Risk (LCR) Values using Baseline Ground Level Air Concentrations for Chemical Mixtures)* – This table presents CRs for groups of substances with similar toxic effects. However, some of the substances that are in these categories do not have baseline data, and thus it is unclear how these values can be

derived. For example, for eye irritants, Table 7-9 indicates that ammonia, dichlorobenzene, ethylbenzene, naphthalene, selenium, toluene and xylenes are eye irritants. However, there are no baseline CRs for ammonia, no 1-hour CR for naphthalene, and no 24-hour CR for dichlorobenzene or toluene. It is unclear how these values can be calculated given that data is missing that could have an impact on the totals presented.

- Please provide a discussion about the appropriateness of summing CRs for substances with similar toxic endpoints given that data for specific substances in each grouping is missing.

Commercial/Industrial Receptor Characteristics

- *Section 7.3.3 (Receptor Screening)* indicates that residents, farmers, daycare/schools, recreation users and additional exposures via swimming and hunting and angling are the receptors assessed in the risk assessment, however, in Appendix F commercial/future development scenario is assessed for inhalation but not for the multi-pathway risk assessment. *Section 7.12.1.1 (400,000 tonnes per year (tpy) Operational Cases – Inhalation Risk Assessment Criteria Air Contaminants (CACs))* indicates that for the Process Upset Case, the maximum 1-hr concentration of hydrogen chloride modelled at the Commercial/Industrial receptor group resulted in a CR value of 1.0. There is no discussion about the specific receptor characteristics (e.g. exposure frequency, exposure time), the location of the receptor (i.e. on-site or off-site at another commercial/industrial facility) and the rationale for assessing this receptor in the inhalation risk assessment and not in the multi-media risk assessment. Given that the exposure duration is not known, it is not possible to determine the conservativeness in the modelling or the appropriateness of the result of the assessment (e.g. a CR of 1.0 for inhalation of hydrogen chloride under the process upset case).
  - Please provide a discussion about the commercial/future development scenario and the commercial/industrial receptor group.

COPC Selection

- Appendix C, Table 2-2 (*Summary of Contaminants of Potential Concern*) – Several substances on this list do not appear to have been assessed in the report and no explanation is provided as to why they have been excluded. Appendix C, *Section 2.4 (Contaminants of Potential Concern)* states that "*some contaminants included in the CoPC list were not found to have appreciable emissions (e.g. styrene) and were not considered in the subsequent dispersion modelling assessment*". No discussion related to the determination of 'appreciable emissions' was found during Health Canada's review of Appendix C, and thus it is unclear how 'appreciable emissions' was defined/calculated.

  Since there are no federal or Ontario guidelines for some of the substances, Health Canada reviewed screening criteria from other jurisdictions to compare to the substances that were presented in Table 2-2 but not assessed. For example, a review of the Texas Commission on Environmental Quality (TCEQ) (2008) identified short-term and long term effects screening levels (ESLs) that could be used as a screening tool for several of substances to compare to the predicted/modelled air concentrations to determine their inclusion/exclusion from the CoPC list. The applicable substances are presented in the following table.

Substance	Texas Short-term ESL (ug/m^3)	Texas Long-term ESL (ug/m^3)
chloronaphthalene, 2-	20	2
dimethylbenzo(a)anthracene 7,12-	0.5	0.05
methylanthracene, 2-	0.5	0.05
quinoline	5	0.5
M-terphenyl	50	5
P-terphenyl	50	5
butanone, 2-	3900	390 (odour)
cumene	100	10 (odour)
dibromochloromethane	20	2
dichloroethane, 1,2-	16	4
dichloropropane, 1,2-	1150	150 (odour)
mesitylene	1250	125
trichlorotrifluoroethane	38000	2800
di(2-ethylhexyl) phthalate or DEHP	50	5

The other substances that were omitted from the assessment that did not have a screening level identified in the TCEQ included: coronene, dibenzo(a,e,)pyrene, dimethylanthracene, 9,10-; methylphenanthrene, 1-; methylphenanthrene, 9-; picene; triphenylene; dichloroethane, trans 1,2-; and phosphorus pentachloride. Health Canada did not conduct an extensive review of screening levels from other jurisdictions (such as the California Environmental Protection Agency or international sources) and thus, screening criteria for these substances may exist.

- Please provide a discussion about how and why these substances were screened out from further assessment.

Editorial Comments

- *Table 4-2 (COPC Considered for the Human Health and Ecological Risk Assessment)* – Bromoform is assessed as both a carcinogen and a non-carcinogen in the report, but this is not indicated in the Table (i.e. it should read "Bromoform (tribromomethane)[b]" with the "b" footnote).

- *Table 4-2 (COPC Considered for the Human Health and Ecological Risk Assessment)* – Carbon monoxide (CO) is not listed in Table 4-2 as a criteria air contaminant (CAC) chemical of potential concern (COPC); however, it is assessed in the report.

- *Section 5.2.1 (Baseline Ambient Air Quality Results)* – Baseline CO results (presented in Appendix A) are not presented in this section. Health Canada suggests that there be a discussion of baseline CO results in this Section.

- *Section 5.2.1.2 – NO2 – "The measured annual NO_2 level at the Courtice Road station was similar to that in other urbanized area of Ontario such as Toronto...and was well below the annual national ambient air quality objectives (NAAQO) maximum desirable level of 60 $\mu g/m^3$".* Please present the annual average for NO_2 in this Section.

- Page 180, Local Farmers, Farmer – Infant – first sentence – "famer" should read "farmer".

- Appendix G – there are no inhalation rates presented in the receptor characteristics tables. Please present the inhalation rates for each of the receptor groups assessed in the report in the receptor tables in Appendix G.

References

Health Canada. 2004a. Federal Contaminated Risk Assessment in Canada Part I: Guidance on Human Health Preliminary Quantitative Risk Assessment (PQRA). Health Canada, Environmental Health Assessment Services, Safe Environments Programme.

Health Canada. 2004b. Federal Contaminated Site Risk Assessment in Canada. Part II: Health Canada Toxicological Reference Values. Environmental Health Assessment Services Safe Environments Programme, Health Canada. Available at: http://www.hcsc.gc.ca/ewhsemt/alt_formats/hecssesc/pdf/pubs/contamsite/part-partie_ii/part-partie_ii_e.pdf

Health Canada. 2006. Regulations Related To Health And Air Quality. Health Canada. Available at: http://www.hc-sc.gc.ca/ewh-semt/air/out-ext/reg_e.html.

Texas Commission on Environmental Quality. 2008. September 2008 Effects Screening Levels. http://www.tceq.state.tx.us/implementation/tox

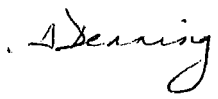
US EPA (United States Environmental Protection Agency). 1998a. Integrated Risk Information System (IRIS) Database: Arsenic, inorganic (Carcinogenicity Assessment). Last revised 04/10/1998. Available on-line at: http://www.epa.gov/iris/

US EPA. 1998b. Integrated Risk Information System (IRIS) Database. Available on-line at: http://www.epa.gov/iris/. United States Environmental Protection Agency.

WHO (World Health Organization). 2000. Air Quality Guidelines for Europe: Second Edition. WHO Regional Publications, European Series, No. 91.

If you have any additional comments/questions, please contact the undersigned at your convenience.

Sincerely,



Allison Denning,
Regional Environmental Assessment Coordinator
Health Canada, Atlantic Region
Phone: (902) 426-5575
Fax: (902) 426-4036

cc: Tom Ferris, Manager, Safe Environments Program, Health Canada, Atlantic Region
Gregory Kaminski, Senior Environmental Health Assessment Advisor, Health Canada
Melanie Lalani, Regional Environmental Assessment Coordinator, Ontario Region

Chippewas of RAMA
First Nation

5884 Rama Road, Suite 200
Rama, Ontario L0K 1T0
T 705.325.3611 F 705.325.0879

A Proud Progressive First Nation Community

August 5, 2009

The Region of Durham
605 Rossland Road East
Whitby, Ontario
L1N 0B7

Attention: Melody Smart

Re: Durham/York Residual Waste Study

Dear Ms. Smart:

On behalf of Council and myself, I acknowledge receipt of five volumes of Environmental Assessment Study Documents for the Durham/York Residual Waste Study.

We are returning the five volumes for your files. We have removed the enclosures included in the front of Volume 1 and the disk containing all five volumes of the Environmental Assessment Study Documents. We will forward this information to Karry Sandy-McKenzie, Barrister & Solicitor, Coordinator for Williams Treaties First Nations for further review and response directly to you. Ms. Sandy's address is 8 Creswick Court, Barrie, ON L4M 2J7 and her telephone number is (705) 792-5087.

We appreciate your taking the time to share this important information with us.

Sincerely,

Chief Sharon Stinson Henry

c: Council, Rama First Nation
Sheri Wilson, Associate General Counsel
Karry Sandy-McKenzie, Barrister & Solicitor
Chief Rodney Monague Jr., Portfolio Chief for Williams Treaty Nations

SSH/as

ACKNOWLEDGEMENT OF RECEIPT

For the Durham and York Residual Waste Study Environmental Assessment

Date Received
Aug. 6, 2009

UPON RECEIPT, PLEASE COMPLETE BOXES/BLANK LINES AND RETURN BY FAX TO:

Ministry of the Environment
Environmental Assessment and Approvals Branch
Attn: Gavin Battarino, Project Officer
2 St. Clair Avenue West, Floor 12A
Toronto, ON M4V 1L5
TEL.: (416) 314-8214
FAX: (416) 314-8452
gavin.battarino@ontario.ca

Proponent: The Regional Municipalities of Durham and York
Title: The Durham and York Residual Waste Study Environmental Assessment
EA File No.: 04-EA-02-08

Agency: Environment Canada, EA Section

Reviewer: Rob Dobos, Manager, EA Section

Tel. No.: (905) 336-4953 **Fax No.:** (905) 336-8901

E-mail: rob.dobos@ec.gc.ca

Please check the appropriate box:

[ ] We will be able to provide comments to the Environmental Assessment and Approvals Branch by: **September 25, 2009** (please note that comments received after this date may not be considered in the approval process)

[ ] We are satisfied with the Environmental Assessment. Please keep us informed about the proposal.

[✓] We have no comments and do not require any further involvement with this proposal.

Additional Comments:

Rob Dobos 13/10/09

Signature

ACKNOWLEDGEMENT OF RECEIPT

For the Durham and York Residual Waste Study Environmental Assessment

Date Received

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Proponent: The Regional Municipalities of Durham and York
Title: The Durham and York Residual Waste Study Environmental Assessment
EA File No.: 04-EA-02-08

Agency: Durham Region Health Department

Reviewer: Dr. Robert Kyle, Commissioner & Medical Officer of Health

Tel. No.: 905-668-7711 ext. 3110 **Fax No.:** 905-666-6229

E-mail: robert.kyle@durham.ca

Please check the appropriate box:

[✓] We will be able to provide comments to the Environmental Assessment and Approvals Branch by: **September 25, 2009** (please note that comments received after this date may not be considered in the approval process)

[ ] We are satisfied with the Environmental Assessment. Please keep us informed about the proposal.

[ ] We have no comments and do not require any further involvement with this proposal.

Additional Comments:

I prepared Report # 2009-COW-01, based on comments received by my peer reviewers (Dr. Lesbia Smith and Mr. Ross Wilson). My recommendations were endorsed by Durham and York Regional Councils (recommendation b)iv) was modified) on June 24 and 25, 2009, respectively. On July 24, 2009, I received additional advice re: 400,000 tonne capacity scenario from my peer reviewers.

RKyle.
Signature

ACKNOWLEDGEMENT OF RECEIPT

For the Durham and York Residual Waste Study Environmental Assessment

Date Received

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Proponent: **The Regional Municipalities of Durham and York**
Title: **The Durham and York Residual Waste Study Environmental Assessment**
EA File No.: **04-EA-02-08**

Agency: Durham Region Health Department

Reviewer: Dr. Robert Kyle, Commissioner & Medical Officer of Health

Tel. No.: 905-668-7711 ext. 3110 **Fax No.:** 905-666-6229

E-mail: robert.kyle@durham.ca

Please check the appropriate box:

[✓] We will be able to provide comments to the Environmental Assessment and Approvals Branch by: **September 25, 2009** (please note that comments received after this date may not be considered in the approval process)

[ ] We are satisfied with the Environmental Assessment. Please keep us informed about the proposal.

[ ] We have no comments and do not require any further involvement with this proposal.

Additional Comments:

I prepared Report # 2009-COW-01, based on comments received by my peer reviewers (Dr. Lesbia Smith and Mr. Ross Wilson). My recommendations were endorsed by Durham and York Regional Councils (recommendation 6)iv) was modified) on June 24 and 25, 2009, respectively. On July 24, 2009, I received additional advice re: 400,000 tonne Availability scenario from my peer reviewers.

RKyle.
Signature

ACKNOWLEDGEMENT OF RECEIPT

For the Durham and York Residual Waste Study Environmental Assessment

Date Received
August 6, 2009
by TRCA

UPON RECEIPT, PLEASE COMPLETE BOXES/BLANK LINES AND RETURN BY FAX TO:
Ministry of the Environment
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Proponent: **The Regional Municipalities of Durham and York**
Title: **The Durham and York Residual Waste Study Environmental Assessment**
EA File No.: **04-EA-02-08**

Agency: TORONTO + REGION CONSERVATION AUTHORITY

Reviewer: JUNE MURPHY

Tel. No.: 416 661 6600 ext 5304 | **Fax No.:** 416 661 6898

E-mail: jmurphy@trca.on.ca

Please check the appropriate box:

[ ] We will be able to provide comments to the Environmental Assessment and Approvals Branch by: **September 25, 2009** (please note that comments received after this date may not be considered in the approval process)

[✓] We are satisfied with the Environmental Assessment. Please keep us informed about the proposal.

[ ] We have no comments and do not require any further involvement with this proposal.

Additional Comments:

Signature

ACKNOWLEDGEMENT OF RECEIPT

For the Durham and York Residual Waste Study Environmental Assessment

Date Received
RECEIVED
AUG 0 6 2009
MOH/DIR. P.H.

UPON RECEIPT, PLEASE COMPLETE BOXES/BLANK LINES AND RETURN BY FAX TO:

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gavin.battarino@ontario.ca

Proponent: **The Regional Municipalities of Durham and York**
Title: **The Durham and York Residual Waste Study Environmental Assessment**
EA File No.: **04-EA-02-08**

Agency: York Region Community and Health Services Department.

Reviewer: Helen Doyle, Manager Environmental Health

Tel. No.: 905 830 4444 x 4500 **Fax No.:** 905 895 3166

E-mail: helen.doyle@york.ca.

Please check the appropriate box:

[ ] We will be able to provide comments to the Environmental Assessment and Approvals Branch by: **September 25, 2009** (please note that comments received after this date may not be considered in the approval process)

[ ] We are satisfied with the Environmental Assessment. Please keep us informed about the proposal.

[✓] We have no comments and do not require any further involvement with this proposal.

Additional Comments:

E Weir

Signature

ACKNOWLEDGEMENT OF RECEIPT

For the Durham and York Residual Waste Study Environmental Assessment

Date Received

Aug 6/09

UPON RECEIPT, PLEASE COMPLETE BOXES/BLANK LINES AND RETURN BY FAX TO:

Ministry of the Environment
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Proponent: The Regional Municipalities of Durham and York
Title: The Durham and York Residual Waste Study Environmental Assessment
EA File No.: 04-EA-02-08

Agency: Central Lake Ontario Conservation Authority

Reviewer: Heather Brooks

Tel. No.: (905) 579-0411 ext 136 **Fax No.:** (905) 579-0994

E-mail: hbrooks@cloca.com

Please check the appropriate box:

[✓] We will be able to provide comments to the Environmental Assessment and Approvals Branch by: **September 25, 2009** (please note that comments received after this date may not be considered in the approval process)

[ ] We are satisfied with the Environmental Assessment. Please keep us informed about the proposal.

[ ] We have no comments and do not require any further involvement with this proposal.

Additional Comments:

Signature

ACKNOWLEDGEMENT OF RECEIPT

For the Durham and York Residual Waste Study Environmental Assessment

Date Received
August 6, 2009 by TRCA

UPON RECEIPT, PLEASE COMPLETE BOXES/BLANK LINES AND RETURN BY FAX TO:

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Proponent: **The Regional Municipalities of Durham and York**
Title: **The Durham and York Residual Waste Study Environmental Assessment**
EA File No.: **04-EA-02-08**

Agency: TORONTO + REGION CONSERVATION AUTHORITY

Reviewer: JUNE MURPHY

Tel. No.: 416 661 6600 ext 5304 | **Fax No.:** 416 661 6898

E-mail: jmurphy@trca.on.ca

Please check the appropriate box:

[ ] We will be able to provide comments to the Environmental Assessment and Approvals Branch by: **September 25, 2009** (please note that comments received after this date may not be considered in the approval process)

[✓] We are satisfied with the Environmental Assessment. Please keep us informed about the proposal.

[ ] We have no comments and do not require any further involvement with this proposal.

Additional Comments:

Signature

ACKNOWLEDGEMENT OF RECEIPT

For the Durham and York Residual Waste Study Environmental Assessment

Date Received
Aug 4/09

UPON RECEIPT, PLEASE COMPLETE BOXES/BLANK LINES AND RETURN BY FAX TO:

Ministry of the Environment
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Proponent: The Regional Municipalities of Durham and York
Title: The Durham and York Residual Waste Study Environmental Assessment
EA File No.: 04-EA-02-08

Agency: MOE Central Region

Reviewer: D. Moszynski

Tel. No.: 416-326-5745 **Fax No.:** 416-325-6347

E-mail: dorothy.moszynski@ontario.ca

Please check the appropriate box:

[X] We will be able to provide comments to the Environmental Assessment and Approvals Branch by: **September 18, 2009** (please note that comments received after this date may not be considered in the approval process)

[ ] We are satisfied with the Environmental Assessment. Please keep us informed about the proposal.

[ ] We have no comments and do not require any further involvement with this proposal.

Additional Comments:

Signature

ACKNOWLEDGEMENT OF RECEIPT

For the Durham and York Residual Waste Study Environmental Assessment

Date Received
AUGUST 7, 2009

UPON RECEIPT, PLEASE COMPLETE BOXES/BLANK LINES AND RETURN BY FAX TO:

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Proponent: The Regional Municipalities of Durham and York
Title: The Durham and York Residual Waste Study Environmental Assessment
EA File No.: 04-EA-02-08

Agency: MINISTRY OF ECONOMIC DEVELOPMENT & TRADE, INVESTMENT DIVISION

Reviewer: JOHN LANGLEY

Tel. No.: 416-325-8218 **Fax No.:** 416 325-6375

E-mail: JOHN.P.LANGLEY@ONTARIO.CA

Please check the appropriate box:

[ ] We will be able to provide comments to the Environmental Assessment and Approvals Branch by: **September 25, 2009** (please note that comments received after this date may not be considered in the approval process)

[ ] We are satisfied with the Environmental Assessment. Please keep us informed about the proposal.

[X] We have no comments and do not require any further involvement with this proposal.

Additional Comments:

I HAVE MOVED TO A NEW POSITION. MY SUCCESOR AND I FEEL THAT WE DO NOT HAVE A ROLE TO PLAY IN THESE EA'S AND SUGGEST THAT WE BE DELETED FROM YOUR LIST.

FEEL FREE TO CALL ME IF YOU WISH TO DISCUSS

Signature

TORONTO AND REGION Conservation
for The Living City

December 16, 2009 CFN: 36790

BY MAIL AND EMAIL (gavin.battarino@ontario.ca)

Gavin Battarino, Project Officer
Environmental Assessment and Approvals Branch
Ministry of the Environment
2 St. Clair Avenue, West, Floor 12A
Toronto, ON M4V 1L5

Dear Mr. Batttarino:

Re: Response to Notice of resubmission of an Amended Environmental Assessment
Durham/York Residual Waste Study
Individual Environmental Assessment (IEA)
MOE EA File No. 04-EA-02-08
Municipality of Clarington; Regional Municipality of Durham

On December 4, 2009 Toronto and Region Conservation Authority (TRCA) staff received notice of the resubmission of an amended Environmental Assessment (EA) for the Durham/York Residual Waste Study Individual Environmental Assessment.

TRCA staff understands that the preferred Energy from Waste (EFW) site for the thermal treatment facility will be operated on the "Clarington Parcel 01," which is located between Courtice Road and Osbourne Road, south of Highway 401 in the Municipality of Clarington. This preferred site is not within TRCA's jurisdiction; therefore, TRCA staff has no comments on the final EA document.

Should you have any questions please contact June Murphy, the TRCA Project Manager for this file, at 416-661-6600 extension 5304.

Sincerely,

June Murphy, B.A., M.A.
Planner II
Environmental Assessment Planning
Planning and Development

CM/

BY E-MAIL
cc:
Jim McKay, Stantec (jim.mckay@stantec.com)
Andrea Quinn, Study Co-ordinator (info@durhamyorkwaste.ca)
Mirka Januszkiewicz, Regional Municipality of Durham (mirka.januszkiewicz@region.durham.on.ca)
Laura McDowell, Regional Municipality of York (laura.mcdowell@york.ca)
Carolyn Woodland, TRCA, Director
Beth Williston, TRCA, Manager – EAs
Steve Heuchert, TRCA, Manager – Durham - West

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December 21, 2009

MEMORANDUM

TO: Gavin Battarino
Project Officer
Environmental Assessment and Approvals Branch

FROM: Victor Low, P.Eng.,
Director, Section 9, Environmental Protection Act

RE: York/Durham Residual Waste Study Environmental Assessment
EA FILE NO. 04-EA-02-08

Further to the comments provided to you in the letter dated September 25, 2009, and the subsequent amended Environmental Assessment (EA) submitted by the Regional Municipalities of Durham and York on November 27, 2009, please find below comments on the Air Quality Assessment included in the EA.

The documentation submitted has addressed some of the concerns raised in the letter dated September 25, 2009, and acknowledged that additional and/or detailed site-specific analysis will be submitted to the ministry in support of future approvals under Section 9 of the Environmental Protection Act (EPA).

In particular, an odour impact assessment for the worst case emissions scenario would be required, as well as an emissions inventory prepared in accordance with the requirements of O.Reg. 419/05. The odour impact assessment can build on any odour impact assessment that has been completed as part of the EA process, to demonstrate that adverse odour impacts are not likely to occur due to emissions from the proposed undertaking.

Furthermore, the EPA Section 9 Director reserves the right to request any new or additional information and/or analysis, as deemed necessary by the ministry, in support of issuing any future approvals under Section 9 of the EPA.

Should you have any further questions or concerns, please feel free to contact Sherif Hegazy, P.Eng., Senior Air Engineer, at (416) 212-4624.

Regards,

Victor Low, P.Eng.,
Director,
Section 9, Environmental Protection Act

c: Sherif Hegazy, P.Eng., Environmental Assessment and Approvals Branch

SH/

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December 21, 2009

TO: Gavin Battarino
Project Officer
Environmental Assessment and Approvals Branch

FROM: Header Merza
Air and Noise Unit

RE: NOISE REVIEW COMMENTS
DURHAM / YORK RESIDUAL WASTE STUDY
ENVIRONMENTAL ASSESSMENT
EA FILE NO. 04-EA-02-08
NOISE EA FILE NO. E-0030-09

This office was requested to review the noise aspects of the document "Durham / York Residual Waste Study, Environmental Assessment Study Document, Appendix C-5, Acoustic Assessment Technical Study Report" dated July 31, 2009, prepared by Jacques Whitford Stantec Limited.

A noise review letter was issued by this office on September 25, 2009 and a response letter was provided by the Regional Municipality of Durham on January 8, 2010.

The following are our comments on the January 8, 2010 response letter:

1. Only one noise review letter dated September 25, 2009 was issued by the EAAB. Any reference to other letters/dates such as September 16, 2009 should be deleted.

2. All existing residences, whether situated on lands zoned residential or zoned other designations should be considered as noise points of reception.

3. Ambient noise levels within the study area should be based on the MOE Exclusion Limits of Leq(1h) 50 dBA day & 45 dBA night in accordance with MOE Publication NPC-205. If higher ambient noise levels are to be used in lieu of the MOE Exclusion Limits, then such elevated sound levels should be supported by either noise predictions (in accordance with MOE Publication NPC-206) or noise measurements (in accordance with MOE Publication NPC-233). If noise measurements are used, then contributions from non-

vehicular traffic sources should be limited to facilities that are not undergoing municipal or provincial noise mitigation programs.

4. Acoustic Audits should be carried out for the two considered phases of the facility, namely 140 ktpy and 400 ktpy. Reference to other phases of the facility such as 150 ktpy and 250 ktpy should be deleted.

We trust the above review comments would be of assistance to you in processing this Environmental Assessment project.

If you have any questions, please contact the undersigned at 416-327-6575.

H. Merza

H. Merza, P.Eng.
Senior Noise Engineer

V. Low, P.Eng.
Supervisor, Air and Noise Unit

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December 18, 2009

MEMORANDUM

TO: Gavin Battarino
Project Officer
Environmental Assessment and Approvals Branch

FROM: Tesfaye Gebrezghi, P.Eng.,
Director, Section 39, Environmental Protection Act

RE: York/Durham Residual Waste Study Environmental Assessment
EA FILE NO. 04-EA-02-08

The technical reviewer in the Waste Unit of the Environmental Assessment and Approvals Branch has completed the detailed technical review of the above-noted Environmental Assessment (EA) submitted by the Regional Municipalities of Durham and York.

The undertaking, as defined by the Durham and York Residual Waste Study EA, is a thermal treatment waste management facility (Energy-From-Waste (EFW) facility) capable of processing 140,000 tonnes of post-diversion residual waste per year, recovering materials with potential beneficial uses and producing electricity and/or energy for in-plant use, delivery to the grid and for district heating/cooling.

The facility is to be located in the municipality of Clarington, in the east end of Durham Region, south of Highway 401 near Courtice Road and adjacent to the Darlington nuclear power plant. The site is owned by Durham Region and currently is surrounded by agricultural lands, commercial properties, and undeveloped land.

The proposed design and operational procedures for the site have been found compliant with the current Ministry's regulatory and policy requirements. The description of the proposed undertaking contains sufficient degree of detail, on a conceptual level, to allow the waste reviewer ascertain that the environmental impacts from the proposed waste management activities would comply with the Ministry's requirements. Although the conceptual design of the undertaking has been included in the EA, it is expected that additional technical details

will be included in the Part V application to ensure compliance with the Ministry's Part V of the *Environmental Protection Act* approval requirements.

Although the information requested below is not critical for consideration of the EA submission, it is identified as "outstanding" to ensure that it is given due consideration and included in the future Part V application:

1. Page 10-27 contains a description of the emergency situation procedure when both boilers are shutdown. The proposal is to purchase power from the utility company to operate the fans to provide negative pressure in the Tipping Building. However, the details of treatment of the odourous air exhausted from the building have not been included in the EA.

2. Page 10-28 contains a description of the high temperature combustion zone within the boiler/furnace combustion chamber. The expected combustion temperature as well as any supplementary fuel provisions should be further described. As the design and proposed operational conditions of this equipment are critical in ensuring that emissions of contaminants and odours are minimized, detailed information would need to be submitted in the future Part V application.

3. Page 10-40 contains references to floor trenches and a settling basin to collect and contain wastewater to be used for quenching residue in the ash discharges. The description of this system is too general. The locations of these floor trenches and the settling basin must be identified and shown on the floor plan. And the design of the settling basin, including any leakproofing provisions, as well as the expected wastewater quality must be described in the future Part V application.

Although, the review of the various versions of the EA has been a time-intensive effort, the waste reviewer noted a significant improvement in the content quality of the amended (November 27, 2009) EA document. The revisions did not only provide the necessary clarification of the site's proposed design and operational procedures but also included the required revisions to ensure that the proposal complies with the Ministry's requirements.

Should you have any further questions or concerns, please feel free to contact Margaret Wojcik, P.Eng., Senior Waste Engineer at (416) 314-7993.

Regards,

Tesfaye Gebrezghi, P.Eng.,
Director,
Section 39, Environmental Protection Act

c: Margaret Wojcik, P.Eng., Environmental Assessment and Approvals Branch

MW/

MEMORANDUM December 18, 2009

From: Jinliang (John) Liu, Senior Science Advisor on Climate Change, EMRB

To: Gavin Battarino, Project Coordinator, EAAB

RE: Review of the Amended Durham York Residual Waste Study Air Quality Assessment Technical Study Report

On September 24, 2009, Environmental Monitoring and Reporting Branch (EMRB) sent you a memorandum summarizing our review of the air dispersion modelling aspects of the Durham/York Residual Waste Study ("Project"). EMRB's review focused on the air dispersion modelling conducted by the proponent's modelling consultant, based on the 140,000 tonnes per year scenario. The EMRB review did not include a review of the emission estimates. Primary objectives of the EMRB review were to verify whether the modelling options selected were reasonable and whether the source characteristics were correctly transferred into the model input files. No significant issues, concerns or problems were identified, but specific comments on some minor issues were provided.

The proponent has since submitted an amended Project Report, which is now only for the proposed maximum design capacity of 140,000 tonnes of waste per year. EMRB has been requested to review the air dispersion modelling aspects of the amended Report contained in the following documents:

- Revisions to Air Quality Technical Assessment (December 10, 2009) (http://www.durhamyorkwaste.ca/pdfs/study/amended-ea-study-docs/Durham-York-AMENDED-AQ-Technical-Memo-12-03-09.pdf)
- Amended Appendix C-1 - Air Quality Assessment Technical Study Report, (December 10, 2009) (http://www.durhamyorkwaste.ca/pdfs/study/amended-ea-study-docs/Amended-Air-Quality-Report/1009497-06-DurhamYork-AQ-Technical-Report-Dec-04-2009.pdf)
- Amended Appendix C-1 – Appendix B: Emission Inventory (December 10, 2009) (http://www.durhamyorkwaste.ca/pdfs/study/amended-ea-study-docs/Amended-Air-Quality-Report/Appendix-B-Emission-Inventory-Dec-4-09-FINAL.pdf)
- Amended Appendix C-1 – Appendix D: CALPUFF Methodology (December 10, 2009) (http://www.durhamyorkwaste.ca/pdfs/study/amended-ea-study-docs/Amended-Air-Quality-Report/Appendix-D-CALPUFF-Dec-4-09-final.pdf)
- Amended Appendix C-1 – Appendix G: Deposition Predictions at Special Receptors (December 10, 2009) (http://www.durhamyorkwaste.ca/pdfs/study/amended-ea-study-docs/Amended-Air-Quality-Report/Appendix-G-G1-G4-Deposition-Predictions-Dec-4-09.pdf)

While I was the principal reviewer, other modellers from the EMRB also provided help during the review process.

EMRB Comments on the Air Dispersion Modelling Aspects of the Amended Project Report

The following are comments based on EMRB's review of the modelling aspects of the documents listed above:

- EMRB's review did not identify any significant issues with the air dispersion modelling aspects of documents listed above
- With regards to the comments included in our September 24, 2009 Memorandum mentioned above:

  - **The emission rate from the main stack has been corrected** in the model input for the PM2.5 model run for the "Facility+ On-site Traffic" scenario. The corrected model outputs have been incorporated into the amended report.
  - In the deposition model run reviewed by EMRB, the modelling consultant used the same EMRB-approved particle size of 2.5 microns for both dry and wet deposition estimates for particles although a different particle size of 1 micron was quoted for wet deposition estimate (Appendix D – CALPUFF Methodology of the Final Appendix C-1, Page D-50, 3rd bullet from the top). **This typo is still in the amended report on the same page.**
  - The emission rates listed in Table B3-5 of Appendix B - Emission Inventory of the Final Appendix C-1, do not agree with those listed in Table G1 of Appendix G - Deposition Predictions at Special Receptors, of the Final Appendix C-1, for at least the following compounds, acetaldehyde, bromodichloromethane, bromoform, carbon tetrachloride and ethylene dibromide. **This inconsistency still exists in the amended report.** As the proponent confirmed that the emission rates listed in Table B3-5 are correct and the emission rates listed in Table G-1 are higher. Therefore, the model results are more conservative if emission rates listed in Table G-1 were used.

It is anticipated that the amendments necessary to address our outstanding our comments on the minor issues would not change the general conclusion of the air dispersion modelling results.

As indicated in our previous memorandum, that the results of the reviews by Environmental Assessment and Approvals Branch and Central Region Technical Support staff on various aspects of the Environmental Assessment reports (i.e. emission estimates, traffic patterns, etc.) may potentially affect EMRB's review of the air dispersion modelling.

Please feel free to let me know if you have further questions on my review comments.

Jinliang (John) Liu

cc: Robert Bloxam, EMRB
Yvonne Hall, EMRB
Gary DeBrou, EMRB

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January 8, 2010

MEMORANDUM

TO: Gavin Battarino, Project Officer
Environmental Assessment and Approvals Branch

FROM: Aden Takar, Senior Scientist
Ecological Standards Section, Standards Development Branch

CC: Craig Kinch, Manager
Ecological Standards Section, Standards Development Branch

SUBJECT: Review of the amended Site Specific Human Health and Ecological Risk Assessment Report for the proposed Durham/York Residual Waste Processing Facility Prepared by Stantec

The purpose of this memorandum is to provide SDB's review comments on the ecological risk assessment (ERA) component of the amended site specific human health and ecological risk assessment technical study report for the proposed Durham/York residual waste processing facility prepared by Stantec dated November 27, 2009.

Overall, the ecological risk assessment is well presented and the proponent has appropriately responded to my previous review comments dated on July 7, 2009 and September 25, 2009 and I have no further comments.

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January 11, 2010

MEMORANDUM

TO: Gavin Battarino, Project Coordinator, EAAB

FROM: Samir Abdel-Ghafar, Regulatory Toxicologist

CC: Schroeder Julie, Manager, Human Toxicology and Air Standards
Barry Lubek, Supervisor, Human Toxicology, Standards Development Branch

SUBJECT: *Responses to Jacques Whitford (Stantec) responses dated December 4, 2009 to MOE comments dated October 19, 2009 on "Site Specific Human Health and Ecological Risk Assessment – Technical Study Report", Durham/York Residual Waste EA Study (Project No. 1009497), (Amended November 27, 2009)*

BACKGROUND

The following are the MOE comments to the proponent's responses included in the addendum dated December 4, 2009 to MOE's comments of October 19, 2009. The numbering of the comments that follow corresponds to that used in previous MOE reviews.

Comments on the Human Health Risk Assessment

Problem Formulation

1. The proponent indicated that the 400,000 t/y scenario is no longer included in the final report and has committed to conduct a new environmental study to support any increased capacity of the facility beyond 140,000 t/y that may occur in the future. Therefore, this comment and other comments addressing outstanding issues related to the 400,000 tonnes of waste/yr scenario are no longer relevant.

COPC Selection

8. Based on the summary of mercury data provided by the proponent, the response is reasonable and no further response is required.

Toxicity Assessment-TRV Selection

17. The response is reasonable and no further response is required.

Editorial Comments

24. The response is reasonable and no further response is required.

SUMMARY AND CONCLUSION

The proponent's responses adequately addressed the remaining MOE comments dated October 19, 2009. All MOE comments regarding outstanding issues identified for the 400,000 t/y scenario are no longer required as the 400,000 t/y scenario is no longer part of this RA. The proponent has committed, as required by O.Reg. 101/07, to conduct a new environmental study if any expansion is required in the future.

1. The response is reasonable and no further response is required.

PROVISO

The comments and conclusions presented in this review assume that the site description, facility description, and modelled air concentrations used in the site-specific risk assessment are accurate and appropriate and have been deemed satisfactory by other members of the review team, unless specifically noted. Our comments and conclusions apply only to the current or proposed use of the site, and to the receptors, exposure scenarios, and chemicals of concern assessed in this screening level risk assessment. New developments in toxicology and environmental sciences not available at the time of this review, inconsistencies raised by other MOE review team members, or changes in the selection of site use, receptors, or chemicals of concern may alter the comments and conclusions presented here.

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December 23, 2009

MEMORANDUM

TO: Jim McKay
Stantec

FROM: Gavin Battarino
Project Officer
Environmental Assessment and Approvals Branch

RE: Durham/York Residual Waste Study Environmental Assessment Study Document (as amended November 27, 2009)
EA FILE NO. 04-EA-02-08

The Ministry of the Environment's (ministry) Environmental Assessment and Approvals Branch Environmental Assessment Project Coordination Section has reviewed the above noted document and associated appendices, dated November 27, 2009 and has the following comments pertaining to the environmental assessment (EA) planning process:

Section 2: Identification of Proponents

1. In subsection 2.1.2.1 of the EA study York Region's current waste management practices are identified as a combined strategy of landfill and the processing of waste to produce "fuel pellets". The conclusion of this subsection claims that the current York Region waste management strategy is only short term, as the waste management contracts which support the strategy expire prior to the conclusion of the 35 year planning period of the EA study, and that the Region still requires long term waste disposal capacity. It is not clear as to why York Region's current waste management strategies are considered short term based solely on the length of operating contracts and not an assessment of the viability of the waste management strategy. A more detailed explanation substantiating that the York Region waste management strategy is only short term should be provided.

If the current waste management practices of York Region are not proven to be short term, then the current waste management practices of York Region should be accounted for and their impact taken into consideration on the problem that the EA study sets out to address.

Section 3: Statement of Purpose

1. Subsection 3.4 of the EA study states that the "Do Nothing" alternative described in the EA does not meet the purpose of the undertaking and will therefore not be considered in this study. This statement contradicts the requirements set forth in the ministry's Code of Practice: Preparing and Reviewing Environmental Assessments in Ontario (Codes), which states that for the purposes of comparison and evaluation of the "Alternatives To", a "Do Nothing" system is a required component of the EA process.

   The Codes require that the "Do Nothing" alternative should always be considered in the evaluation and comparison of "Alternatives To". The "Do Nothing" alternative is considered the bench mark against which the consequences of the "Alternatives To" being examined can be measured in order to determine, amongst other things, the extent to which each alternative addresses the problem or opportunity which prompted the EA study. The "Do Nothing" alternative is also used to highlight the advantages of proceeding with a particular alternative.

Section 7: The "Alternatives To" The Undertaking

1. In subsection 7.1 of the EA study the "Do Nothing" alternative is described as a landfill only system, consisting of a new landfill site capable of managing all wastes that remain after diversion. The description of the "Do Nothing" alternative is not an adequate representation of the current waste management practices for the Regions, as set forth in section 2 and 3.4 of the EA study. The ministry's Code of Practice: Preparing and Reviewing Environmental Assessments in Ontario (Codes) states that the "Do Nothing" alternative represents what is expected if none of the alternatives being considered are carried out. The "Do Nothing" alternative identified in this section does not accurately reflect the current waste management practices of the Regions.

2. In subsection 7.4.2.6 of the EA study states that the "Do Nothing" alternative described in the EA does not meet the purpose of the undertaking and will therefore not be considered in this study. This statement contradicts the requirements set forth in the Codes, which states that for the purposes of comparison and evaluation of the "Alternatives To", a "Do Nothing" system is a required component of the EA process.

   The Codes require that the "Do Nothing" alternative should always be considered in the evaluation and comparison of "Alternatives To". The "Do Nothing" alternative is considered the bench mark against which the consequences of the "Alternatives To"

being examined can be measured in order to determine, amongst other things, the extent to which each alternative addresses the problem or opportunity which prompted the EA study. The "Do Nothing" alternative is also used to highlight the advantages of proceeding with a particular alternative.

The EA study should identify the "Do Nothing" alternative in a manner that accurately reflects the current waste management practices of the Regions. The EA study should also consider the "Do Nothing" alternative in the evaluation of "Alternatives To".

3. In subsection 7.8.5 of the EA study the identification of existing landfill capacity and/or the siting of new landfill capacity to manage the residual materials resulting from the thermal treatment of waste is stated as being outside the scope of the EA study. It is not understood why existing landfill capacity and/or the siting of new landfill capacity was excluded from the EA study considering that the management of any process residual materials from the thermal treatment of waste will ultimately require landfill disposal capacity and forms part of the undertaking for which approval will be sought.

   The EA study acknowledges the requirement for the disposal of process residuals. Therefore the manner in which these residual are processed and ultimately disposed should be included in the EA. The management of any process residual materials requiring disposal are the responsibility of the Regions and should be addressed with the context of the EA. This is to ensure that should approval be given to the undertaking the implementation and operation of the undertaking will not be delayed or impeded by the process to identify or site an approved landfill to receive the process residuals.

Section 9 Vendor Identification Process

Comments on section 9 of the amended EA are included in the response to the Addendum to Section 9.2 of the amended EA, submitted on December 14, 2009. The comments on the Addendum are included in this memo and follow the comments provided on the amended EA.

Section 10 Identification and Description of the Undertaking

1. Subsection 10.7 of the EA study discusses the potential for facility expansion. It is not clear as to how and when the existing waste management systems will be reviewed or what processes and protocols will be applied to determine the projected long term disposal capacity requirements of the Regions.

2. Subsection 10.10 of the EA study discusses facility contingency plans. The EA does not include a contingency plan to address the possibility that the EA could be refused.

Addendum to Section 9.2 of the Amended EA

1. Section 9.3 of the Amended EA and the Addendum to Section 9.2 of the Amended EA do not make reference to whether or not the information compiled during the procurement process will be made available for review upon the conclusion of the procurement process. The EA should provide direction on whether or not this information will be made available, and if so, when and how the information can be obtained.

Should you have any further questions or concerns, please feel free to contact the undersigned, at (416) 314-8214.

Regards,

Gavin Battarino
Project Officer
Environmental Assessment and Approvals Branch

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December 18, 2009

MEMORANDUM

TO: Dorothy Moszynski

FROM: Marinha Antunes

Subject: Technical Support Air Quality Comments

Durham/ York Residual Waste Study
Environmental Assessment Study Document
November 27, 2009

Provided below are my comments on the report entitled "*Durham/ York Residual Waste Study Environmental Assessment Study Document*" (ESD), prepared by Stantec as amended November 27, 2009.

Responses to the Ministry of the Environment's (MOE) comments are presented in the document entitled "*Durham York Residual Waste Study EA: Formal Submission Review Period – Technical Reviewers Comment Summary Tracking Table*", which are included in the EA file. A review of the responses was conducted and my comments are summarized below. These comments are also based on the discussions between the Regions, Stantec and the MOE at the workshop coordinated by EAAB held Tuesday, December 1, 2009 at 40 St. Clair Avenue West.

Comment Summary Tracking Table

Odour Emissions

We do not agree with the response provided by the Regions of York and Durham as noted on page 22:

> "*Based on clarification from the MOE during a meeting between the MOE, the Regions and Stantec to discuss the air and noise comments (Wed, Oct. 13, 2009), no additional modelling or baseline monitoring is required to assess potential odours from the facility...*"

During the October 13, 2009 meeting, the issue of potential odour emissions from the facility was discussed. At the time of the meeting the MOE was obtaining clarification from the Regions as to why odours were not addressed in the Air Quality Impact Assessment. There was no agreement that no further modelling or monitoring was required. Consequently, the response from Durham / York should be revised to reflect this at variance conclusion.

The issue of potential odour impacts from the proposed facility was also discussed during the December 1, 2009 workshop. To substantiate York / Durham's conclusions that adverse off-property odour effects are not expected as a result of onsite operations, the MOE recommended that the Regions' submit an odour mitigation plan, at the time of detailed design studies, to the Director of Central Region for approval. This plan should include:

- An overview of the potential odour emissions that may occur during the handling, processing and transportation of the wastes

- Several odour surveys conducted at the tipping area, truck queues and any other potential odour sources that might be identified

- An estimate of odour emission rates from the different sources as noted above

- Dispersion modelling to assess the impacts at the nearest sensitive receptors

Based on the results obtained from the above studies, the proponent should commit to implementing mitigation measures, if necessary.

VOCs Emissions

Since the Regions found no readily available VOC emission data applicable to the proposed facility, the Ministry recommends the Regions include VOC emissions testing as part of the Stack Testing commitment in Table 13-1 "*Summary of Environmental Mitigation and Commitments to Future Work*" of the ESD.

Ambient Air Quality Monitoring

The Regions have committed to an ambient air quality monitoring in the immediate vicinity of the facility for a 3-year period. The proponent should submit an ambient air monitoring plan to Central Region, Technical Support Section for review and approval prior to the beginning of construction of the facility.

Please contact the undersigned if you should have any questions.

Marinha Antunes
Air Quality Analyst
Central Region, Tech Support, APEP
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January 18, 2010

MEMORANDUM

TO: Gavin Battarino, Project Officer, EAAB

FROM: Dorothy Moszynski

Subject: Technical Support Section Comments:
Durham/ York Residual Waste Study
Addendum to Environmental Assessment Study Document

We have reviewed the Addendum to the Amended Environmental Assessment Study Document dated Dec 16, 2009 containing additional information on the Request for Proposal evaluation process and proponent's identification of the preferred vendor. We have several recommendations as follows.

We have reviewed the proponents' responses to our comments in a table dated January 8, 2010. Based on the responses provided, there are no outstanding air quality concerns, since the Regions have committed to conduct VOCs stack testing and ambient air monitoring as requested. The proponents are proposing that the stack testing will be included in the terms and conditions of the Air Certificate of Approval sought for this project.

We also recommend that an odour monitoring plan is submitted to the Director of Central Region for review and approval. We recommend that this commitment is included as a condition for EA approval.

Please contact me if you have any questions.

Sincerely,

Dorothy Moszynski
Env. Resource Planner and EA Coordinator
Air, Pesticides and Planning Unit

Battarino, Gavin (ENE)

From: Hegazy, Sherif (ENE)
Sent: February 03, 2010 9:52 AM
To: Battarino, Gavin (ENE)
Cc: Low, Victor (ENE)
Subject: RE: Comment and Response Table - Amended EA

Gavin,

The region has acknowledged all comments made in our last letter dated December 21, 2009.

I don't have any further comments at this time.

Thanks,
Sherif

From: Battarino, Gavin (ENE)
Sent: January 29, 2010 11:46 AM
To: Low, Victor (ENE); Hegazy, Sherif (ENE)
Subject: FW: Comment and Response Table - Amended EA

Victor and Sherif,

Could you please let me know if you are satisfied with the Region's response to your comments submitted on the amended EA. If you there are any outstanding issues or concerns please table them in an e-mail, along with any proposed conditions of approval that you believe can address them. I will then incorporate your response and any proposed conditions in the ministry review.

If you have any questions or concerns please let me know.

Thank you,

Gavin

From: Durham York Residual Waste Study [mailto:info@durhamyorkwaste.ca]
Sent: January 08, 2010 2:29 PM
To: Low, Victor (ENE)
Cc: jim.mckay@stantec.com; Battarino, Gavin (ENE); McLennon, Catherine (ENE)
Subject: Comment and Response Table - Amended EA

Dear Mr. Low,

Please find attached a covering letter and a comment/response table which includes your comments/questions on the Durham York Residual Waste Study Environmental Assessment (as amended November 27, 2009) and how they were addressed by the Project Team.

Best Regards,

Tara Alkhalisi
Project Coordinator
Durham York Residual Waste Study

Ministry
of the
Environment

Ministère
de
l'Environnement

2 St. Clair Avenue West
Floor 12A
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Environmental Assessment and Approvals Branch

December 21, 2009

TO: Gavin Battarino
Project Officer
Environmental Assessment and Approvals Branch

FROM: Header Merza
Air and Noise Unit

RE: NOISE REVIEW COMMENTS
DURHAM / YORK RESIDUAL WASTE STUDY
ENVIRONMENTAL ASSESSMENT
EA FILE NO. 04-EA-02-08
NOISE EA FILE NO. E-0030-09

This office was requested to review the noise aspects of the document "Durham / York Residual Waste Study, Environmental Assessment Study Document, Appendix C-5, Acoustic Assessment Technical Study Report" dated July 31, 2009, prepared by Jacques Whitford Stantec Limited.

A noise review letter was issued by this office on September 25, 2009 and a response letter was provided by the Regional Municipality of Durham on January 8, 2010.

The following are our comments on the January 8, 2010 response letter:

1. Only one noise review letter dated September 25, 2009 was issued by the EAAB. Any reference to other letters/dates such as September 16, 2009 should be deleted.

2. All existing residences, whether situated on lands zoned residential or zoned other designations should be considered as noise points of reception.

3. Ambient noise levels within the study area should be based on the MOE Exclusion Limits of Leq(1h) 50 dBA day & 45 dBA night in accordance with MOE Publication NPC-205. If higher ambient noise levels are to be used in lieu of the MOE Exclusion Limits, then such elevated sound levels should be supported by either noise predictions (in accordance with MOE Publication NPC-206) or noise measurements (in accordance with MOE Publication NPC-233). If noise measurements are used, then contributions from non-

vehicular traffic sources should be limited to facilities that are not undergoing municipal or provincial noise mitigation programs.

4. Acoustic Audits should be carried out for the two considered phases of the facility, namely 140 ktpy and 400 ktpy. Reference to other phases of the facility such as 150 ktpy and 250 ktpy should be deleted.

We trust the above review comments would be of assistance to you in processing this Environmental Assessment project.

If you have any questions, please contact the undersigned at 416-327-6575.

H. Merza, P.Eng.
Senior Noise Engineer

V. Low, P.Eng.
Supervisor, Air and Noise Unit

ENV1283MC-2009-4299

Ontario
LEGISLATIVE ASSEMBLY

JOHN R. O'TOOLE, M.P.P.
Durham

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Rm. 443
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E-mail: john.otooleco@pc.ola.org

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75 King St. E.
Bowmanville, Ontario
L1C 1N4
Tel. 1-800-661-243
(905) 697-1501
Fax (905) 697-1506

September 4, 2009

The Hon. John Gerretsen
Minister of the Environment
135 St. Clair Ave W, 15th Flr
Toronto ON M4V 1P5

Dear Minister:

I would like to bring to your attention concerns that have been raised in my Durham Riding about the Durham/York energy-from-waste facility. As you will know, the Environmental Assessment of this thermal treatment operation for post-diversion residual waste has been submitted to your Ministry for review and approval.

Some of the issues that have been raised include:

- Pollution of land, air and water as well as the potential for health risks resulting from emissions.
- The risks of transporting and disposing of ashes this facility will produce.
- The cost to taxpayers, and the process chosen for construction, operation and management of the facility by a private firm.
- Decreased property values.
- Less emphasis on the principles of reduce, re-use and recycle because the energy-from-waste facility will be available to burn trash rather than recycle it.
- Insufficient opportunities for the public to learn about the project and discuss it at public forums.
- The size of the operation. (Maximum design capacity is 400,000 tonnes per year.)

Minister, as you prepare to review and possibly approve this facility, I would encourage you to take into consideration each of the issues highlighted above, along with the additional input from stakeholders and citizens in the consultation process. For your reference, some e-mails and letters from constituents are enclosed.

Thank you for your attention to this important priority for Durham Riding. I look forward to your reply.

Yours truly,

John

I thank Jan & Jan M.O.E. staff for a complete briefing lately this summer-

John R. O'Toole, MPP
Durham

Encl.

O'Toole-CO, John

From:

Sent: September 10, 2009 9:17 AM

To: gavin.battarino@ontario.ca; jgerretsen.mpp@liberal.ola.org; Ouellette, Jerry; O'Toole, John; Elliott, Christine

Cc: commissioner@eco.on.ca

Subject: The Durham Incinerator

Hello:
I am one of the concerned citizens of Durham Region that is opposed to the Durham Incinerator Project.

Durham Regional Councillors did not represent us! Despite the strong opposition from residents, the reports of 75 Durham doctors stating the harmful effects and dangers of incineration, CUPE, Labour Councils and other groups who petitioned to reject incineration, this "deadly project" was voted to proceed. Further, the builder/operator (Covanta) has been a repeat offender with emission violations, lawsuits, and labour issues.

There is still a lot of farming going on in this wonderful community. This will all be destroyed by emissions. No one can honestly believe that emissions and pollutants can be controlled. Do the politicians no longer care about anyone? How many deaths, reports of cancer, birth defects, asthma etc. will it take 5-10 years from now before the Ministry will then announce that "a major mistake was made in proceeding with incineration". We are going backwards in time if this project is allowed to proceed.

I cannot understand in this day and age of trying to eliminate harmful pollutants that any government agency can endorse a project that will pollute our air further. Instead of incineration why are residents not being forced to work towards "zero waste"....what about penalties in that regard instead of forcing a deadly project on us that will costs millions and raise our taxes out of sight.

I am a retiree now on a fixed income. If the taxes in my municipality continue to increase due to improvements which will be inevitable to the local infrastructure as a result of this project, what will I do? Will my property value drop because of this project - yes, quite likely. All around me in my neighbourhood people are selling their homes like wildfire because they want to get out before the construction as once the incinerator is being built no one will want to move to Courtice/Clarington. Where are my rights in this deadly venture? Why are the residents not being allowed to be heard? How can a group of politicians (many who do not live near the proposed site) think they are so knowledgeable to vote in such a horrific venture? Is it not clear that with York Region's fight to not have this project in their backyard an indication that this is a deadly venture?

How can we protect our children, grandchildren and ourselves if no one will listen to us. When the lawsuits start going through to the province because of cancer from this project, no money in the world can give us back our health. There are 68 schools and 42 daycare centres within the area of the planned site. How can the Province put all of these innocent children who do not have a voice in such jeopardy?

At this point in time even expressing my disappointment with the Mayor of Clarington and the 3 Regional Councillors (from this are) that are in support of this project for not representing us and being swayed by a "money venture" is pointless. So many of us worked so hard to express our concerns and no one listened.

I turn to you now to PLEASE STOP INCINERATION. *Do NOT LET THIS PROJECT go through.* Please, Please, Please protect our environment and save us from major health risks and financial tax increases that can destroy our community.

LET MY VOICE BE HEARD. There are better ways to deal with waste. Let's not kill people over garbage. PLEASE AS THE MINISTER OF THE ENVIRONMENT, A PROJECT OFFICER, MPP OR JUST A CONCERNED POLITICIAN, please make the right decision in this matter and STOP the build of an incinerator.

Courtice, Ontario

O'Toole-CO, John

From:

Sent: September 8, 2009 4:04 PM

To: gavin.battarino@ontario.ca

Cc: jgerretsen.mpp@liberal.ola.ca; commissioner@eco.on.ca; jerry.ouellette@pc.ola.org; O'Toole, John; Elliott, Christine; jdhickson.mpp@liberal.ola.org; warthurs.mpp@liberal.ola.org

Subject: The Durham Incinerator - comments from Janet McGregor

Gavin Battarino, EA Project Officer

Durham and York Regions seem determined to build an incinerator in Clarington despite much opposition from groups and individuals in Durham Region. It seems possible then that the Environmental Assessment submitted to you may not have been as comprehensive as it should have been.

Was pollution from the proposed incinerator considered in conjunction with pollution already existing in the area, such as that from Highway 401 traffic and smog from industry further west?

Please order that a more thorough Assessment be done, or authorize an Assessment done by the Province.

O'Toole-CO, John

From:
Sent: August 27, 2009 2:39 PM
To: gavin.battarino@ontario.ca
Cc: commissioner@eco.on.ca; O'Toole, John
Subject: Durham Incinerator - Not Wanted

Gentleman

Please keep in mind that both the **Health** and **Financial Risks** of constructing an incinerator in Durham far far out weigh any possible benefits that could be gained from building this incinerator. Can you please do whatever is in your power to **Stop** the plans for this construction and consider the people of Durham.

Sincerely

ENV1283MC-2009-3981

John, JessyMary (ENE)

From: Gerretsen_John-MPP [jgerretsen.mpp@liberal.ola.org]
Sent: August 22, 2009 3:37 PM
To: Minister, MOE (ENE)
Subject: FW: Incinerator in Courtice Not Wanted - Your Assistance Needed

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From:
Sent: Friday, August 21, 2009 8:56 PM
To: Gerretsen_John-MPP
Cc: commissioner@eco.on.ca
Subject: Incinerator in Courtice Not Wanted - Your Assistance Needed

To: The Ontario Minister of the Environment

Dear Minister:

I am writing as a gravely concerned father, husband and citizen living in Courtice for the past 18 years. Our life is in the Durham Region: we have raised our family here, we shop here, we eat here, we have a large community of friends here, we worship here, we work here, and we are happy here. Until now. All that is about to change should the planned garbage incinerator be built here. Incineration of garbage containing toxic waste matter that cannot be captured at source (no commercially viable technology exists to do this) will spell the demise of the Durham Region for residents who care about quality of life, healthy babies and children, flourishing Conservation Areas and a thriving agricultural base and water table that are protected, by the government, against the use of environmentally damaging chemicals such as pesticides and herbicides.

It is not conscionable to imagine that any government anywhere could permit the introduction of anything that so obviously has the likelihood of damaging the environment and its human population as a waste incinerator. I beseech you to use your influence positively and do what is right to help stop the construction of a garbage incinerator in Durham Region. The local politicians are not listening to the residents of Durham. It is the residents who want this to be a place where future generations will want to live.

Thank you for your time in reading this, and I look forward to the positive steps you will take on behalf of the residents of Durham.

Sincerely,

September 15, 2009

Mr. Gavin Battarino, Project Officer
Environmental Assessment & Approval Branch
Ministry of the Environment
2 St. Claire Ave. W., Floor 12A
Toronto, Ontario, M4V 1L5

Dear Mr. Battarino,

I am writing to let you know I am opposed to the building of an 'Energy From Waste' facility in Durham Region. I am a resident of Courtice and live very near the intersection of Courtice Road and Highway #2. Even though our Town Council states that we are "a willing host", I would disagree. I am disappointed and frustrated with the recent decisions of the Clarington Council and the Durham Regional Council with respect to the Energy From Waste Incinerator. We in Durham Region do have a garbage problem to solve by December 2010, however I feel we are going about it the wrong way. An Energy From Waste Incinerator should not be built in such close proximity to our people living in villages, towns and cities along the lakeshore corridor. Nor should it be built so close to the major source of drinking water for millions of people.

I feel our political representatives are under pressure to find a solution before the border with Michigan is 'closed to our garbage'. Many of these people who have been elected to 'represent' us are not listening to their constituents. It seems that the process just kept moving throughout the summer so that the final reports could be sent to the Minister of the Environment. There were only two meetings held for the public, both in Bowmanville, both on the same nights of the week and both in June [one of the busiest months of the year for those of us who have children]. The residents of Durham Region have not been properly informed about, or been made a part of, this solution.

The Environmental Assessment Study Document (June 12, 2009) states that Durham and York 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". The solution of having an incinerator at this site is not socially acceptable to many people in Durham region. Some may think it maximizes environmental protection by ridding us of a large amount of garbage and having some energy to add to the grid and leftover metal to recycle/sell to show for it. It's the other side of the picture we need to think about: our air, our land, our water and ourselves. What pollutants will we be adding to these? Many of our children, seniors and others in our communities have lung related problems and use puffers. Reading the EA, St. Mary's Cement is one of the largest polluters in our area and we have other air pollutants from a variety of sourcess (our

vehicles, other industry and blowing in from Toronto and the States). My family doctor said we will only add to the problem of breathing related issues by having an incinerator in Courtice.

The site's proximity to Lake Ontario is something we must think about. There is a stack on this facility and 'something' will be coming out of it. Particulates will land on surrounding land and water. It is water that you and I and millions of others drink every day. The EA states that "no significant forested areas or permanent watercourses exist on the Site". (Final Draft Natural Environmental Assessment June 2009) Are we looking at this site with blinders on? Yes, no watercourses may exist on the site itself, but what about less than one mile to the south? Lake Ontario is a significant body of water we rely on and we must consider that!

We do need a solution to our garbage problem. Building an incinerator in Courtice so close to our schools, our general population and our Lake is not the answer! Our elected officials are not representing their communities. Let's find a better solution. **Please do not approve the building of an 'Energy from Waste' Facility on this site.**

Yours sincerely,

ENV1283MC-2009-4027

John, JessyMary (ENE)

From: Gerretsen_John-MPP [jgerretsen.mpp@liberal.ola.org]
Sent: August 25, 2009 10:28 AM
To: Minister, MOE (ENE)
Subject: FW: Incinerator

From:
Sent: Monday, August 24, 2009 5:59 PM
To: Gerretsen_John-MPP
Cc: gavin.battarino@ontario.ca; commissioner@eco.ca
Subject: Incinerator

Mr. Gavin Batterino, EA Project Mgr
Honourable John Gerretsen, Provincial Minister of Environment
Mr. Gord Miller, Environmental Commissioner of Ontario

Gentlemen:

I want to add my voice against the decision to go ahead with the Durham Incinerator. As a concerned citizen of Clarington, I urge you to make the right decision and stop the plans to build an incinerator in Clarington. Many local citizens feel we have been let down and not heard by our local and Regional councillors. How can Mayor Jim Abernethy say that Clarington is a willing host when seventy-eight people or groups spoke out against it at local council meetings and only three for it?

The majority of people I speak to do not want to solve our garbage challenges with plans to build a waste incinerator in Clarington. We believe there is a healthier, more sustainable and financially prudent approach.

I am opposed to the Durham Region incinerator project proposed for many reasons and here are just a few reasons why Durham residents are opposed:

* increased air pollution
* toxins will enter our food chain
* health risks from breathing the toxins - local doctors and those from Europe agree
* it only reduces every three tons to one ton of extremely toxic fly ash
* the need to transport the highly toxic fly ash over our roads to be buried in the US until they decide to refuse it
* uncreative garbage solution
* decreased property values
* $272 million is too much money and could be better spent on finding recycling solutions and aiming for zero waste - and the cost is rising

every time we hear it.
* privatization of a public work
* poor public information and debate opportunities

Incineration fails on all counts. There are safer, less expensive alternatives that will provide more local jobs, and are flexible to changing conditions in these uncertain times.
I have read up on the facts and alternative solutions such as zero waste and
cannot believe that the very people we elect to take care of these matters seem
to have so little concern for public opinion and public health concerns!
I have written to the Clarington Councillors prior to this without so much as a reply
but urge you to take public opinion and health concerns very seriously. Your decision will have implications for years to come and alter many lives. This important time in our history will be looked back on and I hope it is to say we had the good sense to care for the earth and the air we breathe.

As caretakers of our environment for our Province, I trust you will do the right thing and put a stop to this rather than doing the easy thing and letting it go ahead. As one of the wiser councillors said -
"we must stop saying it's a tough decision but we must make it" when in reality, it is taking the easy way out to just throw money at it and let the building begin which will eventually lead to burning of more and more toxic materials and the need to import waste to feed this incinerator. The tough decision would be to go to the people and insist that we all act responsibly in regards to garbage. We have made a good start and more can be done. We could spend much less of the taxpayers money and increase recycling, employ more people and educate the public. That would be the tough challenge but the responsible one.

Sincerely,

Joy, Justin (ENE)

From: Gerretsen_John-MPP [jgerretsen.mpp@liberal.ola.org]
Sent: September 18, 2009 2:15 PM
To: Minister, MOE (ENE)
Subject: FW: Clarington Waste Incinerator

From:
Sent: Friday, September 18, 2009 10:18 AM
To: Gerretsen_John-MPP
Subject: FW: Clarington Waste Incinerator

September 18, 2009

To: Honorable John Gerretsen

I would like to say that I am strongly opposed to the waste incinerator that was approved by Clarington Council on June 24, 2009. The planned incinerator will be located on Osbourne Road in Courtice, ON.

I do not think that this is the best nor safest option for handling waste. The most important reason is the health hazard it presents, especially to our children and to the human population as a whole. The other important reason is due to the environmental hazard; including the air pollution emitted from the stacks and the ground pollution from the ash that will be buried in landfills. All of the plastics and metals disposed of will end up one way or another in the air or in the soil and subsequently in our lungs and in our food supply.

Our Council and the panel of experts have tried to convince us that the incinerator will be "safe" and not pose an unacceptable risk to human health or the environment. I cannot accept that reasoning when I consider that much of the science behind incineration technology hasn't been proven on such aspects as nano-particles and the effect of emitted chemicals mixing together.

Our entire world is making the move toward Green initiatives because we know that is the most proactive and promising step we as a people can do for the future of this planet. Burning waste is a major step backward in solving our waste problem.

I know that $234-million can be much more wisely invested in improving and expanding our very well received recycling and composting programs, and in creating new manufacturing laws aimed at reducing non-recyclable packaging.

A great number of Clarington's concerned citizens have spoken out loud and clear on our opposition to this incinerator. It's our children, our health and our environment that we need to protect. I sincerely ask that our government and the Ministry of the Environment reject the Clarington waste incinerator.

Sincere thanks,

Clarington resident

Via email to gavin.battarino@ontario.ca

September 25, 2009

Mr. Gavin Battarino, Project Officer
Environmental Assessment and Approvals Branch
Ministry of the Environment
2 St. Clair Ave. W., Floor 12A
Toronto, Ontario M4V 1L5

Re: Durham-York Residual Waste EA Study

Dear Mr. Battarino

The undersigned represent the community activist group ZeroWaste4ZeroBurning.ca which aims to educate the Durham Region public on maximizing waste diversion and how we can work collectively toward Zero Waste.

Individually we have made submissions to the government review of the Durham-York Residual Waste EA Study.

With other Durham Region residents, we have hosted public information events, responded to the minister's discussion paper on the Waste Diversion Act "Toward a Zero Waste Future" and encouraged residents to do likewise and submitted comments to the EBR posting on the proposed A-7 guideline revisions. We continue to engage Durham region decision makers and community leaders in a dialogue seeking support for sensible solutions that would put Durham on the path to sustainability.

We call on the Ministry of the Environment reviewers to recommend against approval of the EA study on the basis that it is incomplete due to errors, gaps, omissions and inconsistencies, as identified in our individual submissions. Of particular concern is that the more sustainable alternative for Durham, York and the Province of Ontario, namely aggressive waste reduction and diversion, was apparently not evaluated nor compared to any of the alternatives identified.

Yours truly,

Cc:
Minister of the Environment John Gerretsen <jgerretsen.mpp@liberal.ola.org>
Environmental Commissioner of Ontario Gord Miller <commissioner@eco.on.ca>
Ontario Ombudsman Andre Marin <info@ombudsman.on.ca>

HEAL Durham

Healthy Environment: Air, Land

September 25, 2009

Mr. Gavin Battarino, Project Officer
Ontario Ministry of the Environment
Environmental Assessment and Approvals Branch
2 St. Clair Avenue West, Floor 12-A
Toronto, Ont. M4V 1L5

By email: Gavin.Battarino@ontario.ca

Re: Durham-York Incinerator (Residual Waste) Study

Dear Mr. Battarino

The undersigned represent HEAL-Durham which is a broad based environmental group formed to take action on environmental issues in Durham Region.

Individually we have made submissions to the government review of the Durham-York Residual Waste EA Study.

As individual Durham Region residents, we have hosted public information events, responded to the minister's discussion paper on the Waste Diversion Act "Toward a Zero Waste Future" and encouraged residents to do likewise, submitted comments to the EBR posting on the proposed A-7 guideline revisions. We continue to engage Durham region politicians in a dialogue seeking support for sensible solutions that would put Durham on the path to sustainability.

We call on the Ministry of the Environment to reject the EA study on the basis that it failed to evaluate aggressive waste reduction and diversion as an alternative, nor did they compare it to Region's choice of incineration. The residents of Durham, and indeed the members of Regional Council, are seeking a clean environment and sustainable solutions. Somehow the EA missed that.

Sincerely,

APPENDIX C

SUPPLEMENTAL INFORMATION

VIA COURIER/E-MAIL

July 8, 2009

Ms. Agatha Garcia-Wright
Director
Environmental Assessment and Approvals Branch
Ministry of the Environment
2 St. Clair Ave W, Floor 12A
Toronto, ON M4V 1L5

Attention: **Gavin Battarino, Project Officer**

Reference: **Formal Submission of Durham/York Residual Waste Study Environmental Assessment**

Ms. Garcia-Wright,

The Regional Municipality of Durham and Regional Municipality of York have completed the environmental assessment process for the Durham/York Residual Waste Study Environmental Assessment in accordance with the Terms of Reference approved on March 31, 2006.

By resolution of Durham Council on June 24, 2009 and resolution of York Council on June 25, 2009, both Regions have approved submission of the environmental assessment to the Minister of the Environment by July 31, 2009.

In accordance with these resolutions and as required by the Ministry's Codes of Practice, this letter is to hereby notify you that the completed Durham/York Residual Waste Study Environmental Assessment and all associated documentation will be submitted to the Minister of the Environment on July 31, 2009.

Sincerely,

Gioseph Anello, MEng, PEng, PMP
Regional Municipality of Durham,
Manager of Waste Planning and Technical Services

Neil MacDonald, CET
Regional Municipality of York
Manager of Solid Waste

CC: David Payne, Jacques Whitford Stantec Ltd.
Jim McKay, Jacques Whitford Stantec Ltd.

Durham/York Residual Waste Study

Residual Waste Study

VIA COURIER / E-MAIL

July 31, 2009

Ms. Agatha Garcia-Wright
Director
Environmental Assessment and Approvals Branch
Ministry of the Environment
2 St. Clair Ave W, Floor 12A
Toronto, ON M4V 1L5

Subject: **Formal Submission of Durham/York Residual Waste Study Environmental Assessment**

Dear Ms. Garcia-Wright:

The enclosed letter, dated July 8, 2009, provided notification to the Project Officer, Gavin Battarino, that the proponents intend to formally submit the subject Environmental Assessment on July 31, 2009, and that a start date of the formal review period would be established as August 7, 2009.

Therefore, by resolution of the respective Councils of The Regional Municipalities of Durham and York (the "Regions"), and in accordance with the Environmental Assessment Terms of Reference dated March 31, 2006, the Regions formally submit the attached Durham/York Residual Waste Study Individual Environmental Assessment.

As there has been significant public interest in this proposal, the Notice of Submission will be posted on two occasions within the Study Area. Regional staff will continue to work with the Ministry of the Environment during the upcoming review period to facilitate a successful conclusion to this endeavour.

Sincerely,

Clifford Curtis, P.Eng., MBA
Commissioner of Works
The Regional Municipality of Durham

Erin M. Mahoney, M.Eng.
Commissioner of Environmental Services
The Regional Municipality of York

c. Regional Chair Roger Anderson, The Regional Municipality of Durham
Regional Chair Bill Fisch, The Regional Municipality of York
Mirka Januszkiewicz, Director, Waste Management, The Regional Municipality of Durham
Laura McDowell, Director, Environmental Promotion and Protection, The Regional Municipality of York
David Payne, Stantec
Jim McKay, Stantec

Encl.

The Regional Municipalities of Durham and York

Notice of submission of Environmental Assessment
Durham/York Residual Waste Study Individual Environmental Assessment

The Regional Municipalities of Durham and York have completed the Environmental Assessment (the "EA") for the Durham/York Residual Waste Study. As required under section 6.2(1) of the *Environmental Assessment Act* and according to the Terms of Reference approved by the Minister of the Environment on March 31, 2006, the Regional Municipalities of Durham and York have submitted the EA to the Ministry of the Environment for review and approval.

The Undertaking, as determined and 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 maximum design capacity of 400,000 tonnes per year. The facility will be designed, built and operated on the Clarington 01 site, located in the Municipality of Clarington, Regional Municipality of Durham (see Figure 1 for the location within the Regional Municipalities of Durham and York and Figure 2 for the Clarington 01 site location).

Figure 1 – Regions of Durham and York

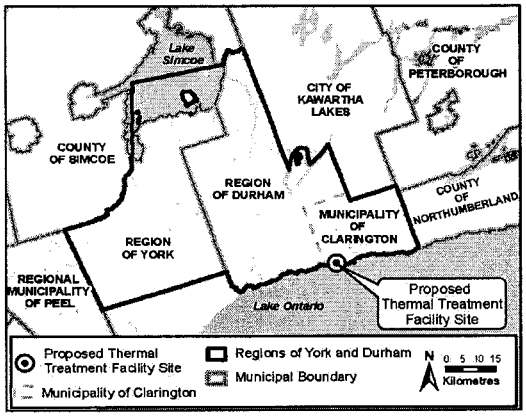
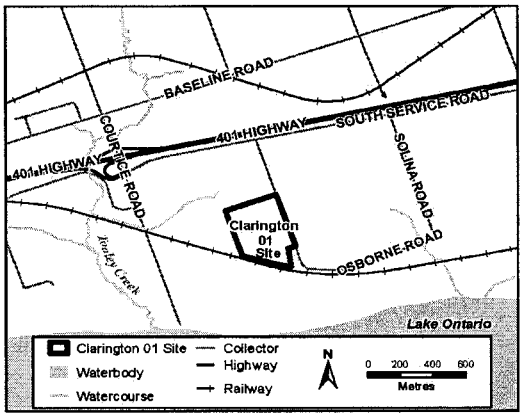


Figure 2 – Clarington 01 Site Location



As required under the *Environmental Assessment Act*, the EA will be available for public review and comment Friday, Aug. 7, 2009 to Friday, Sept. 25, 2009.

You may review the EA during normal business hours at the following locations:

1. Ministry of the Environment
   Environmental Assessment and Approvals Branch
   2 St. Clair Ave. W., Floor 12A
   Toronto, Ontario M4V 1L5
   416-314-8001 / 1-800-461-6290
   Monday to Friday 8:30 a.m. to 5 p.m.

2. York-Durham Ministry of the Environment District Office
   230 Westney Rd. S., Floor 5
   Ajax, Ontario L1S 7J5
   905-427-5600 / 1-800-376-4547
   Monday to Friday 8:30 a.m. to 5 p.m.

3. The Regional Municipality of Durham
   Clerk's Department
   605 Rossland Rd. E.
   Whitby, Ontario L1N 6A3
   905-668-7711 / 1-800-372-1102
   Monday to Friday 8 a.m. to 5 p.m.

4. The Regional Municipality of York
   Clerk's Department
   17250 Yonge St.
   Newmarket, Ontario L3Y 6Z1
   905-895-1231 / 1-877-464-9675
   Monday to Friday 8:30 a.m. to 4:30 p.m.

5. All Municipalities' Clerk's Departments in the Region of Durham.

6. All public libraries in the Regions of Durham and York.

7. All documentation relating to this EA can be viewed at www.durhamyorkwaste.ca.

If you have any questions regarding viewing locations, please see www.durhamyorkwaste.ca for a complete listing of locations or call 1-800-398-4423.

Anyone wishing to provide comments on the EA must submit their comments in writing and/or by fax to the Ministry of the Environment by **Friday, Sept. 25, 2009**. All comments must be submitted to:

Gavin Battarino, Project Officer
Environmental Assessment and Approvals Branch
Ministry of the Environment
2 St. Clair Ave. W., Floor 12A
Toronto, Ontario M4V 1L5
Tel: 416-314-8001 / 1-800-461-6290
Fax: 416-314-8452

A copy of all comments will be forwarded to the proponents for their consideration.

If you have any questions or need further information about this project, please contact:

Jim McKay, EA Coordinator
Stantec (formerly Jacques Whitford)
3430 South Service Rd., Suite 203
Burlington, Ontario L7N 3T9
Tel: 905-631-3910
Fax: 905-631-8960
Email: jim.mckay@stantec.com

Under the *Freedom of Information and Protection of Privacy Act* and the *Environmental Assessment Act*, unless otherwise stated in the submission, any personal information such as name, address, telephone number and property location included in a submission will become part of the public record files for this matter and will be released, if requested, to any person.

This notice was first published on July 29, 2009.

Ministry of the Environment

Environmental Assessment and
Approvals Branch

2 St. Clair Avenue West
Floor 12A
Toronto ON M4V 1L5
Tel.: 416 314-8001
Fax: 416 314-8452

Ministère de l'Environnement

Direction des évaluations et des
autorisations environnementales

2, avenue St. Clair Ouest
Étage 12A
Toronto ON M4V 1L5
Tél. : 416 314-8001
Téléc. : 416 314-8452

Ontario

August 5, 2009

Mr. Clifford Curtis, P.Eng.
Commissioner of Works
The Regional Municipality of Durham
605 Rossland Rd. E.
Whitby, Ontario L1N 6A3

Ms. Erin M. Mahoney, M.Eng.
Commissioner of Environmental Services
The Regional Municipality of York
17250 Yonge St.
Newmarket, Ontario L3Y 6Z1

Dear Mr. Curtis and Ms. Mahoney:

This is to acknowledge that on July 31, 2009, the ministry received the Durham and York Residual Waste Study Environmental Assessment Report (EA) and its covering letter dated July 31, 2009.

The review of the EA, required by section 7 of the *Environmental Assessment Act*, has been initiated. Should you have any questions during the review period, please contact Gavin Battarino of the Environmental Assessment and Approvals Branch at 416-314-8221 or by email at gavin.battarino@ontario.ca.

Yours sincerely,

Agatha Garcia-Wright
Director
Environmental Assessment and Approvals Branch

VIA COURIER/E-MAIL

September 28, 2009

Ms. Agatha Garcia-Wright
Director
Environmental Assessment and Approvals Branch
Ministry of the Environment
2 St. Clair Ave W, Floor 12A
Toronto, ON M4V 1L5

Attention: **Gavin Battarino, Project Officer**

Reference: **Formal Request for Postponement of Publication of Ministry Review of the Durham/York Residual Waste Study Environmental Assessment**

Ms. Garcia-Wright,

The Regional Municipality of Durham and The Regional Municipality of York formally request a six-week postponement of the Ministry of the Environment's publication of the results of their formal review of the Durham/York Residual Waste Study Environmental Assessment submitted July 31, 2009. Currently, under regulated timelines, the Ministry's review would be posted no later than October 30, 2009. We respectfully request the Ministry postpone the issuance of the findings of their review until December 11, 2009.

Due to the quantity and complexity of the comments received late in the 7 week public review period, the requested postponement will be required for the proponents to adequately consider and respond to the comments received during the Public Inspection period.

Sincerely,

Clifford Curtis, P.Eng., MBA
Commissioner of Works
The Regional Municipality of Durham

Erin M. Mahoney, M.Eng.
Commissioner of Environmental Services
The Regional Municipality of York

CC: Regional Chair Roger Anderson, The Regional Municipality of Durham
Regional Chair Bill Fisch, The Regional Municipality of York
Mirka Januszkiewicz, The Regional Municipality of Durham
Laura McDowell, The Regional Municipality of York
Jim McKay, Stantec

Ministry of the Environment

Environmental Assessment and Approvals Branch

2 St. Clair Avenue West
Floor 12A
Toronto ON M4V 1L5
Tel.: 416 314-8001
Fax: 416 314-8452

Ministère de l'Environnement

Direction des évaluations et des autorisations environnementales

2, avenue St. Clair Ouest
Étage 12A
Toronto ON M4V 1L5
Tél. : 416 314-8001
Téléc. : 416 314-8452

Ontario

October 6, 2009

Mr. Clifford Curtis, P.Eng.
Commissioner of Works
The Regional Municipality Of Durham
Durham/York Residual Waste Study
2851 John Street P.O Box 42009
Markham ON L3R 5R0

Ms. Erin Mahoney M.Eng.
Commissioner of Environmental Services
The Regional Municipality of York
Durham/York Residual Waste Study
2851 John Street P.O Box 42009
Markham ON L3R 5R0

Dear Mr. Curtis and Ms. Mahoney:

Re: Extension of the Deadline for Completion of Ministry Review

Thank you for your letter of September 28, 2009, in which you request that the deadline for the completion of the Ministry Review (Review) of The Durham and York Residual Waste Study Environmental Assessment (EA) be extended.

In response to your request, and pursuant to the authority given to me under subsection 7 (3) of the *Environmental Assessment Act*, I have extended the deadline to December 11, 2009. I recognize the Regional Municipalities of Durham and York's need for this extension, as set out in your letter.

Accordingly, this ministry will complete its review of the above-noted EA no later than December 11, 2009. In order to ensure that the Review is completed by this date, the responses to the comments received during the Public Inspection Period that have yet to be completed must be submitted to the ministry no later than November 6, 2009. Upon completion of the Review and in accordance with subsection 7.1 (2) of the *Environmental Assessment Act*, a Notice of Completion of Ministry Review will be issued and the Review will be made available for public and government agency comment for a period of five weeks.

Despite this extension, I would like to inform you that the Regions of Durham and York (Regions) may complete the responses to the comments received during the Public Inspection

Period sooner than expected, allowing for the Review to be completed prior to the December 11, 2009 deadline. I would ask that the Regions keep this branch informed as to their progress and to ensure that the Review proceeds in a timely and efficient manner. I also recognize that the Regions may seek an additional extension. Should this circumstance arise, I would require another written request be made and reasons given.

If you have questions regarding this matter, please contact Mr. Gavin Battarino, Project Officer, of the Environmental Assessment Project Coordination Section of this Branch at 416-314-8214.

Yours sincerely,

Agatha Garcia-Wright
Director
Environmental Assessment & Approvals Branch

c: Regional Chair Roger Anderson, The Regional Municipality of Durham
Regional Chair Bill Fisch, The Regional Municipality of York
Ms. Mirka Januszkiewicz, The Regional Municipality of Durham
Ms. Laura McDowell, The Regional Municipality of York
Mr. Jim McKay, Stantec

November 9, 2009 **VIA FAX/E-MAIL**

Ms. Agatha Garcia-Wright
Director
Environmental Assessment and Approvals Branch
Ministry of the Environment
2 St. Clair Ave W, Floor 12A
Toronto, ON M4V 1L5

Attention: **Gavin Battarino, Project Officer**

Reference: **Durham/York Residual Waste Study – Environmental Assessment**
Formal Request for Postponement of Publication of Ministry Review to Allow for Preparation and Submission of an Amended EA Document

Ms. Garcia-Wright,

The Regional Municipality of Durham and The Regional Municipality of York formally request a postponement of the Ministry of the Environment's publication of the results of their formal review of the Durham/York Residual Waste Study Environmental Assessment submitted on July 31, 2009. This new request for postponement will provide additional time to prepare an amended EA document addressing comments raised through the initial public inspection period. It is the proponents' intent to submit an amended EA document to the Ministry for review on November 27, 2009. Based on this submission date and giving consideration to the December holidays, we anticipate the Ministry will be issuing their review on January 29, 2010.

Once complete, the amended EA will be posted to the Durham/York website. In addition, notification of its availability will be provided to all parties who commented on the original EA document. It is our understanding that this amended EA document will not require an additional public inspection period, but rather, interested members of the public will have the opportunity to review this amended EA document and provide comments following the issuance of the government review.

Sincerely,

Clifford Curtis, P.Eng., MBA
Commissioner of Works
The Regional Municipality of Durham

Erin M. Mahoney, M.Eng.
Commissioner of Environmental Services
The Regional Municipality of York

CC: Regional Chair Roger Anderson, The Regional Municipality of Durham
Regional Chair Bill Fisch, The Regional Municipality of York
Mirka Januszkiewicz, The Regional Municipality of Durham
Laura McDowell, The Regional Municipality of York
Jim McKay, Stantec

Ministry of the Environment

Environmental Assessment and Approvals Branch

2 St. Clair Avenue West
Floor 12A
Toronto ON M4V 1L5
Tel.: 416 314-8001
Fax: 416 314-8452

Ministère de l'Environnement

Direction des évaluations et des autorisations environnementales

2, avenue St. Clair Ouest
Étage 12A
Toronto ON M4V 1L5
Tél. : 416 314-8001
Téléc. : 416 314-8452

Ontario

November 17, 2009

Mr. Clifford Curtis, P.Eng.
Commissioner of Works
The Regional Municipality Of Durham
605 Rossland Road East
Whitby ON L1N 6A3

Ms. Erin Mahoney M.Eng.
Commissioner of Environmental Services
The Regional Municipality of York
17250 Yonge Street
Newmarket ON L3Y 6Z1

Dear Mr. Curtis and Ms. Mahoney:

Re: Extension of the Deadline for Completion of Ministry Review

Thank you for your letter of November 9, 2009, in which you request that the deadline for the completion of the Ministry Review (Review) of The Durham and York Residual Waste Study Environmental Assessment (EA) be extended.

In response to your request, and pursuant to the authority given to me under subsection 7 (3) of the *Environmental Assessment Act*, I have extended the deadline to January 29, 2010. I recognize the Regional Municipalities of Durham and York's need for this extension, as set out in your letter.

In order to ensure that the amendment process stays within the extended timelines the Regions will be required to carry out the following:

- Prepare an amendment to the above noted EA that clearly identifies the changes that have been made to the original document by highlighting the sections or parts of the EA that have been amended.

- Prepare a separate table or document that lists each of the changes to the original document and the sections or parts of the original EA that have been replaced.

- Prepare and submit an amended EA to the Ministry of the Environment's Environmental Assessment and Approvals Branch by no later than November 27, 2009.

- Upon submission of the amended EA provide notice in writing to all persons, Aboriginal communities and GRT members who have participated during the EA process. The purpose of this notice is to inform all participants about the submission of the amended EA, where the amended EA can be viewed, and the next steps in the EA process.

- The amended EA and notice of submission shall be posted on the Regions' project website, along with information on how interested persons may obtain a hard copy of the amended EA.

I would also ask that upon submission of the amended EA, the Regions provide an information session to ministry technical reviewers and members of the GRT to go through the changes that have been made to the original EA, the rationale for the changes, and where in the amended EA the changes can be found.

Upon completion of the Review and in accordance with subsection 7.1 (2) of the EAA a Notice of Completion of Ministry Review will be issued and the Review will be made available for public and government agency comment for a period of five weeks.

I would ask that the Regions keep this branch informed of their progress and to ensure that the Review proceeds in a timely and efficient manner. If you have questions regarding this matter, please contact Mr. Gavin Battarino, Project Officer, of the Environmental Assessment Project Coordination Section of this Branch at 416-314-8214.

Yours sincerely,

Agatha Garcia-Wright
Director
Environmental Assessment and Approvals Branch

c: Regional Chair Roger Anderson, The Regional Municipality of Durham
Regional Chair Bill Fisch, The Regional Municipality of York
Ms. Mirka Januszkiewicz, The Regional Municipality of Durham
Ms. Laura McDowell, The Regional Municipality of York
Mr. Jim McKay, Stantec

Residual Waste Study

VIA COURIER/E-MAIL

November 27, 2009

Ms. Agatha Garcia-Wright, Director
Environmental Assessment and Approvals Branch
Ministry of the Environment
2 St. Clair Ave W, Floor 12A
Toronto, ON M4V 1L5
Attention: Gavin Battarino, Project Officer

Reference: Formal Submission of Durham/York Residual Waste Study
Amended Environmental Assessment

Dear Ms. Garcia-Wright:

The Regional Municipality of Durham and Regional Municipality of York have completed the environmental assessment process for the Durham/York Residual Waste Study Environmental Assessment in accordance with the EA Terms of Reference approved on March 31, 2006.

By resolution of Durham Council on June 24, 2009 and resolution of York Council on June 25, 2009, both Regions have approved the submission of the environmental assessment to the Minister of the Environment by July 31, 2009. Consequently, a seven week public and government agency comment period commenced with the formal submission of the EA. The comment period was concluded on September 25, 2009. During this time government agencies and the public were provided the opportunity to submit comments on the EA to the Ministry.

To address comments received during this Public comment period, the Environmental Assessment document has been amended where required.

We hereby, formally submit this amended EA document for your review.

Sincerely,

Clifford Curtis, P.Eng., MBA
Commissioner of Works
Regional Municipality of Durham

Erin M. Mahoney, M.Eng.
Commissioner of Environmental Services
Regional Municipality of York

cc: David Payne, Jacques Whitford (Stantec Ltd.) and Jim McKay, Jacques Whitford (Stantec Ltd.)
Enclosure: Notice of Submission of an Amended Environmental Assessment

Residual Waste Study

The Regional Municipalities of Durham and York

Notice of resubmission of an Amended Environmental Assessment
Durham/York Residual Waste Study Individual Environmental Assessment

The Regional Municipalities of Durham and York have completed the Environmental Assessment (the "EA") for the Durham/York Residual Waste Study. As required under section 6.2(1) of the *Environmental Assessment Act* and according to the Terms of Reference approved by the Minister of the Environment on March 31, 2006, the Regional Municipalities of Durham and York submitted the EA to the Ministry of the Environment for review and approval on July 31, 2009.

A seven week public and government agency comment period commenced with the formal submission of the EA. The comment period concluded on September 25, 2009. During this time government agencies and the public were provided the opportunity to submit comments on the EA to the Ministry.

To address comments received during this Public comment period, the EA has been amended and was resubmitted to the Ministry of the Environment for review on November 27, 2009.

The Undertaking, as determined and 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 an initial approved design capacity of 140,000 tonnes per year and a projected maximum design capacity of 400,000 tonnes per year. The facility will be designed, built and operated on the Clarington 01 site, located in the Municipality of Clarington, Regional Municipality of Durham.

You may view the amended EA during normal business hours at the following locations:

1. Ministry of the Environment
   Environmental Assessment and Approvals Branch
   2 St. Clair Ave. W., Floor 12A
   Toronto, Ontario M4V 1L5
   416-314-8001 / 1-800-461-6290
   Monday to Friday 8:30 a.m. to 5 p.m.

2. York-Durham Ministry of the Environment
   District Office
   230 Westney Rd. S., Floor 5
   Ajax, Ontario L1S 7J5
   905-427-5600 / 1-800-376-4547
   Monday to Friday 8:30 a.m. to 5 p.m.

3. The Regional Municipality of Durham
   Clerk's Department
   605 Rossland Rd. E.
   Whitby, Ontario L1N 6A3
   905-668-7711 / 1-800-372-1102
   Monday to Friday 8 a.m. to 5 p.m.

4. The Regional Municipality of York
   Clerk's Department
   17250 Yonge St.
   Newmarket, Ontario L3Y 6Z1
   905-895-1231 / 1-877-464-9675
   Monday to Friday 8:30 a.m. to 4:30 p.m.

5. All documentation relating to this EA can be viewed at www.durhamyorkwaste.ca.

If you have any questions regarding viewing locations, please see www.durhamyorkwaste.ca for a complete listing of locations or call 1-800-398-4423.

If you have any questions or need further information about this project, please contact:

Jim McKay, EA Coordinator
Stantec (formerly Jacques Whitford)
3430 South Service Rd., Suite 203
Burlington, Ontario L7N 3T9
Tel: 905-631-3910
Fax: 905-631-8960
Email: jim.mckay@stantec.com

Under the *Freedom of Information and Protection of Privacy Act* and the *Environmental Assessment Act*, unless otherwise stated in the submission, any personal information such as name, address, telephone number and property location included in a submission will become part of the public record files for this matter and will be released, if requested, to any person.

This notice was first published on November 27, 2009.

December 14, 2009 **VIA FAX/E-MAIL**

Ms. Agatha Garcia-Wright
Director
Environmental Assessment and Approvals Branch
Ministry of the Environment
2 St. Clair Ave W, Floor 12A
Toronto, ON M4V 1L5

Attention: **Gavin Battarino, Project Officer**

Reference: **Formal Request for Two Week Extension and Postponement of Publication of Ministry Review**

Dear Ms. Garcia-Wright:

The Regional Municipality of Durham and The Regional Municipality of York formally request a two (2) week extension and postponement of the Ministry of the Environment's (MOE) formal review period for the Amended Durham /York Residual Waste Study Environmental Assessment submitted November 27, 2009 and the associated publication of the results of the formal review.

This new request for extension and postponement will provide opportunities for discussion amongst the Regions and the MOE technical reviewers to address any remaining issues on the Amended Durham/York Residual Waste Study Environmental Assessment submitted November 27, 2009. The requested extension will also allow for additional discussion regarding the qualitative evaluation of the Request for Proposal (RFP) information. It is our understanding that this two-week postponement will result in the issuance of the government review on February 12, 2010.

Sincerely,

Clifford Curtis, P.Eng., MBA
Commissioner of Works
The Regional Municipality of Durham

Erin M. Mahoney, M.Eng.
Commissioner of Environmental Services
The Regional Municipality of York

CC: Regional Chair Roger Anderson, The Regional Municipality of Durham
Regional Chair Bill Fisch, The Regional Municipality of York
Mirka Januszkiewicz, The Regional Municipality of Durham
Laura McDowell, The Regional Municipality of York
Jim McKay, Stantec

Ministry of the Environment

Environmental Assessment and
Approvals Branch

2 St. Clair Avenue West
Floor 12A
Toronto ON M4V 1L5
Tel.: 416 314-8001
Fax: 416 314-8452

Ministère de l'Environnement

Direction des évaluations et des
autorisations environnementales

2, avenue St. Clair Ouest
Étage 12A
Toronto ON M4V 1L5
Tél. : 416 314-8001
Téléc. : 416 314-8452

Ontario

December 15, 2009

Mr. Clifford Curtis, P.Eng.
Commissioner of Works
The Regional Municipality Of Durham
605 Rossland Road East
Whitby ON L1N 6A3

Ms. Erin Mahoney M.Eng.
Commissioner of Environmental Services
The Regional Municipality of York
17250 Yonge Street
Newmarket ON L3Y 6Z1

Dear Mr. Curtis and Ms. Mahoney:

Re: Extension of the Deadline for Completion of Ministry Review

Thank you for your letter of December 14, 2009, in which you request that the deadline for the completion of the Ministry Review (Review) of The Durham and York Residual Waste Study Environmental Assessment (EA) be extended.

In response to your request, and pursuant to the authority given to me under subsection 7 (3) of the *Environmental Assessment Act*, I have extended the deadline to February 19, 2010. I understand that the Regions have requested a two week extension to the completion of the Review, however, based on that additional work required by the ministry to accommodate your request I have extended the deadline for the completion of the Review by three weeks.

In order to ensure that the addendum process stays within the extended timelines the Regions will be required to carry out the following:

- Prepare an addendum to the above noted EA that clearly identifies the changes that have been made to the original document by highlighting the sections or parts of the EA that are to be replaced by the addendum.

- Prepare and submit the addendum to the EA to the Ministry of the Environment's Environmental Assessment and Approvals Branch by no later than December 24, 2009.

- Upon submission of the addendum to the EA provide notice in writing to all persons, Aboriginal communities and GRT members who have participated during the EA process. The purpose of this notice is to inform all participants about the submission of the addendum, where the addendum can be viewed, and the next steps in the EA process.

- The addendum to the EA and notice of submission shall be posted on the Regions' project website, along with information on how interested persons may obtain a hard copy of the amended EA.

Upon completion of the Review and in accordance with subsection 7.1 (2) of the EAA a Notice of Completion of Ministry Review will be issued and the Review will be made available for public and government agency comment for a period of five weeks.

I would ask that the Regions keep this branch informed of their progress and to ensure that the Review proceeds in a timely and efficient manner. If you have questions regarding this matter, please contact Mr. Gavin Battarino, Project Officer, of the Environmental Assessment Project Coordination Section of this Branch at 416-314-8214.

Yours sincerely,

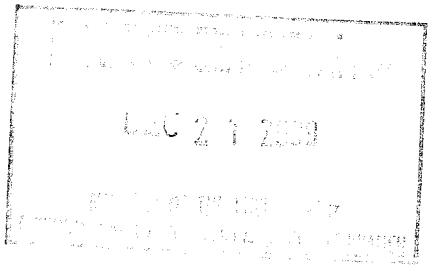
for: Agatha Garcia-Wright
Director
Environmental Assessment and Approvals Branch

c: Regional Chair Roger Anderson, The Regional Municipality of Durham
Regional Chair Bill Fisch, The Regional Municipality of York
Ms. Mirka Januszkiewicz, The Regional Municipality of Durham
Ms. Laura McDowell, The Regional Municipality of York
Mr. Jim McKay, Stantec

December 16, 2009

VIA EMAIL/MAIL

Ms. Agatha Garcia-Wright
Director
Environmental Assessment and Approvals Branch
Ministry of the Environment
2 St. Clair Ave W, Floor 12A
Toronto, ON M4V 1L5



Attention: **Gavin Battarino, Project Officer**

Reference: **Durham/York Residual Waste Study**
Submission of Addendum to EA Study Document (as amended November 27, 2009)

Ms. Garcia-Wright,

In order to respond to comments received on the EA Study Document (as amended November 27, 2009) with respect to the RFP evaluation process, the Regions of Durham and York have prepared the enclosed addendum. This addendum provides a revised Section 9.2 of the EA Study Document (as amended November 27, 2009) containing:

- Section 9.2.1.1 providing a narrative on the Covanta submission similar to that provided on Proponents A, B, and C;
- Table 9-1 providing a "checklist" for Covanta documenting their ability to meet the technical requirements of the RFP; and,
- Section 9.2.2.4 providing a qualitative assessment including methodology, criteria and ranking for each of the vendors submissions received.

We trust this addendum will satisfy the MOE's need for further clarification on the RFP evaluation process and the process utilized to identify the preferred Vendor. Should you have any questions, or would like to discuss the content of this addendum further, please contact the undersigned.

Sincerely,

Clifford Curtis, P.Eng., MBA
Commissioner of Works
The Regional Municipality of Durham

Erin M. Mahoney, M.Eng.
Commissioner of Environmental Services
The Regional Municipality of York

CC: Regional Chair Roger Anderson, The Regional Municipality of Durham
Regional Chair Bill Fisch, The Regional Municipality of York
Mirka Januszkiewicz, The Regional Municipality of Durham
Laura McDowell, The Regional Municipality of York
Jim McKay, Stantec

December 21, 2009

Dear Sir or Madam,

Reference: **Durham/York Residual Waste Study**
Notice of Submission of Addendum to EA Study Document (as amended November 27, 2009)

In order to clarify information regarding the Request for Proposal (RFP) evaluation process that identified the preferred thermal treatment vendor, the Regions of Durham and York have prepared an addendum to the EA Study (as amended November 27, 2009).

The addendum has been submitted to the Ministry of the Environment. The addendum includes a revised Section 9.2 of the EA Study Document (as amended and submitted on November 27, 2009) containing:

- Section 9.2.1.1 providing a narrative on the Covanta submission similar to that provided for Proponents A, B, and C;
- Table 9-1 providing a "checklist" for the Covanta submission which documents their ability to meet the technical requirements of the RFP; and,
- Section 9.2.2.4 providing a qualitative assessment including methodology, criteria and ranking for each of the vendors submissions received.

You may view the addendum and the EA Study Document (as amended November 27, 2009) during normal business hours at the following locations:

Ministry of the Environment
Environmental Assessment and Approvals Branch
2 St. Clair Ave. W., Floor 12A
Toronto, Ontario M4V 1L5
416-314-8001 / 1-800-461-6290
Monday to Friday 8:30 a.m. to 5 p.m.

York-Durham Ministry of the Environment
District Office
230 Westney Rd. S., Floor 5
Ajax, Ontario L1S 7J5
905-427-5600 / 1-800-376-4547
Monday to Friday 8:30 a.m. to 5 p.m.

The Regional Municipality of Durham
Clerk's Department
605 Rossland Rd. E.
Whitby, Ontario L1N 6A3
905-668-7711 / 1-800-372-1102
Monday to Friday 8 a.m. to 5 p.m.

The Regional Municipality of York
Clerk's Department
17250 Yonge St.
Newmarket, Ontario L3Y 6Z1
905-895-1231 / 1-877-464-9675
Monday to Friday 8:30 a.m. to 4:30 p.m.

All documentation relating to this EA can be viewed at www.durhamyorkwaste.ca.

If you have any questions or need further information about this project, please call 1-866-398-4423 or contact:

Jim McKay, EA Coordinator
Stantec (formerly Jacques Whitford)
3430 South Service Rd., Suite 203
Burlington, Ontario L7N 3T9
Tel: 905-631-3910
Fax: 905-631-8960
Email: jim.mckay@stantec.com

Under the Freedom *of Information and Protection of Privacy Act* and the *Environmental Assessment Act,* unless otherwise stated in the submission, any personal information such as name, address, telephone number and property location included in a submission will become part of the public record files for this matter and will be released, if requested, to any person.

The Minister of the Environment will make the final decision about this Undertaking.

Thank you for your interest in this EA project.

Sincerely,

Tara Alkhalisi
Project Coordinator
Durham York Residual Waste Study

cc: Mirka Januszkiewicz, Director, Waste Management Services, Works Department, The Regional Municipality of Durham
Laura McDowell, Director, Environmental Promotion and Protection, The Regional Municipality of York
David Payne, Stantec Consulting Limited
Jim McKay, Stantec Consulting Limited

January 29, 2010 **VIA FAX/E-MAIL**

Ms. Agatha Garcia-Wright
Director, Environmental Assessment and Approvals Branch
Ministry of the Environment
2 St. Clair Ave. W., Floor 12A
Toronto, ON M4V 1L5

Attention: Gavin Battarino, Project Officer

Dear Ms. Garcia-Wright:

I would like to take this opportunity to provide the Ministry of the Environment (MOE) with our assessment of the Regions' fulfillment of the conditions imposed at each request for extension of the deadline for completion of the Ministry Review.

With the submission of the Durham/York Residual Waste Study Environmental Assessment addendum on December 16, 2009, we feel confident that the MOE's comments provided during the government and public review period have been addressed. However, as you are aware, in order to address these comments, two (2) requests for extension to the issuance of the review have been requested by the Regions' and approved by the Ministry. As part of this approval, the Ministry requested a number of conditions be met with respect to these extensions. In order to formally document that all Ministry conditions have been addressed, the table enclosed is submitted for your consideration.

A review of the latest Ministry responses to the Project Team's comments substantiates our belief that the amended EA has reached a stage where all parties can be satisfied with the end result. Therefore, as we move into the Ministry Review process, the Regions' are of the opinion that no further revision of the EA documentation is warranted and as such, there will be no additional extension requests, nor will any new/amended documentation be provided by the Proponents.

We would like to thank you and your staff for the opportunity to provide the revisions and clarification needed to complete the review. Should you require any further explanation or clarification, please do not hesitate to contact me at (905) 668-4113 extension 3464.

Sincerely,

Mirka Januszkiewicz, P.Eng., MBA
Director of Waste Management Services
The Regional Municipality of Durham

cc: Regional Chair Roger Anderson, Region of Durham
Regional Chair Bill Fisch, Region of York
Cliff Curtis, Commissioner of Works, Region of Durham
Erin Mahoney, Commissioner of Environmental Services, Region of York
Laura McDowell, Region of York
Jim McKay, Stantec

Encl.

MOE Document	Requirement	Response
Extension of the Deadline for completion of the Ministry Review dated October 6, 2009	Responses to comments received during the Public Inspection period must be submitted to the Ministry no later than November 6, 2009.	Postponed as detailed in the email of November 4, 2009 and letter of November 17, 2009. Final responses to comments provided to MOE on December 11, 2009.
Extension of the Deadline for completion of the Ministry Review dated November 17, 2009	Prepare an amendment to the EA the clearly identifies the changes that have been made to the original document.	Marked up copy of the amended EA provided to MOE technical staff on November 27, 2009.
	Prepare a separate table or document that lists each of the changes to the original document.	Table of Rationale and Concordance completed for the amended EA.
	Prepare and submit an amended EA to the MOE's EAAB by no later than November 27, 2009.	Amended EA submitted on November 27, 2009.
	Upon submission of the amended EA provide notice in writing to all persons, Aboriginal communities and GRT members who have participated in during the EA process.	Notice to the all persons, Aboriginal communities and GRT members sent on November 30, 2009.
	The amended EA and notice of submission shall be posted on the Regions' project website, along with information on how interested persons may obtain a hard copy of the amended EA.	Amended EA posted on website on November 27, 2009.
	Upon submission of the amended EA, the Regions provide an information session to ministry technical reviewers and members of the GRT.	Information session with the MOE technical reviewers conducted December 1, 2009.
Extension of the Deadline for completion of Ministry Review dated December 15, 2009	Prepare an addendum to the EA that clearly identifies the changes that have been made to the original document.	Completed and submitted on December 16, 2009.
	Prepare and submit the addendum to the EA to the MOE's EAAB by no later than December 24, 2009.	Completed and submitted on December 16, 2009.
	Upon submission of the addendum to the EA provide notice in writing to all persons, Aboriginal communities and GRT members who have participated in during the EA process.	Notice to the all persons, Aboriginal communities and GRT members sent on December 22, 2009 by email or mail.
	The addendum to the EA and notice of submission shall be posted on the Regions' project website along with information on how interested persons may obtain a hard copy of the amended EA.	Addendum to the EA posted on website on December 21, 2009.

Mr. Paul Heeney
Supervisor - PROJECT COORDINATION SECTION
Ministry of the Environment
Environmental Assessment and Approvals Branch
14th Flr
2 St Clair Ave W
Toronto ON M4V1L5

Dear Mr. Heeney,

As you are aware, the Regions of Durham and York are currently undertaking an Individual Environmental Assessment (EA) under the Province of Ontario Environmental Assessment Act to identify long-term waste disposal capacity. The EA Terms of Reference to support completion of this study was approved by the Minister of the Environment in March 2006. Subsequent to the approval of the EA Terms of Reference the evaluation of "Alternatives To" (ie. Technologies) was completed and Thermal Treatment identified as the preferred system for managing post-diversion residual waste over the long-term. Generally, this system entails the application of thermal treatment technology to materials that remain and must be managed by Durham and York Region's after the achievement of targeted waste diversion rates. Regional Councils in both Durham and York approved Thermal Treatment as the preferred system in June 2006. With the identification of a preferred "Alternative To", and Council's approval to proceed, the identification and evaluation of the preferred "Alternative Method" (ie. Siting) was initiated.

Currently we require your opinion with respect to our current approach in proceeding with the evaluation of "Alternative Methods" and the identification of a preferred site. To date we have completed all steps in the siting process, with the exception of the issuance of a Request for Proposals (RFP) to select the preferred technology Vendor. We are confident, as are our EA consultants and legal advisors that the work completed to date has been done in a manner that is consistent with our approved EA Terms of Reference, but seek confirmation from the Ministry of the Environment on a particular matter.

Overview of Minor Adjustment to EA Terms of Reference Methodology

It was originally envisioned in the 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 Request for Qualifications (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 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 those vendors only providing a technology thereby jeopardizing the success of the competitive process. By "uncoupling" the RFQ and Request for Proposals (RFP) process from the siting process, it allowed for a more "fair" procurement process to those involved and also allowed for the completion of siting activities in advance of the completion of the formal RFQ/RFP process for technology(ies).

The siting component of Step 6 was addressed through the development of a separate Request for Expressions of Interest (REOI) to potential technology vendors providing the opportunity for this group to offer a site through a formal process as described in the approved EA Terms of Reference. The commitment made at this time was that, although the two processes would be split, prior to the submission of a draft EA document for review, the processes would be pulled back together and any assumptions made in arriving at a preferred site before knowing the preferred technology vendor would be reconfirmed. Further, the decision to proceed was based on a high degree of certainty in the assumed siting requirements and potential impacts associated with a reasonable range of available proven thermal technologies offered by the industry. This determination was based on expertise and experience at a local, North American, and International level.

The evaluation of the Short-list of sites followed the evaluation methodology outlined in the approved EA Terms of Reference and included a comparative evaluation process taking into account Natural Environmental and Public Health and Safety considerations, Social and Cultural considerations, Economic/Financial considerations, Technical considerations, and Legal considerations.

We are of the opinion that this is a minor adjustment and consistent with the intent of the originally envisioned sequence of events outlined in the approved EA Terms of Reference. As per Section 9.0 of the approved EA Terms of Reference, we are confident that this adjustment is acceptable and in accordance with the approved EA Terms of Reference. Notwithstanding our level of certainty, we are proceeding recognizing the ability in the EA process to react to change if assumptions regarding siting needs change. This will continue to be the case moving forward. If at some point in the future, more detailed study identifies new or contradictory information related to previous assumptions, the results of previous steps would have to be reviewed and repeated if necessary.

Although the decision point regarding site and vendor has been separated, the two study paths continue in parallel, each in consideration of each other's results on a moving forward basis. In this regard, the RFQ process has resulted in the identification of five (5) specific thermal technology vendors, all with similar characteristics, which has further confirmed and increased our certainty that the assumed siting requirements and range of potential impacts have been appropriately considered.

In addition, it is our intention that prior to the submission of a draft EA document for review, a site-specific human health and ecological risk assessment will be completed on the preferred site to ensure that the proposed undertaking can be completed with no unacceptable risks identified to the surrounding population and natural areas associated with a thermal treatment facility.

Current Allegation and Request for Opinion

An allegation has been raised that the Regions of Durham and York have deviated from Step 7 of the process set out in section 6.2 of the approved EA Terms of Reference (March 2006). The particulars of the allegation are that the Regions have deviated from the requirement to conduct

the RFP process to identify a preferred vendor concurrently with the evaluation of the Shortlist of sites.

Regional Council has been asked to approve the consultants' Preferred Site in advance of the issuance of the RFP, but subsequent to the completion of the Request for Qualifications Process. Is this process consistent with Step 7 of the approved EA Terms of Reference in the Ministry's opinion given the flexibility provided in Section 9?"

Sincerely,

Mirka Januszkiewicz, P.Eng., M.A.Sc, M.B.A
Director
Waste Management Services
The Regional Municipality of Durham
Works Department
Phone: 905. 668.7721 Ext. 5494 or
1.800.372.1103

E-mail: mirka.januszkiewicz@region.durham.on.ca
Fax: 905.668.7494

Ministry of the Environment

Environmental Assessment and Approvals Branch

2 St. Clair Avenue West
Floor 12A
Toronto, ON M4V 1L5
Tel.: 416 314-8001
Fax: 416 314-8452

Ministère de l'Environnement

Direction des évaluations et des autorisations environnementales

2, avenue St. Clair Ouest
Étage 12A
Toronto, ON M4V 1L5
Tél. : 416 314-8001
Téléc. : 416 314-8452

Ontario

January 21, 2008

Mirka Januszkiewicz, P. Eng.
Director, Waste Management Services
Works Department
The Regional Municipality of Durham
605 Rossland Road East, Level 4
PO Box 623
Whitby, ON L1N 6A3

Dear Ms. Januszkiewicz:

Thank you for your January 16, 2008 letter regarding the Durham/York Residual Waste Study Environmental Assessment (EA) process.

In response to your inquiry, the Ministry of the Environment is of the opinion that the Regions have not deviated from Step 7 of the Durham/York Residual Waste Study EA process, *Evaluation of Alternative Methods*, in the approved Terms of Reference (ToR) to such an extent that an EA cannot be prepared in accordance with it.

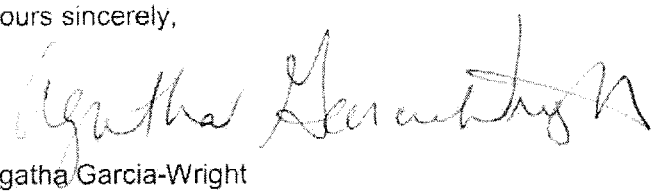
This is based on the information provided in your letter, dated January 16, 2008, and the ministry's understanding that Step 7 of the approved ToR has not yet been completed. Although the decision process regarding the identification of a preferred site has proceeded in advance of the decision process to identify the preferred technology, the two study paths would appear to be continuing in parallel. Provided that Step 7 has not yet been completed, and that the consideration of the preferred site and technology continue to move forward as set out in the ToR, the ministry is of the opinion that the EA can still be prepared in accordance with the approved ToR.

Despite having established the opinion above, I would like to remind the Regions of Durham and York that upon the formal submission of the EA the ministry will undertake a thorough evaluation of the EA in its entirety. This is to ensure that all aspects of the EA process have been carried out in accordance with the approved ToR, and in consideration of the public's comments when doing so.

In the interest of maintaining the transparency and openness of the EA process, any further adjustments to the EA process that may be contemplated should be discussed in consultation with the ministry prior to their implementation.

Should you have further questions please contact Gavin Battarino, Project Officer, of the Environmental Assessment and Approvals Branch, at 416-314-8214 or by email at gavin.battarino@Ontario.ca.

Yours sincerely,



Agatha Garcia-Wright
A/Director
Environmental Assessment and Approvals Branch

Enclosure

G.B/
EAAB\Ea\SHARE\EAPC files\Projects\EAs-RESTORE\Durham York Residual Waste\General Correspondence\Letter to Region of Durham 17 Jan 08.doc

Frith, Lindsay

From: Frith, Lindsay
Sent: Friday, August 07, 2009 4:25 PM
To: 'Gavin.Battarino@ontario.ca'
Cc: McKay, Jim; Doyle, Ryan
Subject: Durham/York Residual Waste Study - Information Requested as per the Durham and York Residual Waste Study EA Instructions for Distribution
Attachments: Durham Libraries.pdf; Government Offices receiving the EA Document.pdf; York Libraries.pdf; First Nations Distribution List.pdf; Hard Copy - Non-MOE GRT distribution list.pdf; Soft Copy - Non-MOE GRT distribution list.pdf; Tracking Numbers for First Nations and Public Locations.pdf; Tracking Results.zip

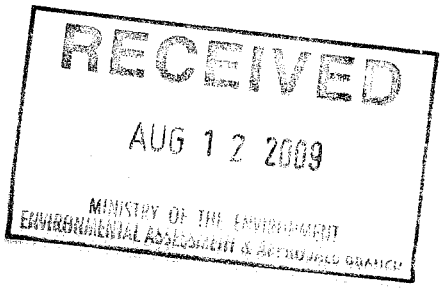
Gavin,

As outlined in the *Durham and York Residual Waste Study EA Instructions for Distribution* sent to Jim McKay on Friday, July 17, 2009, please find attached the following electronic copies:

- Public Record Locations Distribution Lists (Government Offices receiving the EA Document, Libraries in Durham Region receiving the EA Document in hardcopy, Libraries in York Region receiving the EA Document on DVD)
- Non-MOE GRT Distribution List (one list for individuals receiving both a hard copy and a DVD and one list for individuals receiving only a DVD)
- First Nations Distribution List
- Spreadsheet detailing tracking numbers for public record locations and Aboriginal communities
- Purolator tracking results for public record locations and Aboriginal communities.

Please note, several libraries have yet to receive the EA as they are not open regular business hours. We have contacted Purolator and have arranged to have the EA delivered during the libraries' scheduled hours.

Hardcopies of the above noted documents will follow via mail.



Thank you,

Lindsay

Lindsay Frith
Intermediate Environmental Planner
Stantec
203 - 3430 South Service Road
Burlington ON L7N 3T9
Ph: (905) 631-8684 Ext. 3244
Fx: (905) 631-8960

Cell: (905) 691-1573
lindsay.frith@stantec.com
stantec.com

Libraries in Durham Region receiving the EA document in hardcopy

Durham Area	Library	Address and Phone Number
City of Oshawa	McLaughlin Branch	65 Bagot Street, Oshawa, ON L1H 1N2 (905) 579-6111 ext. 5200
	Northview Branch	250 Beatrice Street, Oshawa, ON L1H 1N2. (905) 579-6111 ext. 5200
	Jess Hann Branch	199 Wentworth Street W., Oshawa, ON L1H 6P4 (905) 579-6111 ext. 5860
	Legends Centre Branch	1661 Harmony Road N., Oshawa, ON L1H 7K5 (905) 579-6111 ext. 5802
Town of Whitby	Central Library	405 Dundas Street West, Whitby, ON L1N 6A1 (905) 668-6531
	Rossland Branch	701 Rossland Road East, Whitby, ON L1N 8Y9 (905) 668-1886
	Brooklin Branch	150 Winchester Road West, Brooklin, ON L1M 0C4 (905) 655-3191
	Whitby Archives	405 Dundas Street West, Whitby, ON L1N 6A1 (905) 668-6531
Municipality of Clarington	Bowmanville Branch	163 Church Street, Bowmanville, ON L1C 1T7 (905) 623-7322
	Newcastle Branch	50 Mill Street North, Newcastle, ON L1B 1L4 (905) 987-4844
	Orono Branch	127 Church St., Orono, ON L0B 1M0 (905) 983-5507

	Courtice Branch	2950 Courtice Road, Courtice, ON L1E 2H8 (905) 404-0707
Town of Ajax	Main Branch	Ajax Public Library 55 Harwood Ave. S. Ajax, ON L1S 2H8 (905) 683-4000
	Mclean Branch	95 Magill Dr. Ajax, ON L1T 4M5 (905) 428-8489
	Village Branch	58 Church St. N. Ajax, ON L1T 2W6 (905) 683-1140
City of Pickering	Central Library	One the Esplanade, Pickering, ON L1V 6K7 (905) 831-6265
	Petticoat Creek Branch	470 Kingston Rd Pickering, ON L1V 1A4 (905) 420-2254
	Claremont Branch	4941 Old Brock Road, Claremont, ON L1Y 1A9 (905) 649-3341
	Greenwood Branch	3540 Westney Road, Greenwood, ON L0H 1H0 (905) 683-8844
	Whitevale Branch	475 Whitevale Rd, Whitevale, ON L0H 1M0 (905) 294-0967
Township of Port Perry	Scugog Memorial Public Library	231 Water Street, P.O. Box 1049, Port Perry, ON L9L 1A8 (905) 985-7686
Township of Uxbridge	Uxbridge Public Libary	9 Toronto Street South, PO Box 279, Uxbridge, ON L9P 1P7 (905) 852-9747
	Zephyr Public Library	13000 Durham Road 39, Zephyr, ON L0E 1T0 (905) 473-2375

Township of Brock	Beaverton Branch	401 Simcoe Street, PO Box 310, Beaverton, ON L0K 1A0 (705) 426-9283
	Cannington Branch	21 Ann Street North, PO Box 89, Cannington, ON L0E 1E0 (705) 432-2867
	Sunderland Branch	41 Albert Street, PO Box 208 Sunderland, ON L0C 1H0 (705) 357-3109

City of Vaughan	Ansley Grove Library	350 Ansley Grove Road, Woodbridge, ON L4L 5C9 (905) 653-7323
	Bathurst Clark Resource Library	900 Clark Avenue West, Vaughan, ON L4J 8C1 (905) 653-7323
	Dufferin Clark Library	1441 Clark Avenue West, Vaughan, ON L4J 7R4 (905) 653-7323
	Kleinburg Library	10341 Islington Avenue North, Kleinburg, ON L0J 1C0 (905) 653-7323
	Maple Library	10190 Keele Street, Maple, ON L6A 1G3 (905) 653-7323
	Pierre Berton Resource Library	4921 Rutherford Road, Woodbridge, ON L4L 1A6 (905) 653-7323
	Woodbridge Library	150 Woodbridge Avenue, Woodbridge, ON L4L 2S7 (905) 653-7323
Town of Richmond Hill	Central Library	1 Atkinson Street, Richmond Hill, ON L4C 0H5 (905) 884-9288
	Oak Ridge Moraine Library	13085 Yonge Street, Unit #12, Richmond Hill, ON L4E 3S8 (905) 773-5533
	Richmond Green Library	1 William F. Bell Parkway, Richmond Hill, ON L4S 2T9 (905) 780-0711
	Richvale Library	40 Pearson Avenue, Richmond Hill, ON L4C 6T7 (905) 889-2847
Town of Thornhill	Thornhill Community Centre Branch	7755 Bayview Avenue, Thornhill, ON L3T 4P1 (905) 513-7977

Libraries in York Region receiving the EA Document on DVD

York Area	Library	Address and Phone Number
Township of King	Ansnorveldt Branch	18997 Dufferin St, Ansnorveldt, ON L3Y 4V9 (905) 775-8717
	King Branch	1970 King Rd, King City, ON L7B 1A6 (905) 833-5101
	Nobleton Branch	8 Sheardown Dr, Nobleton, ON L0G 1N0 (905) 859 - 4188
	Schomberg Branch	77 Main St, Schomberg, ON L0G 1T0 (905) 939 -2102
Town of Newmarket	Newmarket Public Library	438 Park Avenue, Newmarket, ON L3Y 1W1 (905) 953-5110
Town of Aurora	Aurora Public Library	15145 Yonge Street, Aurora, ON L4G 1M1 (905) 727-9493
Town of East Gwillimbury	Holland Landing Branch	19513 Yonge Street, East Gwillimbury, ON L9N 1P2 (905) 836-6492
	Mount Albert	19300 Centre Street, East Gwillimbury, ON L0G 1M0 (905) 473-2472
Town of Georgina	Keswick Branch	90 Wexford Dr, Keswick, ON L4P 3P7 (905) 476-5762
	Peter Gzowski Branch	5279 Black River Rd, Sutton, ON L0E 1R0 (905) 722-5702
	Pefferlaw Branch	76 Pete's Lane, Pefferlaw, ON L0E 1N0 (705) 437-1514

Government Offices receiving the EA Document

Office	Address and Phone Number
Ministry of the Environment Offices	
Ministry of the Environment Environmental Assessment and Approvals Branch	2 St. Clair Avenue West , Floor 12A Toronto, ON M4V 1L5 (416) 314-8001 / 1-800-461-6290
York-Durham Ministry of the Environment District Office	230 Westney Road South, Floor 5 Ajax, ON L1S 7J5 (905) 427-5600 / 1-800-376-4547
Municipal Offices within Durham Region	
The Regional Municipality of Durham Clerk's Department	605 Rossland Road East Whitby, ON L1N 6A3 (905) 668-7711 / 1-800-372-1102
City of Oshawa City Clerk Services Administration	50 Centre Street South Oshawa, ON L1H 3Z7 (905) 436-3311 / 1-800-6-OSHAWA
The Corporation of the City of Pickering Clerks Division	One The Esplanade Pickering, ON L1V 6K7 (905) 420-4611 / 1-866-683-2760
Town of Ajax	65 Harwood Avenue South Ajax, ON L1S 2H9 (905) 683-4550
The Corporation of the Town of Whitby Municipal Office	575 Rossland Road East Whitby, ON L1N 2M8 (905) 668-5803
The Municipality of Clarington Municipal Clerk	40 Temperance Street Bowmanville, ON L1C 3A6 (905) 623-3379 / 1-800-563-1195
Township of Brock Clerk's Department	1 Cameron Street East, P.O. Box 10 Cannington, ON, L0E 1E0 (705) 432-2355/ 1-866-223-7668

Office	Address and Phone Number
Township of Scugog Clerk's Department	181 Perry Street, Box 780 Port Perry, ON, L9L 1A7 (905) 985-7346
Township of Uxbridge Clerk's Department	51 Toronto Street South, P.O. Box 190 Uxbridge, ON L9P 1T1 (905) 852-9181
Municipal Offices within York Region	
The Regional Municipality of York Regional Clerk's Office	17250 Yonge Street Newmarket, ON, L3Y 6Z1 (905) 895-1231 / 1-877-464-YORK (9675)

	Thornhill Village Branch	10 Colborne Street, Thornhill, ON L3T 1Z6 (905) 513-7977
Town of Markham	Angus Glen Branch	3990 Major Mackenzie Drive East, Markham ,ON L6C 1P8 (905) 513-7977
	Markham Village Branch	6031 Highway 7, Markham, ON L3P 3A7 (905) 513-7977
	Milliken Mills Branch	7600 Kennedy Road, Unit 1, Markham, ON L3R 9S5 (905) 513-7977
	Unionville Branch	15 Library Lane, Markham, ON L3R 5C4 (905) 513-7977
Town of Whitchurch - Stouffville	Whitchurch – Stouffville Public Library	30 Burkholder St., Stouffville, ON L4A 4K1 (905) 642-7323

Government Review Team List
nam/York Residual Waste Study Individual Environmental Assessment

Agency Contact Type	Title	First Name	Surname	Occupation	Agency	Branch	Address	Address 2	City	Province	Postal Code	Telephone	Facsimile	Email
Conservation Authority	Mr.	Robert	Hershey	Director	Central Lake Ontario Conservation Authority		100 Whiting Avenue		Oshawa	ON	L1H 3T3	905-579-0411 x 119	905-579-0994	rhershey@clocal.com
Conservation Authority	Mr	Don	Pearson	General Manager	Conservation Ontario		120 Bayview Parkway	Box 11	Newmarket	ON	L3Y 4W3	905-895-0716	905-895-0751	info@conservation-ontario.on.ca
Conservation Authority	Ms.	Linda	Laliberte	CAO/Secretary-Treasurer	Ganaraska Region Conservation Authority		2216 County Road 28	PO Box 328	Port Hope	ON	L1A 3W4			llaliberte@grca.on.ca
Conservation Authority	Mr.	Mark	Majchrowski	Director, Watershed Management	Kawartha Conservation Authority		277 Kenrei Park Road	R.R. #1	Lindsay	ON	K9V 4R1	1-705-328-2271 x215	1-705-328-2286	mmajchrowski@kwarthaconservation.com
Conservation Authority	Mr.	Bev	Booth	Manager of Planning	Lake Simcoe Region Conservation Authority		120 Bayview Parkway	Box 282	Newmarket	ON	L3Y 4X1	905-895-1281 ext. 230	905-853-5881	
Conservation Authority	Mr.	Chris	Hibberd	Director of Planning	Nottawasaga Valley Conservation Authority		8195 Concession Line 8		Utopia	ON	L0M 1T0	705-424-1479 ext. 229	705-424-2115	chibberd@nvca.on.ca
Conservation Authority	Ms.	Beth	Williston	Manager, Environmental Assessment Review	Toronto and Region Conservation		5 Shoreham Drive		Downsview	ON	M3N 1S4	416-661-660 ext. 5217	416-661-6898	bwilliston@trca.on.ca
Federal	Ms.	Louise	Knox	Director	Canadian Environmental Assessment Agency	Ontario Region	55 St. Clair Avenue East, 9th Floor		Toronto	ON	M4T 1M2	416-952-1575	416-952-1573	louise.knox@ceaa-acee.gc.ca
Federal	Mr.	Henry	Rabski	Director	Canadian Nuclear Safety Commission	Operations Inspection Division	280 Slater Street	PO Box 1046, Station B	Ottawa	ON	K1P 5S9	613-944-6253	613-995-5086	rabski@cnsc-ccsn.gc.ca
Federal	Generic Contact				Department of Indian and Northern Affairs	Environmental Unit, Re: Environmental Assessment Coordination	25 St. Clair Avenue East, 8th Floor		Toronto	ON	M4T 1M2			EACoordination_ON@inac-ainc.gc.ca
Federal	Mr.	Dave	Reynolds	Manager	Engineering & Environmental Services	CN Rail	1 Administration Road	PO Box 1000	Concord	ON	L4K 1B9	905-669-3119	905-760-3406	
Federal	Mr.	Rob	Dobos	Manager	Environment Canada	Environmental Assessment Section Environmental Protection Operations Division - Ontario Region	867 Lakeshore Road	PO Box 5050	Burlington	ON	L7R 4A6	905-336-4953	905-336-8901	rob.dobos@ec.gc.ca
Federal				Referrals	Fisheries and Oceans Canada	Fish Habitat Management, OGLA Southern District	304-3027 Harvester Road	PO Box 85060	Burlington	ON	L7R 4K3	905-639-0188		referralsburlington@dfo-mpo.gc.ca
Federal	Ms.	Anik	Guertin	Environmental Health Assessment Officer, Safe Environments Program	Health Canada	Environmental Research	200 Eglantine Driveway, Tunney's Pasture		Ottawa	ON	K1A 0K9	613-957-2490		anik_guertin@hc-sc.gc.ca
Federal	Ms.	Kitty	Ma	Regional Environmental Assessment Coordinator	Health Canada	Healthy Environmental and Consumer Safety	180 Queen Street West, 10th Floor		Toronto	ON	M5V 3L7	416- 954-2206	416-952-0102	kitty_ma@hc-sc-gc.ca
Federal	Ms.	Sheila	Allen	Property and Facility Manager	Public Works and Government Services Canada	Vancouver	800 Burrard Street, Room 641		Vancouver	BC	V6Z 2V8	604-775-6060	604-775-9364	sheila.allan@pwgsc-tpsgc.gc.ca
Federal	Mr.	Naren	Doshi	Director of Airport Planning	Transport Canada	Greater Toronto Airport Authority Lester B. Pearson International Airport	3111 Convair Drive	PO Box 6031	Toronto	ON	L5P 1B2	416-776-5023	416-776-4168	
Municipal	Mr.	Dave	Crome		Municipality of Clarington		40 Temperance Street		Bowmanville	ON	L1C 3A6			dcrome@clarington.net
Provincial	Mr.	Michael	Wolczyk	Manager	Go Transit	Marketing and Planning	20 Bay Street, Suite 600		Toronto	ON	M5J 2W3	416-869-3600 ex. 5424	416-869-1563	michaelw@GOTRANSIT.com
Provincial	Mr.	Charles S.	Esendal	Sustainment Manager	Hydro One Inc.	Tx Lines Info Systems and Programs	483 Bay Street, TCT15-A11, North Tower		Toronto	ON	M5G 2P5	416-345-5931	416-345-5395	charles.esendal@hydroone.com
Provincial	Ms.	Pam	Wheaton	Director	Ministry of Aboriginal Affairs	Aboriginal and Ministry Relationships Branch	160 Bloor Street East, 9th Floor		Toronto	ON	M7A 2E6	416-326-4053	416-325-1066	pam.wheaton@ontario.ca
Provincial	Mr.	Ray	Valaitis	Rural Planner Central & Northern Ontario	Ministry of Agriculture Food and Rural Affairs	Food Safety and Envioronmental Policy	Agricultural Land Use Unit	95 Dundas Street East, RR#3	Brighton	ON	K0K 1H0	613-475-4764	519-826-3109	ray.valaitis@ontario.ca
Provincial	Mr.	Winston	Wong	Heritage Planner - Central East	Ministry of Culture	Programs and Services Branch, Culture Services Unit	400 University Avenue, 4th Floor		Toronto	ON	M7A 2R9	416-314-7147		winston.l.wong@ontario.ca
Provincial	Mr.	Reed	Barrett	Director	Ministry of Economic Development	Sector Competitiveness Branch, Industry Division	900 Bay Street, 7th Floor	Hearst Block	Toronto	ON	M7A 2E1	416.325.9897	416-325-6885	reed.barrett@ontario.ca
Provincial	Mr.	Steven	Mitchell	Architect - Pupil Accomodation Unit	Ministry of Education	Capital Programs	900 Bay Street, 21 st Floor	Mowat Block	Toronto	ON	M7A 1L2	416.325.2015		steven.mitchell@ontario.ca
Provincial	Ms.	Yvonne	Di Tullio	Senior Policy Advisor	Ministry of Energy and Infrastructure	Energy Efficiency and Energy Distribution	880 Bay Street, 6th Floor		Toronto	ON	M7A 2C1	416.325.7062	416-325-6972	yvonne.ditullio@ontario.ca
Provincial	Mr.	Tony	Amalfa	Manager - Environmental Health Programs	Ministry of Health and Long-Term Care	Environmental Health Branch	5700 Yonge Street, 2nd Floor	2nd Floor	Toronto	ON	M2M 4K5	416.327.7624		Tony.Amalfa@ontario.ca
Provincial	Ms.	Sylvia	Shedden	Manager	Ministry of Health and Long-Term Care	Performace Management	801 - 1075 Bay Street, 8th Floor		Toronto	ON	M5S 2B1	416-314-1084	416-314-2117	brenda.mitchell@moh.gov.on.ca; sylvia.shedden@ontario.ca
Provincial	Mr.	Steve	Strong		Ministry of Natural Resources							905-713-7366		steven.strong@ontario.ca
Provincial	Mr.	John	Langley	Director	Ministry of Trade and Investment	Investment Branch, Investment and Trade Division	900 Bay Street, 7th Floor	Hearst Block	Toronto	ON	M7A 2E1	416-325-6758	416-325-6799	john.langley@ontario.ca
Provincial	Mr.	Lou	Politano	Manager - Engineering Office	Ministry of Transportation	Engineering Office	1201 Wilson Avenue	Building D, 5th Floor	Downsview	ON	M3M 1J8	416.235.5484	416.235.3436	lou.politano@ontario
Provincial	Mr.	Steve	Hounsell	Senior Advisor	Ontario Power Generation	Sustainable Development	700 University Avenue		Toronto	ON	M5G 1X6	416-592-2766	416-592-7097	steve.hounsell@opg.com
Provincial	Mr.	John	MacKenzie	Director	Ontario Realty Corporation	Real Estate Development Planning	1 Dundas Street West		Toronto	ON	M5G 2L5	416-327-3724		john.mackenzie@ontariorealty.ca
Provincial		Mr.	Alan	Kary	Aboriginal Project Coordinator	Community Safety and Correctional Services	Aboriginal Policy and Coordination Unit	25 Grosvenor Street	9th Floor	Toronto	ON	M7A 1Y6	(416) 32325-4880	

Note: Individuals on this list received a hard copy and an electronic copy of the EA.

Government Review Team List
ırham/York Residual Waste Study Individual Environmental Assessment

Agency Contact Type	Title	First Name	Surname	Occupation	Agency	Branch	Address	Address 2	City	Province	Postal Code	Telephone	Facsimile	Email
Conservation Authority	Ms.	Lisa	Roberti	Planning Ecology Analyst	Toronto and Region Conservation		5 Shoreham Drive		Downsview	ON	M3N 1S4	416-6600 ext. 5702	416-661-6898	lroberti@trca.on.ca
Conservation Authority	Ms.	June	Murphy	Planner II	Toronto and Region Conservation		5 Shoreham Drive		Downsview	ON	M3N 1S4	416-661-6600, ext.	416-661-6898	jmurphy@trca.on.ca
Federal	Mr.	Dave	Bell	Senior Program Officer	Canadian Environmental Assessment Agency	Ontario Region	55 St. Clair Avenue East, Suite 907		Toronto	ON	M4T 1M2	416-952-1574	416-952-1573	dave.bell@ceaa-acee.gc.ca
Federal	Ms.	Denise	Fell	Environmental Assessment Officer	Environment Canada	Environmental Assessment and Federal Programs	Ontario Region	867 Lakeshore	Burlington	ON	L7R 4A6	905-336-4951	905-336-8901	
Federal	Ms.	Melanie	Lalani	Regional Environmental Assessment Coordinator	Health Canada	Safe Environments Program Ontario Region	180 Queen Street West, 10th Floor		Toronto	ON	M5V 3L8	416-954-5013	416-952-4444	Melanie_lalani@hc-sc.gc.ca
Municipal	Mr.	Gord	Weir	Director (Fire Chief)	Municipality of Clarington		40 Temperance Street		Bowmanville	ON	L1C 3A6			gweir@clarington.net
Regional Services	Dr.	Robert	Kyle	Commissioner/Medical Officer of Health	Durham Region		605 Rossland Road East		Whitby	ON	L1N 0B2	905-668-7711 x3110	905-666-6214	robert.kyle@region.durham.on.ca
Regional Services	Dr.	Karim	Kurji	Acting Medical Officer of Health and Director of Public Health Programs	York Region	York Region Health Services Department	17250 Yonge Street	Box 147	Newmarket	ON	L3Y 6Z1	905-830-4444, ext. 4012		karim.kurji@york.ca
School Board		Martyn	Beckett	Director of Education	Durham District School Board		400 Taunton Road East		Whitby	ON	L1R 2K6	905-666-5500	905-666-6474	
School Board	Mr.	Paul	Pulla	Director of Education	Durham Catholic District School Board		650 Rossland Road West		Oshawa	ON	L1J 7C4	905-576-6150	905-21-8239	

Note: Individuals on this list received an electronic copy of the EA.

Title	First Name	Surname	Agency	Branch	Address	Address2	City	Province	Postal Code	Phone Number	Purolator Tracking No.
First Nations											
Chief	Donna	Big Canoe	Chippewas of Georgina Island		Virginia Beach Marina, 7751 Black River Rd.	P.O. Box N13, RR2	Sutton West	ON	L0E 1R0	705-437-1337	320 611 151 293
Chief	Sharon	Stinson Henry	Chippewas of Mnjikaning		5884 Rama Rd.	Suite 200	Rama	ON	L0K 1T0	705-325-3611	320 611 152 234
Chief	Tracy	Gauthier	Mississaugas of Scugog Island		22521 Island Rd.		Port Perry	ON	L9L 1B6	905-985-3337	320 611 152 481
			Nippissing First Nation	Williams Treaty First Nations	Anishinabek Nation	1 Migizii Miikan Rd., P.O. Box 711	North Bay	ON	P1B 8J8	705-497-9127 / 1-877-702-5200	320 611 244 734
Grand Chief	Randall	Phillips	Association of Iroquois		387 Princess Ave.		London	ON	N6B 2A7	519-434-2761	320 611 153 539
Chief	Dean	Sayers	Batchewana First Nation		263 Frontenac St.		Sault Ste. Marie	ON	P6A 5K9	705-759-0914	320 611 154 156
Chief	Rodney	Monague, Jr.	Beausoliel First Nation		Christian Island	1 Ogema St.	Cedar Point	ON	L0K 1C0	705-247-2051	320 611 213 952
Chief	Louise	Hillier	Caldwell First Nation		32 Victoria St. N.		Leamington	ON	N8H 2V9	519-678-3831	320 611 156 060
Chief	Keith	Knott	Curve Lake First Nation		22 Winookeedaa St.		Curve Lake	ON	K0L 1R0	705-657-8045	320 611 156 177
Chief	Gregory	Peters	Delaware First Nation		14760 School House Line	RR 3	Thamesville	ON	N0P 2K0	519-692-3936	320 611 215 981
Ms.	Margaret	Sault	Mississaugas of the New Credit		2789 Mississauga Rd.	RR 6	Hagersville	ON	N0A 1H0	905-768-0100	320 611 216 864
Chief	Bryan	LaForm	Mississauga of the New Credit First Nation		2789 Mississauga Rd.	RR 6	Hagersville	ON	N0A 1H0	905-768-1133	320 611 217 771
Chief	James	Marsden	Mississaugas of Alderville First Nation		11696 Second Line Rd.	P.O. Box 46	Roseneath	ON	K0K 2X0	905-352-2011	320 611 221 039
Chief	R. Donald	Maracle	Mohawks of the Bay of Quinte		13 Old York Rd.	RR 1	Deseronto	ON	K0K 1X0	905-631-3424	320 611 222 094
Chief	Laurie	Carr	Ojibways of Hiawatha First Nation		123 Paudash St.		Keene	ON	K0L 2G0	705-295-4421	320 611 222 672
Grand Chief	Konrad	Sioui	Huronne-wendat Nation		255 Place Michel Laveau	Village Huron	Wendake	QC	G0A 4V0	418-843-3767	320 611 223 753
Chief	Joel	Abram	Oneida Nation of the Thames		2212 Elm Ave.	RR 2	Southwold	ON	N0L 2G0	519-652-3244	320 611 225 493
Chief	Bill	Montour	Six Nations of the Grand River		1695 Chiefswood Rd.		Oshweken	ON	N0A 1M0	519-445-2201	320 611 231 277
Chief	Blaine	Commandant	Wahta Mohawks		2664 Muskoka Road. 38	P.O. Box 260	Bala	ON	P0C 1A0	705-762-2354	320 611 231 921
Mr.	Gary	Lipinski	Metis Nation of Ontario		500 Old St. Patrick St.	Suite 3	Ottawa	ON	K1N 9G4	613-798-1488	320 611 233 042
Public Record Locations											
			The Regional Municipality of Durham	Clerk's Department	605 Rossland Road East		Whitby	ON	L1N 6A3	905-668-7711 / 1-800-372-1102	Hand Delivered
			City of Oshawa	City Clerk Services Administration	50 Centre Street South		Oshawa	ON	L1H 3A7	905-436-3311 / 1-800-6-OSHAWA	Regional Courier
			The Corporation of the City of Pickering	Clerks Division	One The Esplanade		Pickering	ON	L1V 6K7	905-420-4611 / 1-866-683-2760	Regional Courier
			Town of Ajax		65 Harwood Avenue South		Ajax	ON	L1S 2H9	905-683-4550	Regional Courier
			The Corporation of the Town of Whitby	Municipal Office	575 Rossland Road East		Whitby	ON	L1N 2M8	905-668-5803	Regional Courier
			The Municipality of Clarington	Municipal Clerk	40 Temperance Street		Bowmanville	ON	L1C 3A6	905-623-3379 / 1-800-563-1195	Regional Courier
			Township of Brock	Clerk's Department	1 Cameron Street East., P.O. Box 10		Cannington	ON	L0E 1E0	705-432-2355 / 1-866-223-7668	Regional Courier
			Township of Scugog	Clerk's Department	181 Perry Street, Box 780		Port Perry	ON	L9L 1A7	905-985-7346	Regional Courier
			Township of Uxbridge	Clerk's Department	51 Toronto Street South, P.O. Box 190		Uxbridge	ON	L9P 1T1	905-852-9181	Regional Courier
			The Regional Municipality of York	Regional Clerk's Office	17250 Yonge Street		Newmarket	ON	L3Y 6Z1	905-895-1231 / 1-877-464-YORK	100 895 904 17
			City of Oshawa	McLaughlin Branch Library	65 Bagot Street		Oshawa	ON	L1H 1N2	905-579-6111 ext. 5200	100 895 896 17
			City of Oshawa	Northview Branch Library	250 Beatrice Street		Osahwa	ON	L1H 1N2	905-579-6111 ext. 5200	100 895 896 58
			City of Oshawa	Jess Hann Branch Library	199 Wentworth Street W.		Oshawa	ON	L1H 6P4	905-579-6111 ext. 5860	100 895 896 90
			City of Oshawa	Legends Centre Branch Library	1661 Harmony Road N.		Oshawa	ON	L1H 7K5	905-579-6111 ext. 5802	100 895 897 32
			Town of Whitby	Central Library	405 Dundas Street West		Whitby	ON	L1N 6A1	905-668-6531	100 895 906 15
			Town of Whitby	Rossland Branch Library	701 Rossland Road East		Whitby	ON	L1N 8Y9	905-668-1886	100 895 899 30
			Town of Whitby	Brooklin Branch Library	150 Winchester Road West		Brooklin	ON	L1M 0C4	905-655-3191	100 895 902 92
			Town of Whitby	Whitby Archives	405 Dundas Street West		Whitby	ON	L1N 6A1	905-668-6531	100 895 902 50
			Municipality of Clarington	Bowmanville Branch Library	163 Church Street		Bowmanville	ON	L1C 1T7	905-623-7322	100 895 902 19
			Municipality of Clarington	Newcastle Branch Library	50 Mill Street North		Newcastle	ON	L1B 1L4	905-987-4844	100 895 900 94
			Municipality of Clarington	Orono Branch Library	127 Church Street		Orono	ON	L0B 1M0	905-983-5507	100 895 903 75
			Municipality of Clarington	Courtice Branch Library	2950 Courtice Road		Courtice	ON	L1E 2H8	905-404-0707	100 895 903 34
			Town of Ajax	Main Branch - Ajax Public Library	55 Harwood Ave. South		Ajax	ON	L1S 2H8	905-683-4000	100 895 905 32
			Town of Ajax	Mclean Branch Library	95 Magill Drive		Ajax	ON	L1T 4M5	905-428-8489	100 895 894 50
			Town of Ajax	Village Branch Library	58 Church Street N.		Ajax	ON	L1T 2W6	905-683-1140	100 895 901 77
			City of Pickering	Central Library	One The Esplanade		Pickering	ON	L1V 6K7	905-831-8265	100 895 879 75
			City of Pickering	Petticoat Creek Branch Library	470 Kingston Road		Pickering	ON	L1V 1A4	905-420-2254	100 895 904 58
			City of Pickering	Claremont Branch Library	4941 Old Brock Road		Claremont	ON	L1Y 1A9	905-649-3341	100 895 898 56
			City of Pickering	Greenwood Branch Library	3540 Westney Road		Greenwood	ON	L0A 1H0	905-683-8844	100 895 898 15
			City of Pickering	Whitevale Branch Library	475 Whitevale Road		Whitevale	ON	L0H 1M0	905-294-0967	100 895 905 73
			Township of Port Perry	Scugog Memorial Public Library	231 Water Street, P.O. Box 1049		Port Perry	ON	L9L 1A8	905-985-7686	100 895 906 98
			Township of Uxbridge	Uxbridge Public Library	9 Toronto Street South, P.O. Box 279		Uxbridge	ON	L9P 1P7	905-852-9747	100 895 906 56
			Township of Uxbridge	Zephyr Public Library	13000 Durham Road 29		Zehpyr	ON	L0E 1T0	905-473-2375	100 895 901 36
			Township of Brock	Beaverton Branch Library	401 Simcoe Street, P.O. Box 310		Beaverton	ON	L0K 1A0	905-426-9283	100 895 897 73
			Township of Brock	Cannington Branch Library	21 Ann Street North, P.O. Box 89		Cannington	ON	L0E 1E0	705-432-2867	100 895 898 98
			Township of Brock	Sunderland Branch Library	41 Albert Street, P.O. Box 208		Sunderland	ON	L0C 1H0	705-357-3109	100 895 899 71
			Township of King	Ansnorveldt Branch Library	18997 Dufferin Street		Ansnorveldt	ON	L3Y 4V9	905-775-8717	320 644 704 026
			Township of King	King Branch	1970 King Road		King City	ON	L7B 1A6	905-833-5101	320 611 704 299

Title	First Name	Surname	Agency	Branch	Address	Address2	City	Province	Postal Code	Phone Number	Purolator Tracking No.
			Township of King	Nobleton Branch Library	8 Sheardown Drive		Nobleton	ON	L0G 1N0	905-859-4188	320 611 704 547
			Township of King	Schomberg Branch	77 Main Street		Schomberg	ON	L0G 1T0	905-939-2102	320 611 704 653
			Town of Newmarket	Newmarket Public Library	438 Park Avenue		Newmarket	ON	L3Y 1W1	905-953-5110	320 611 704 844
			Town of Aurora	Aurora Public Library	15145 Yonge Street		Aurora	ON	L4G 1M1	905-727-9493	320 611 705 130
			Town of East Gwillimbury	Holland Landing Branch	19513 Yonge Street		East Gwillimbury	ON	L9N 1P2	905-836-6492	320 611 705 312
			Town of East Gwillimbury	Mount Albert	19300 Centre Street		East Gwillimbury	ON	L0G 1M0	905-473-2472	320 611 705 569
			Town of Georgina	Keswick Branch Library	90 Wexford Drive		Keswick	ON	L4P 3P7	905-476-5762	101 212 457 31
			Town of Georgina	Peter Gzowski Branch Library	5279 Black River Road		Sutton	ON	L0E 1R0	905-722-5702	101 212 456 99
			Town of Georgina	Pefferlaw Branch Library	76 Pete's Lane		Pefferlaw	ON	L0E 1N0	705-437-1514	101 212 457 72
			City of Vaughan	Ansley Grove Library	350 Ansley Grove Road		Woodbridge	ON	L4L 5C9	905-653-7323	101 212 458 14
			City of Vaughan	Bathurst Clark Resource Library	900 Clark Avenue West		Vaughan	ON	L4J 8C1	905-653-7323	101 212 456 57
			City of Vaughan	Dufferin Clark Library	1441 Clark Avenue West		Vaughan	ON	L4J 7R4	905-653-7323	101 212 456 16
			City of Vaughan	Kleinburg Library	10341 Islington Avenue North		Kleinburg	ON	L0J 1C0	905-653-7323	101 212 455 33
			City of Vaughan	Maple Library	10190 Keele Street		Maple	ON	L6A 1G3	905-653-7323	101 212 459 70
			City of Vaughan	Pierre Berton Resource Library	4921 Rutherford Road		Woodbridge	ON	L4L 1A6	905-653-7323	101 106 330 99
			City of Vaughan	Woodbridge Library	150 Woodbridge Ave.		Woodbridge	ON	L4L 2S7	905-653-7323	101 212 458 88
			Town of Richmond Hill	Central Library	1 Atkinson Street		Richmond Hill	ON	L4C 0H5	905-884-9288	101 212 454 91
			Town of Richmond Hill	Oak Ridge Moraine Library	13085 Yonge Street, Unit 12		Richmond Hill	ON	L4E 3S8	905-773-5533	101 212 455 74
			Town of Richmond Hill	Richmond Green Library	1 William F. Bell Parkway		Richmond Hill	ON	L4S 2T9	905-780-0711	101 406 316 55
			Town of Richmond Hill	Richvale Library	40 Pearson Ave.		Richmond Hill	ON	L4C 6T7	905-889-2847	101 212 454 91
			Town of Thornhill	Thornhill Community Centre Branch	7755 Bayview Ave.		Thornhill	ON	L3T 4P1	905-513-7977	101 406 329 35
			Town of Thornhill	Thornhill Village Branch Library	10 Colborne Street		Thornhill	ON	L3T 1Z6	905-513-7977	101 212 454 59
			Town of Markham	Angus Glen Branch Library	3990 Major Mackenzie Drive E		Markham	ON	L6C 1P8	905-513-7977	101 406 328 51
			Town of Markham	Markham Village Branch Library	6031 Highway 7		Markham	ON	L3P 3A7	905-513-7977	101 406 330 16
			Town of Markham	Milliken Mills Branch Library	7600 Kennedy Road, Unit 1		Markham	ON	L3R 9S5	905-513-7977	101 406 328 93
			Town of Markham	Unionville Branch Library	15 Library Lane		Markham	ON	L3R 5C4	905-513-7977	101 406 330 57
			Town of Whitchuch-Stouffville	Whitchurch-Stouffville Public Library	30 Burkholder St.		Stouffville	ON	L4A 4K1	905-642-7323	101 406 329 76

Agency Contact Type	Title	First Name	Surname	Position	Agency	Branch	Address	Address 2	City	Prov.	Postal Code
Local First Nations	Chief	Donna	Big Canoe	Chief, Chippewas of Georgina Island	Chippewas of Georgina Island	Virginia Beach Marina	7751 Black River Road	P.O. Box N13 R.R. # 2	Sutton West	ON	L0E 1R0
Local First Nations	Chief	Sharon	Stinson Henry	Chief, Chippewas of Mnjikaning	Chippewas of Mnjikaning		5884 Rama Road	Suite 200	Rama	ON	L0K 1T0
Local First Nations	Chief	Tracy	Gauthier	Chief, Mississaugas of Scugog Island	Mississaugas of Scugog Island		22521 Island Road		Port Perry	ON	L9L 1B6
Local First Nations		Williams Treaty First Nations			Anishinabek Nation/Union of Ontario Indians	Nipissing First Nation	Highway 17 West	P.O. Box 711	North Bay	ON	P1B 8J8
Local First Nations	Grand Chief	Randall	Phillips	Grand Chief, Association of Iroquois and Allied Indians, AIA	Association of Iroquois and Allied Indians (AIAI)	Batchewana, Caldwell, Delaware, Hiawatha, New Credit, Oneida, Tyendinaga, Wahta	387 Princess Avenue		London	ON	N6B 2A7
Local First Nations	Chief	Dean	Sayers	Chief	Batchewana First Nation		263 Frontenac Street		Sault Ste. Marie	ON	P6K 5K9
Local First Nations	Chief	Rodney	Monague Jr.	Chief, Beausoleil First Nation	Beausoleil First Nation	Cedar Point Post Office	1 Ogema Street	Christian Island	Penetanguishene	ON	L0K 1C0
Local First Nations	Chief	Louise	Hillier	Chief	Caldwell First Nation			P.O. Box 388	Leamington	ON	N8H 3W3
Local First Nations	Chief	Keith	Knott	Chief, Curve Lake First Nation	Curve Lake First Nation		22 Winookeedaa Street	General Delivery	Curve Lake	ON	K0L 1R0
Local First Nations	Chief	Gregory	Peters	Chief	Delaware First Nation (Moravian of the Thames)		14760 School House Line	RR #3	Thamesville	ON	N0P 2K0
Local First Nations	Ms.	Margaret	Sault		Mississauga of the New Credit First Nation		2789 Mississauga Road	RR #6	Hagersville	ON	N0A 1H0
Local First Nations	Chief	Bryan	LaForm	Chief, Mississauga of the New Credit First Nation	Mississauga of the New Credit First Nation		2789 Mississauga Road	RR #6	Hagersville	ON	N0A 1H0
Local First Nations	Chief	James	Marsden	Chief, Mississaugas of Alderville First Nation	Mississaugas of Alderville First Nation		11696 Second Line	PO Box 46	Alderville	ON	K0K 2X0
Local First Nations	Chief	R. Donald	Maracle	Chief, Mohawks of the Bay of Quinte	Mohawks of the Bay of Quinte		13 Old York Road	R.R. # 1	Deseronto	ON	K0K 1X0
Local First Nations	Chief	Laurie	Carr	Chief, Ojibways of Hiawatha First Nation	Ojibways of Hiawatha First Nation		123 Paudash Street	RR #2	Keene	ON	K0L 2G0
Local First Nations	Grand Chief	Konrad	Sioui	Grand Chief, Nation Huronne-Wendat	Huronne-wendat Nation		255 Place Michel Laveau	Village Huron	Wendake	QC	G0A 4V0
Local First Nations	Chief	Joel	Abram	Chief	Oneida Nation of the Thames		2212 Elm Avenue	RR#2	Southwold	ON	N0L 2G0
Local First Nations	Chief	Bill	Montour	Chief, Six Nations of the Grand River	Six Nations of the Grand River		1695 Chiefswood Rd		Oshweken	ON	N0A 1M1
Local First Nations	Chief	Blaine	Commandant	Chief	Wahta Mohawks		2664 Muskoka Rd. 38	PO Box. 260	Bala	ON	P0C 1A0
	Mr.	Gary	Lipinski	President	Métis Nation of Ontario		500 Old St. Patrick St	Unit 3	Ottawa	ON	K1N 9G4

November 23, 2009

VIA FAX/E-MAIL

Ms. Agatha Garcia-Wright
Director
Environmental Assessment and Approvals Branch
Ministry of the Environment
2 St. Clair Ave W, Floor 12A
Toronto, ON M4V 1L5

Attention: Gavin Battarino, Project Officer

Ms. Garcia-Wright,

The Regional Municipality of Durham and The Regional Municipality of York will submit the amended Durham/York Residual Waste Study Environmental Assessment as scheduled on November 27, 2009. To maximize the concurrent activity with the MOE, we would like to commence pre-consultation with MOE for the Certificate of Approvals process.

Therefore, we formally request that arrangements be made to commence the pre-application consultation with proponents to discuss the environmental protection requirements for our project. We recommend a meeting be arranged for a mutually convenient time during the week of December 7, 2009.

We look forward to continued cooperation with the MOE and anticipate a successful conclusion to this project.

Sincerely,

Clifford Curtis, P.Eng., MBA
Commissioner of Works
The Regional Municipality of Durham

Erin M. Mahoney, M.Eng.
Commissioner of Environmental Services
The Regional Municipality of York

cc: Regional Chair Roger Anderson, The Regional Municipality of Durham
Regional Chair Bill Fisch, The Regional Municipality of York
Doris Dumais, Ministry of the Environment
Mirka Januszkiewicz, The Regional Municipality of Durham
Laura McDowell, The Regional Municipality of York
Jim McKay, Stantec

ENERGY FROM WASTE ("EFW")
MEMORANDUM OF UNDERSTANDING

This Memorandum of Agreement dated the 25th day of June, 2009 is made

BETWEEN:

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 and CEO

Deb Bowen

Name: D. Bowen
Title: Deputy Clerk

I/We have authority to bind the Corporation

Authorized by Private Report of the ~~Commissioner of Environmental Services~~ Solid Waste Management Committee Clause 2 5 adopted by Regional Council at its meeting on Jun 25, 2009.

Solicitor Approved:
EW

THE REGIONAL MUNICIPALITY OF YORK

Bill Fisch

Name: Bill Fisch
Title: Regional Chair and CEO

Name: Denis Kelly
Title: Regional Clerk

I/We have authority to bind the Corporation

This Host Community Agreement dated the 18th, day of February, 2010 is made,

B E T W E E N:

THE REGIONAL MUNICIPALITY OF DURHAM

("Durham")

-and-

THE CORPORATION OF THE MUNICIPALITY OF CLARINGTON

("Clarington")

WHEREAS:

(a) Durham jointly with The Regional Municipality of York, is in the midst of a procurement process designed to identify a preferred vendor capable of designing, building and operating an energy from waste ("EFW Facility") sufficient to meet their needs, as identified through an individual environmental assessment (the "EA") undertaken to identify a preferred method of processing post-diversion waste;

(b) The EA process has resulted in the approval by Durham Regional Council of a preferred site for the EFW Facility within the Municipality of Clarington ("Clarington'), more particularly described in Schedule "A" hereto.

(c) Durham is completing its requirements to finalize the EA for submission to the Minister of the Environment and to make application under the Environmental Protection Act for one or more Certificates of Approval.

(d) Clarington will be the host community of the EFW Facility to the benefit of communities in Durham, York, the industrial/commercial/institutional sector, and potentially municipal waste from other municipalities identified in the EA.

(e) Durham and Clarington wish to enter into this agreement in order to set forth their respective rights, duties, obligations and commitments regarding the development, construction and operation of the EFW Facility.

NOW THEREFORE the parties agree as follows:

1. Term

1.1 This agreement shall commence upon the date that it is last signed and shall last for the operational lifespan of the EFW Facility.

1.2 In the event that the facility is expanded beyond 400,000 tonnes per year and the expanded portions of the EFW Facility have a twenty five (25) year operating period, Durham and Clarington either shall extend the term of this agreement or enter into a new Host Community Agreement.

2. Community Consultation and Communications

2.1 Durham shall support the development and operation of an EFW Site Liaison Committee (SLC) for the purpose of facilitating input from the community and the distribution of relevant information in regards to the construction, operation and monitoring of the EFW facility.

2.2 The scope for a Terms of Reference for a new SLC shall be agreed upon by Durham and Clarington at the conclusion of the mandate of the initial SLC, which terms shall otherwise be generally analogous to the current committee.

2.3 Durham shall present to Clarington Council and hold one community information meeting prior to the submission of the final EA documentation to the Ministry of the Environment for approval. In addition, Durham shall make a presentation to Clarington Council and shall hold one community information meeting before the Site Liaison Committee regarding the terms of the Certificate of Approval for the EFW Facility subsequent to its issuance.

3. Protection of Human Health and the Environment

3.1 Durham shall ensure that the EFW Facility incorporates and utilizes modern, state of the art, emission control technologies that meet or exceed the Ontario A7 air emission guidelines and European Union standards as identified below:

THE REGIONS' AIR EMISSION CRITERIA BASED UPON THE PROVINCE OF ONTARIO AND EUROPEAN UNION AIR EMISSION REQUIREMENTS

Pollutant	Units (1)	YD EFW Stack Emission Limits	Measurement Basis (see notes)
Total Particulate Matter	mg/Rm3	9	(2)
Sulphur Dioxide (SO2)	mg/Rm3	35	(3)
Hydrogen Chloride (HCl)	mg/Rm3	9	(4)
Hydrogen Flouride (HF)	mg/Rm3	0.92	(4)
Nitrogen Oxides (NOx)	mg/Rm3	180	(4)
Carbon Monoxide (CO)	mg/Rm3	45	(4)
Mercury (Hg)	µγ/Pµ3	15	(2)
Cadmium (Cd)	µγ/Pµ3	7	(2)
Cadmium + Thallium (Cd + Th)	µγ/Pµ3	46	(2)
Lead (Pb)	µγ/Pµ3	50	(2)
Sum of (As, Ni, Co, Pb, Cr, Cu, V, Mn, Sb)	µγ/Pµ3	460	(2)
Dioxins	pg/Rm3	60	(2)
Organic Matter (as CH4)	mg/Rm3	49	(2)

NOTES:

(1) = All units corrected to 11% O2 and adjusted to Reference Temperature and Pressure

mg/Rm3 = Milligrams per Reference Cubic Metre (25oC, 101.3 kPa)

*g/Rm3 = Micrograms per Reference Cubic Metre (25°C, 101.3 kPa)

pg/Rm3 = Picograms per Reference Cubic Metre (25oC, 101.3 kPa)

(2) Calculated as the arithmetic average of 3 stack tests conducted in accordance with standard methods

(3) Calculated as the geometric average of 24 hours of data from a continuous emission monitoring syster

(4) Calculated as the arithmetic average of 24 hours of data from a continuous emission monitoring syster

3.2 Durham shall ensure that the EFW Facility utilizes maximum achievable control technology (MACT) for emissions control and monitoring systems. Durham and the operator shall seek to achieve normal operating levels significantly better than the emission limits identified in Section 3.1.

3.3 Durham shall ensure that, where technically possible, the EFW Facility utilizes 24/7 monitoring systems for such parameters as are deemed appropriate by the Ministry of the Environment. The results of such monitoring systems shall be made accessible to the public on a website or programmable display board designed for such purpose. In addition, Durham shall ensure that the operator monitors the ambient air in the immediate vicinity of the EFW Facility for a three year term commencing upon the commencement of operations.

4. Facility Size

4.1 Durham is seeking approval from the Ministry of the Environment to construct and operate an EFW Facility with a total processing capacity of up to 400,000 tonnes per year of municipal solid waste.

4.2 The parties hereto acknowledge and agree that EFW Facility will not immediately be constructed to the ultimate capacity. Durham will be seeking an initial Certificate of Approval for the construction and operation of a facility for approximately 140,000 tonnes per year. The capacity of the EFW Facility may be expanded, as required by Durham and York, up to the maximum permissible capacity set forth by the Ministry of the Environment in the Certificate of Approval which may be amended from time to time. The EFW Facility may not be expanded in excess of 400,000 tonnes per year.

4.3 At the time of any expansion, Durham will give consideration to improvements to the emission control system to meet the then current MACT standards and shall apply for a new or amended Certificate of Approval if required by the Province of Ontario.

4.4 Durham will not construct a transfer station for ICI waste in Clarington without the agreement of Clarington.

5. Architectural/Site Plan Considerations

5.1 Clarington shall be consulted with respect to the architectural and site plan requirements section(s) of the Request for Proposals.

5.2 Clarington and Durham shall negotiate in good faith the terms of a site plan agreement for the development of the EFW Facility site which shall include the lands required for the private truck access lane referred to in paragraph 9.5. Durham shall comply with normal site plan and building code permit requirements and shall construct Energy Drive through their lands identified on Schedule "A".

5.3 Durham shall incorporate a cash allowance of no less than Nine Million Dollars ($9,000,000) in the Request for Proposals ("RFP") for the provision of architectural treatments and upgrades to the EFW Facility. Durham shall consult with Clarington on the proposed architectural treatments received from the preferred bidder and prior to submitting their site plan application to Clarington for approval.

5.4 At the time of any expansion, Durham will include similar and consistent architectural treatments and upgrades to any new portions of the EFW Facility. Durham shall consult with Clarington on the proposed architectural treatments during the finalization of the arrangements with the Operator for the expansion and prior to submitting their site plan application to Clarington for approval of the expansion.

6. Commitment to a Comprehensive Waste Management Strategy

6.1 Durham shall continue to implement and support an aggressive residual waste diversion and recycling program to achieve and/or exceed a 70% diversion recycling rate for the entire Region.

6.2 Durham shall establish a hazardous waste depot to serve the residents of Clarington within one (1) year of commissioning of the EFW Facility.

7. EFW Facility Waste Sources

7.1 Durham shall ensure that the source of the waste processed at the EFW Facility is consistent with that identified in the EA Terms of Reference and supporting documentation.

7.2 The Parties agree that Industrial, Commercial and Institutional ("ICI") Waste, with a similar composition to municipal solid waste, may be processed at the EFW Facility provided that said ICI Waste is first screened at a transfer station to ensure the removal of any undesirable and hazardous materials.

7.3 The EFW Facility may be utilized to process biosolid wastes generated from water pollution control plants located within Durham Region on an emergency basis in order to support Durham's other operations provided that biosolid wastes do not comprise more than 10% of the total annual tonnage of waste processed at the EFW Facility in a calendar year.

7.4 Notwithstanding the provisions of 7.1 hereof, in the event that the source of waste processed at the EFW Facility at any subsequent time includes the City of Toronto, then Clarington shall be paid the sum of Ten Dollars ($10.00) per tonne for each tonne of waste from that source.

8. Payments in Lieu of Taxes

8.1 Durham shall not structure the ownership of the EFW Facility in any way designed to attain tax exempt status or to avoid the Payments in Lieu of Taxes (PIL's).

8.2 Durham acknowledges that the PIL will be in the vicinity of $650,000 per year. However Durham cannot guarantee the exact amount as that is a matter outside of its direct control.

9. Economic Development

9.1 Durham shall acquire title by way of agreement or expropriation to the properties described in Schedule "B". Upon the properties described in Schedule "B" being determined by Durham Regional Council to be surplus to the present or future requirements of the Regional Municipality of Durham, then Durham shall convey, at nominal consideration, some part of the lands described in Schedule "B" to The Municipality of Clarington.

9.2 Prior to the commissioning of the EFW Facility, Durham shall complete construction of Energy Drive from Courtice Road to Osbourne Road as a Type "C" Arterial road, complete with

all applicable services including: sanitary sewerage, watermains, storm drainage, district heating, and street lighting and shall dedicate Energy Drive to Clarington as a public highway.

9.3 Durham shall construct a storm water management facility of a sufficient size to accommodate development of the Energy Park and Clarington shall execute a front-ending agreement in order to receive and reimburse Durham for the proportional costs of same from any benefiting landowners within the Energy Park. Provided approval to cross the CN Railway line with the necessary drainage works can be reasonably obtained from the Canadian National Railway, then Durham shall construct the storm water management facility on the lands described in 9.7 hereof.

9.4 Durham shall commence an environmental assessment process to support the provision of municipal services to the east Bowmanville science park which is located north of Highway 401.

9.5 Durham shall construct a private truck access lane with landscaping or other screening on its lands on the north side of the Canadian National Railway line connecting with Courtice Road to be utilized, where possible, for all deliveries of waste to the EFW Facility.

9.7 Durham shall convey to Clarington at a nominal cost the lands on the west side of Courtice Road identified in Schedule "C".

9.8 Concurrent with the construction of the EFW Facility, Durham shall construct a segment of a paved asphalt waterfront trail on a mutually agreed upon alignment from Courtice Road to the eastern limits of Durham's lands south of the Courtice Water Pollution Control Plant.

10. Operational Issues

10.1 Durham shall require the operator of the EFW Facility (the "Operator") to have the EFW Facility compliant with the International Standards Organization 14001:2004 Environmental Management Standard (ISO 14001) within thirty six (36) months of its commencing operations and to maintain such compliance thereafter.

10.2 Durham shall ensure that the Operator prepares, maintains and adheres to an Emergency Management Plan (including spills) for the EFW Facility which Plan shall be reviewed and approved by the Clarington Emergency and Fire Services Department.

10.3 Deleted

10.4 Durham shall ensure that the bottom and fly ash generated at the EFW Facility are dealt with in a manner which complies with all applicable legal and regulatory requirements and approvals. Bottom ash can be stored outside if fully screened. Fly ash shall be stored internally in a building until the time of transfer to a disposal site. No bottom ash or fly ash shall be disposed of in a landfill site in Clarington.

10.5 Durham will require the Operator of the EFW Facility to provide a certificate of insurance showing the Municipality of Clarington as an additional insured thereon.

10.6 Durham hereby agrees to indemnify and hold Clarington harmless from all manner of actions, causes of action, suits, demands, and claims whatsoever in connection with any and all injuries up to and including death, or damages to its property, which may occur as a result of the design, construction or operation of the EFW Facility save and except when such injury, loss or

damage is occasioned by the negligent acts or omissions or willful misconduct of Clarington, or those for whom it is at law responsible..

10.7 Durham shall ensure that all waste haulage vehicles accessing and egressing the EFW Facility site will use the truck access routes.

10.8 In addition to all public information, the Operator shall on or before March 31st in each calendar year provide the Clerk of Clarington with a report related to the emissions output from the EFW Facility for the previous calendar year.

11. End Use Plan

11.1 Durham shall decommission and dismantle the EFW Facility within five (5) years of its ceasing of operations to a standard suitable for re-use as an industrial/commercial site.

12. Issue Resolution

12.1 In the event of any dispute, disagreement, or claim arising under or in connection with this Agreement, then the parties hereto shall, upon written notice from either party, meet as soon as reasonably possible in order to resolve said dispute.

12.2 In the event that informal discussions are not effective in resolving any disputes or differences of opinion arising between the parties which concern or touch upon the validity, construction, meaning, performance or effect of this Agreement, then said dispute 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 occur. 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.

12.3 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 difference between the parties in relation to this Agreement 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 the business of 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.

13. Clarington's Commitments

13.1 Clarington agrees, in consideration of the aforementioned commitments on the part of Durham, to be a willing host to the EFW Facility and to acknowledge that willingness as follows:

.1 It shall not oppose the development or operation of the EFW Facility;

.2 It acknowledges that, provided that there is public ownership of the EFW Facility and the site by one or more municipalities, it will be considered a "public use" for the purposes of the Zoning By-law and that is not necessary to amend the Clarington Official Plan or Zoning By-law;

.3 It shall expedite the review of all applications for approval submitted by, or on behalf of, the Operator or Durham related to the construction, maintenance and operation of the EFW Facility; and,

.4 Should the existing South Service Road ever be deemed to be surplus due to the construction of Energy Park Drive, the South Service Road shall be closed and conveyed to Durham for nominal consideration; and,

.5 It shall strongly encourage and promote development within the Clarington Energy Business Park and other areas of Clarington to utilize district heating and cooling provided by the EFW Facility.

14. Miscellaneous

14.1 This agreement is entered into solely between Durham and Clarington and is not intended or designed, and in fact it explicitly excludes the creation of any rights or beneficial interests in any third party save and except the Regional Municipality of York in so far as its interest exists in the EFW Facility, from time to time.

15. Further Assurances

The parties hereby covenant and agree, after a request in writing by one party to the other parties, to forthwith execute and provide all further documents, instruments and assurances as may be necessary or required in order to carry out (and give effect to) the true intent of this Agreement, and to effect the registration against and release from title to the lands subject to this Agreement of such notices or other instruments in accordance with the provision of this Agreement.

16. Enurement

This Agreement shall enure to the benefit of and bind the parties hereto and their respective successors and assigns.

IN WITNESS WHEREOF Durham and Clarington have executed this Host Community Agreement.

THE REGIONAL MUNICIPALITY OF DURHAM

Per: _____
Roger Anderson, Regional Chair + CEO

Per: _____
Pat Madill, Regional Clerk

THE CORPORATION OF THE MUNICIPALITY OF CLARINGTON

Per: _____
Jim Abernethy, Mayor

Per: _____
Patti L. Barrie, Clerk

Schedule "A"

Legal Description of Proposed Site of EFW Facility

Part of Lot 27, Concession Broken Front, Darlington, designated as Parts 1 and 2 on 40R-19984, save and except Parts 1 and 2 on 40R-20362, Municipality of Clarington, Regional Municipality of Durham, being all of PIN 26605-0082(LT)

Schedule "B"

Legal Description of Lands Proposed to be acquired

FIRSTLY: PT LTS 27 & 28 BROKEN FRONT CONCESSION, DARLINGTON, AS IN N41298 SAVE & EXCEPT PART 1 PL 40R21517 NORTH OF THE CANADIAN NATIONAL RAILWAY; MUNICIPALITY OF CLARINGTON, REGIONAL MUNICIPALITY OF DURHAM, being all of PIN 26605-0086 (LT)

SECONDLY: PT LT 28 BROKEN FRONT CONCESSION, DARLINGTON BEING PTS 2 & 3 on 10R2689; MUNICIPALITY OF CLARINGTON, REGIONAL MUNICIPALITY OF DURHAM, being all of PIN 26605-0030 (LT)

THIRDLY: PT LT 28 BROKEN FRONT CONCESSION, DARLINGTON being PT 1, 10R2689; MUNICIPALITY OF CLARINGTON, REGIONAL MUNICIPALITY OF DURHAM, being all of PIN 26605–0031 (LT)

Schedule "C"

Legal Description of Lands to be Transferred to Clarington

FIRSTLY: PT LT 29 AND 30 BROKEN FRONT CONCESSION, DARLINGTON being PTS 1, 2, AND 3, 40R20750; MUNICIPALITY OF CLARINGTON, REGIONAL MUNICIPALITY OF DURHAM, being all of PIN 26604-0017 (LT)

SECONDLY: PT LT 29 BROKEN FRONT CONCESSION, DARLINGTON being PT 1 on 10R571; MUNICIPALITY OF CLARINGTON, REGIONAL MUNICIPALITY OF DURHAM, being all of PIN 26604-0016 (LT)

TABLES

Table 1. Government Review Team Comment Summary Table

Proposal: Durham York Residual Waste Environmental Assessment Study
Proponent: Regions of Durham and York

Submitter	Summary of Comments	Proponent's Response
Go Transit	No comment received.	None required.
Ministry of Aboriginal Affairs	No comment received.	None required.
Ministry of Culture	No comment received.	None required.
Ministry of Economic Development	The Ministry of Economic Development does not have a role to play in the Environmental Assessment (EA) and suggest that it be deleted from GRT list.	Comment noted.
Ministry of Energy and Infrastructure	No comment received.	None required.
Ministry of Health and Long-Term Care	No comment received.	None required.
Ministry of Natural Resources	No comment received.	None required.
Ministry of Trade and Investment	No comment received.	None required.
Ministry of Transportation	No comment received.	None required.
Ontario Power Generation	No comment received.	None required.
Ontario Realty Corporation	No comment received.	None required.
Ministry of Community Safety and Correctional Services	No comment received.	None required.
Ministry of the	No comment received.	None required.

Submitter	Summary of Comments	Proponent's Response
Environment - Water and Waste Water Unit		
Ministry of the Environment York-Durham District Office	No comment received.	None required.
Ministry of the Environment – Environmental Monitoring And Reporting Branch (EMRB)	EMRB's review focused on the air dispersion modelling conducted by the proponent's modelling consultant. The EMRB review did not include a review of the emission estimates. Primary objectives of the EMRB review were to verify whether the modelling options selected were reasonable and whether the source characteristics were correctly transferred into the model input files. No significant issues, concerns or problems were identified, but specific comments on some minor issues: 1) The emission rate from the main stack was incorrectly input into the PM2.5 model run for the "Facility+ On-site Traffic" scenario. 2) In the deposition modelling the consultant used the same EMRB-approved particle size of 2.5 microns for both dry and wet deposition estimates for particles although a different particle size of 1 micron was quoted for wet deposition estimate. 3) The emission rates listed in Table B3-5 of Appendix B - Emission Inventory of the Final Appendix C-1, do not agree with those listed in	1) The emission rate from the main stack has been corrected and the model has been re-run for this scenario to gauge the potential effects on the modelling results. 2) As requested by the EMRB, a particle size distribution of 2.5 microns was assumed in selecting the wet and dry particle deposition parameters. The quoted value of 1 micron in Appendix D (page D-50) is a typo. 3) The emission rates presented in Table B3-5 for the five contaminants are correct, while the emissions listed in Appendix G were inadvertently increased relative to those in Appendix B. The dispersion model predictions presented in the report for these contaminants can therefore be considered conservative as they are based on emission rates which are about 37% higher than those estimated in the emission inventory.

Submitter	Summary of Comments	Proponent's Response
	Table G1 of Appendix G - Deposition Predictions at Special Receptors, of the Final Appendix C-1, for at least the following compounds, acetaldehyde, bromodichloromethane, bromoform, carbon tetrachloride and ethylene dibromide. In summary, EMRB's review did not identify any significant issues with the air dispersion modelling aspects of the Draft Appendix C-1 and the Final Appendix C-1. Correction of the above mentioned minor issues would not change the general conclusion of the air dispersion modelling results.	
Ministry of the Environment – Air and Noise Unit	*Air Comments* In general, the methodology followed in the EA for the assessment of environmental impacts due to air emissions of contaminants from the undertaking is consistent with regulatory and ministry requirements. The following comments are provided for consideration and are important when consideration is given for an application under section 9 of the Environmental Protection Act (EPA): 1) Uncertainties in the emissions inventory may potentially result in directly-proportional uncertainties in the assessment of human health and ecological impacts. 2) The EA identified a list of contaminants of potential concern that are expected to be emitted	The EA has been amended to include a significant amount of detail to attempt to address the request of Air and Noise Units. In addition the following responses have been provided: *Air Responses* 1) While all emissions estimation procedures have some degree of associated uncertainty, the methodology considered in the EA was based on standard practice for emissions estimation, using the best sources of data available for each contaminant. At the EA stage, a detailed design of the proposed facility has not been undertaken and therefore detailed process information is not available at this time. This data would be available at the time of the submission of the application for Section 9 approvals and would be included in the application package.

Submitter	Summary of Comments	Proponent's Response
	from similar EFW facilities. The EA disregarded some contaminants (Table B3-6) due to a lack of publicly available emission estimation methodologies for these contaminants. Some of these contaminants have ministry point of impingement limits (e.g., Acetone, Acrolein), and their assessment would be required for applications for approval under section 9 of the EPA. 3) The EA selected the use of the CALPUFF atmospheric dispersion model based on technical considerations, given that the facility is located in close proximity to a lake. The use of a different model may potentially result in a different spatial distribution of ground-level contaminant concentrations within the modelling domain, and may therefore potentially impact the results of both the human health and ecological impact assessments. Given the above, the CALPUFF atmospheric dispersion model is to be used for all future applications for approval under section 9 of the EPA. 4) The EA includes limited information on the technical details and specifications of the processes and sources of emissions in the proposed undertaking, or on the technologies and processes to be implemented by Covanta, the preferred EFW Proponent, to allow for a detailed technical review of these sources, their emissions, and operations, as would be required for approval under section 9 of the EPA.	2) The comprehensive list of Chemicals of Potential Concern (CoPCs) was developed for this study to ensure that a wide range of potential substances would be considered in the emissions estimation procedure. 3) It is the intention of the Proponents to continue the use of the CALPUFF modeling software for all remaining approvals and permitting activities with respect to this facility including approvals under Section 9 of the EPA. 4) Documentation to be submitted in support of approval under Section 9 of the EPA will include more specific details on the technology design and processes to be implemented by Covanta. 5) The statement in the executive summary of the EA that process upsets resulted in exceedances of Ministry limits is incorrect. 6) Odours have been assessed qualitatively in the Air Quality Technical Study and are not expected to cause nuisance issues with the proposed facility design and mitigation measures. Based upon proposed mitigation measures for odour control, there is not expected to be adverse off-property odour effects due to the onsite operations. 7) The revised description of the undertaking to be included in the amended EA seeks approval for the initial design capacity of 140,000 tonnes per year (tpy) only.

Submitter	Summary of Comments	Proponent's Response
	5) Page 26 of the EA's Executive Summary states that inclusion of "process upsets" in the maximum emissions scenario will not result in adverse ecological impacts, however the same paragraph does not say the same about human health effects. Further, on page 30 of the Executive Summary, the report states that consideration of process upsets will result in exceedances of ministry acute limits (1-hour) for two contaminants. These exceedances should be addressed by the proponent. 6) The EA does not adequately address odour impacts, and primarily states that odour impacts would be mitigated through proper design of the facility. The EA does not include a description or characterization of the expected wastes to be received at the facility, odour characteristics of the wastes, the potential odour emissions that may occur during the handling, processing and transportation of the wastes, nor does the EA include odour-related emissions and impacts based on operation of the similar EFW facilities operated by Covanta, the preferred EFW Proponent, to demonstrate that the proposed undertaking is not likely to cause an adverse effect. 7) The EA was primarily completed for a capacity of 140,000 tonnes per year of waste processing at the facility, and was scaled to include an alternate 400,000 tonnes per year operating scenario. However, the analysis does not adequately support the expansion to 400,000 tonnes per year, and the	8) The results of the on-site ambient monitoring for $PM_{2.5}$ and ozone are similar to those measured at numerous Ontario ministry and federal monitoring stations in southern Ontario. Measured PM2.5 levels were below the CWS level for the one-year measurement period. Again, as noted in Appendix A, Section A2.3.2, the measured levels are very similar to those in numerous areas of Ontario. 9) Noted. *Noise Responses* 1) The land uses located to the west, northwest, and north form the proposed Facility site are zoned commercial/industrial, and there are no existing residential receptors. 2) The existing facilities that are located closer to the monitoring Location 1 and which may influence existing sound levels include Durham Region WPCP, Manheim Oshawa Auction and Copart Auto Auction. Also, the OPG Darlington Nuclear Generation Facility is located further to the east. Neither of those facilities will influence ambient sound levels at monitoring Location 2. However, the Highway 401 is considered the main contributor at the monitoring Location 2. 3) This technical study was prepared for EA process where the worst case scenarios were evaluated in order to assess facility noise impact. However, no

Submitter	Summary of Comments	Proponent's Response
	estimation of emissions does not necessarily correlate to the quantity of wastes being processed. 8) Ambient air quality monitoring data included in the EA indicates that, for two contaminants (PM2.5 and ozone), the monitored data marginally complies or exceeds applicable ministry limits. 9) The EA indicates that there are currently no sensitive receptors in the newly developed industrial park adjacent to the facility, and that the surrounding land is primarily undeveloped land owned by the Region of Durham. The Region of Durham should include environmental considerations in decisions on any future developments in the industrial park. *Noise Comments* 1) Three points of reception were selected to represent the nearby residences. Additional points of reception need to be assessed due to their close proximity and wide exposure to the facility. 2) Ambient noise levels were measured at two locations. The measured ambient noise levels are conflicting as they show higher levels at the house located farther from Highway 401 (the major source of ambient noise in the study area) and lower levels at the house located closer to Highway 401. If higher sound levels are to be used as the performance limits in lieu of the ministry Exclusion	details were available on the specific design of the facility which may influence noise generation, so the noise abatement action plan is addressed qualitatively. 4) An Acoustic Audit will be recommended after each stage of facility construction. 5) Acoustic Assessment Report Check-list is a part of the report prepared for a C of A application. It will be completed, signed and included in the submission package.

Submitter	Summary of Comments	Proponent's Response
	Limits for Class 2 Areas (Urban), then such levels need to be verified by noise predictions at all points of reception using the most up-to-date road traffic data. 3) A Noise Abatement Action Plan was not included. Instead, several noise controls (both physical and administrative) were considered (more as assumptions than recommendations) in the noise analysis and results. 4) An acoustic audit is recommended once the facility is operational to ensure that the applicable noise criteria are met at the offsite receptors. 5) The Acoustic Assessment Report Check-List in Appendix A is blank.	
Ministry of the Environment – Waste Unit	The Environmental Assessment and Approvals Branch Waste Unit offers the following comments on the technical aspects of the EA Document as they relate to the proposed waste management activities: 1) The EA does not contain sufficient details on the conceptual design and the operational procedures for the preferred undertaking. 2) The review of the information presented in such a format has presented the ministry with a challenge, due to the large size of the submission. 3) In addition, the information contained in the	The EA has been amended to include a significant amount of detail to attempt to address the request of Waste Unit. In addition the following responses have been provided: 1) EA amended to address comment. 2) EA amended to address comment. 3) EA amended to address comment. 4) EA amended to address comment. 5) Section 8.4.2 discusses the need for on-site buffer to potentially mitigate off-site impacts. This buffer is

Submitter	Summary of Comments	Proponent's Response
	various study reports is occasionally inconsistent, creating uncertainty with respect to the final design of the proposed undertaking. 4) The incoming waste stream has not been fully characterized. 5) A buffer of 100 metres to mitigate potential offsite impacts has been proposed as appropriate for the site. The proposed buffer must be determined on the basis of a distance required to mitigate site specific impacts. 6) The conceptual design of the waste-receiving building has lacks the appropriate level of detail. 7) The combustion air is proposed to be withdrawn from the waste receiving building. However, there is no discussion on how the seasonal temperature swings will affect the ventilation of the building and the combustion process. 8) The tipping floor cleaning is proposed, however no information on the design of the necessary infrastructure or the operational procedures has been provided. 9) The waste storage is proposed to be distributed above and below the tipping floor, however, no details on how the above the tipping floor storage will be undertaken, has been provided. 10) Several references to drains, wastewater pits	not required by legislation but rather developed based on "set-back" requirements related to other waste management processing facilities such as composting facilities. The 100m setback was used as guidance in determining an appropriate site size for consideration in the siting process. Given the location of the Clarington 01 site, the actual setback of the facility from "sensitive" receptors is significantly more than 100m. 6) Additional detail with respect to the design of the receiving building will be provided as part of the application for Certificate of Approval (Waste) under Section 9 of the EPA. 7) Although, the temperature variation may seem large to an individual, relative to the temperatures realized in the thermal treatment process, seasonal temperature variation are insignificant and will have no impact on the combustion process. 8) Specific details with respect to tipping floor cleaning will be provided as part of the Section 9 EPA submission including the infrastructure required and operational procedures to be followed. 9) EA amended to address comment. 10) Specific details with respect to the location of drains, wastewater pits and containment areas will be provided as part of the Section 9 EPA submission including the infrastructure required and operational

Submitter	Summary of Comments	Proponent's Response
	and containment areas are made throughout the various reports, however, none of the reports shows the location of these wastewater holding areas or their design features. 11) The full description of the materials that will be stored outdoors and the design of the storage facility, including the spill containment must be provided. 12) There is insufficient information on the design of the residuals building. Conceptual design must be provided for the filtered ventilation system, the various processing and waste storage areas and the waste loading/unloading areas. 13) The fly ash surge bins have been proposed, but no information on their design or their proposed locations have been included in the EA Document. 14) The "Air Quality Assessment" Report includes consideration of impacts from emergency power generation equipment. However, no identification of the critical processes and/or equipment has been provided in the submitted EA Document.	procedures to be followed. 11) Based on the conceptual level design, there will be no outdoor storage areas. Should outdoor storage of any materials be required, the storage facilities will be designed and permitted (if required) in accordance with all relevant legislation including the ministry's Guideline for Environmental Protection Measures at Chemical and Waste Storage Facilities (April 2005). 12) EA amended to address comment. 13) EA amended to address comment. 14) EA amended to address comment.
Ministry of the Environment – Environmental Assessment Project Coordination Section	1) The EA entitled *The Greater Toronto Area Interim Waste Authority Environmental Assessment* is referenced as an example of the most recent efforts carried out by the Regions. It is concluded that these efforts did not yield any new landfill capacity. It should be noted although no new landfill capacity was developed out of the Greater	The EA has been amended to include a significant amount of detail to attempt to address the request of Environmental Assessment Project Coordination Section. In addition the following responses have been provided:

Submitter	Summary of Comments	Proponent's Response
	Toronto Area Interim Waste Authority EA several potential sites were identified, including sites in Durham and in York. 2) It is not clearly understood as to why a joint initiative, to manage the residual MSW generated by the Regions, is considered a better alternative then each municipality managing its waste independently 3) It is not clear as to why York Region's current waste management strategies are considered short term. 4) In the section 2 summary of the EA study it is stated that the continued transport of waste to a landfill located outside Ontario is not sustainable and that a non-local landfill option would expose the Regions to significant public policy risks that are not within their control. It is not understood why this assessment of a non-local landfill option was not applied to the assessment of the management of process residual waste (bottom and fly ash) or in the development of contingency planning to address operational shut downs. 5) The study area for the EA has been defined to include only the jurisdictional boundaries of the Regions, and therefore only considers this defined area for study and evaluation in the EA process. The evaluation and study of the other jurisdictions identified in the proposed service area on the	1) EA amended to address comment. 2) EA amended to address comment. 3) Although York Region has secured additional capacity through contractual relationships with private sector waste disposal capacity providers, these contracts do not run for the full length of the planning period and therefore York Region, over the long-term, does not have sufficient waste disposal capacity to satisfy its requirements. 4) EA amended to address comment. 5) Any expansion beyond the capacity to support the importation of wastes from outside Durham and York Regions will be addressed as part of the approval under O.Reg. 101/07 (or the applicable piece of legislation at that time). 6) EA amended to address comment. 7) EA amended to address comment. 8) EA amended to address comment. 9) EA amended to address comment. 10) EA amended to address comment. 11) EA amended to address comment.

Submitter	Summary of Comments	Proponent's Response
	undertaking for which approval is being sought has not been undertaken. 6) It is not apparent as to the current volumes of residual MSW that will require management for each Region by the proposed undertaking. 7) The description of the "Do Nothing" alternative is not an adequate representation of the current waste management practices for the Regions, as set forth in section 2 of the EA study. 8) Although the Regions can enter into a contract or agreement with the preferred technology vendor for the disposal of process residues, the management of any process residues requiring disposal is ultimately the responsibility of the Regions. 9) The EA should provide a list of environmental categories (such as natural, social, economic and cultural) and the criteria that will be used to assess the effects of each alternative as related to each environmental category. 10) It is not apparent if the Regions are intending to commit to the increased diversion targets (70 percent for Durham by 2013 and 70 percent for York by 2016) or how these diversion targets will be specifically achieved. 11) It is not apparent why the assumptions for population increase and waste diversion targets	12) EA amended to address comment. 13) EA amended to address comment. 14) System 2b was not identified as the preferred system but rather it was recommended this system by carried forward for further investigation as part of the RFQ process. 15) EA amended to address comment. 16) EA amended to address comment. 17) EA amended to address comment. 18) EA amended to address comment. 19) EA amended to address comment. 20) EA amended to address comment. 21) EA amended to address comment. 22) EA amended to address comment. 23) EA amended to address comment. 24) EA amended to address comment. 25) EA amended to address comment. 26) EA amended to address comment.

Submitter	Summary of Comments	Proponent's Response
	differ between the 250,000 tonnes per year and 400,000 tonnes per year scenarios. 12) The waste to be managed for the EA study that has been defined in sufficient detail includes only the residual MSW remaining after diversion generated by the Regions, and therefore only considers this waste supply for study and evaluation in the EA process. The evaluation and study of the other waste types or streams on the undertaking for which approval is being sought has not been undertaken. 13) The application of the qualitative approach is difficult to follow and at times untraceable. It is not understood what determines a major advantage, an advantage, a neutral ranking, a disadvantage or a major disadvantage nor how theses advantages and disadvantages are compared to arrive at an overall conclusion of potential net effects. 14) It is not understood why a residual processing system technology was considered in the evaluation and comparison of "Alternatives To" if the information available about the system technology was limited. 15) It is not understood why existing landfill capacity and/or the siting of new landfill capacity was excluded from the EA study considering that the management of any process residual materials	27) EA amended to address comment.

Submitter	Summary of Comments	Proponent's Response
	from the thermal treatment of waste will ultimately require landfill disposal capacity and forms part of the undertaking for which approval will be sought. 16) It is not understood why proximity to an electrical grid connection and steam and/or heat load are considered in the requirement for proximity to infrastructure criterion. 17) It is not understood why the maximum scenario of 400,000 tonnes was not evaluated to the same level of detail as the 150,000 tonnes and 250,000 tonnes scenarios, considering that the EA seeks approval for a facility to process 400,000 tonnes of waste. 18) Information and details related to the evaluation used in the procurement process have not been provided. 19) It is not understood why vendors are being requested to submit a proposal to design and build a thermal treatment waste management facility capable of processing 140,000 tonnes of MSW annually when the EA is seeking approval for a facility capable of managing 400,000 tonnes. 20) It is not clearly understood how the maximum system capacity required by the Regions was determined to be 400,000 tonnes per year. 21) It is not clearly understood how the maximum system capacity required by the Regions was	

Submitter	Summary of Comments	Proponent's Response
	determined to be 400,000 tonnes per year. 22) The information pertaining to the identification, isolation and final disposal of unacceptable or hazardous waste materials is not provided in a sufficient level of detail. 23) It is not understood why capacity for other sources of waste were considered in the proposed expansion of the facility from its initial design capacity to the final maximum operating capacity. It is also not understood why the initial design capacity includes a contingency of additional capacity and the subsequent expansion phases do not or why the additional capacity is only required during the initial design stage. 24) A commitment to confirm the assumptions used in the development of site specific studies should be undertaken prior to expansion and this commitment should not be excluded should expansion take place within the first five years of operation. 25) The level of detail in the description of the facility contingency plan is not sufficient nor is it apparent if the plan is feasible. 26) It is not considered acceptable to undertake any change to an undertaking approved under the EAA, no matter how insignificant, without first consulting with the ministry. Any changes to the	

Submitter	Summary of Comments	Proponent's Response
	EA, whether they require an amendment or not, must be discussed in consultation with the ministry and receive ministerial approval before the change can be undertaken. 27) There is no information pertaining to the locations of the consultation events discussed in the EA.	
Ministry of the Environment – Ecological Standards Section, Standards Development Branch	1) The Inhalation Toxicity report assesses this pathway indirectly by assuming that the TRVs developed for human health airborne contaminants will be lower and therefore protective for ecological receptors. Although the assumptions bulleted in this section are reasonable, the report should provide examples of airborne contaminants where human Toxicity Reference Values (TRVs) are more stringent than wildlife TRVs. 2) In the Ecological Risk Assessment Baseline Case report, it is stated that the higher Hazard Quotients (HQs) calculated for a number of contaminants in different environmental media were purely driven by baseline concentrations of these contaminants which could be found everywhere else in Ontario. While this statement may be true for some contaminants, it should be supported by data or references which show similarities. 3) Exposure of Vegetation to Sulfur Dioxide (SO_2), Nitrogen Dioxide (NO_2) and Hydrogen Fluoride (HF) - It is not clear why the estimated annual NO_2	The EA has been amended to include a significant amount of detail to attempt to address the request of Ecological Standards Section, Standards Development Branch. In addition the following responses have been provided: 1) In order to address this comment ecological TRVs where they exist were compared to those used as human TRVs for a range of organic and inorganic chemicals. Ecological inhalation values were obtained from, or derived using equations found in Gallegos *et al.*, (2007) and Archbold *et al.*, (2007) and the Agency for Toxic Substances and Disease Registry (ATSDR). Standard human health inhalation TRVs were obtained from various jurisdictions. The comparison confirmed that human TRVs are always much lower than the corresponding ecological TRV for the same chemical, allowing the conclusion that if human health is protected then ecological health should be protected as well. 2) This statement was making reference to the nature/location of the site which is situated in an industrialized area (presence in the immediate vicinity

Submitter	Summary of Comments	Proponent's Response
	concentrations listed in Table 8-14 and Table 8-24 are similar for the 140,000 tpy and 400,000 tpy scenarios. It is not also clear why these NO_2 estimates are similar for the project case and process upset project case. 4) Effects on Vegetation from SO_2 and NO_2 Traffic Case Emissions - The impact of the exceedances of NO_2 phytoxicity benchmarks listed in Table 8-17 and Table 8-27 for all assessed ecological receptor locations should be discussed in this section. The fact that NO_2 participates in photochemical oxidation reaction which lead to the production of ozone and peroxyacylnitrates (PAN) which are well documented phytoxicants and are more harmful than NO_2 should be discussed. The report should include analysis of the potential impact of these secondary contaminants on sensitive vegetation, particularly sensitive crops in farm A (ECO 17). 5) The synergetic effects on vegetation of low concentrations of NO_2 and SO_2 should also be discussed in this section. 6) It is not clear why the annual NO_2 concentrations listed in Table 8-17 and Table 8-27 for the two different scenarios (baseline traffic case and total project impact) are similar. 7) The final Beryllium TRV used for muskrat listed in Table 1 in Appendix J is 0.427 mg/kg-bw/day whereas the ERA worked example for this TRV in	of several other industrial complexes, HWY 401). As pointed in the reported the HQs that indicated a potential risk were not supported during field observations and surveys. 3) The annual estimated NO_2 concentrations for the two scenarios are similar because no major changes in the annual emissions have been predicted to occur. Similar no major changes in emissions were estimated to occur in the project and project upset case. 4) The selection of the receptor locations at which effects on vegetation was evaluated was conducted to ensure that the selected locations are representative of the future area use (the current use of the area is industrial and that the use of the area for cropping is only temporary). 5) The effect of pollutant mixtures were considered when evaluating the results, but not presented for this report as is difficult to draw conclusions on the interaction of NO_2 and SO_2 at lower concentrations because the effects would be very subtle. 6) The annual estimated NO_2 concentrations for the two scenarios are similar because no major changes in the emission rates are expected to occur. Similarly no major changes in emissions are estimated to occur in the project and project upset case. 7) The correct TRV is the one used in Appendix J (is 0.427 mg/kg-bw/day). The discrepancy was due to the

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	Appendix O is 0.393 mg/kg-bw/day. This discrepancy should be clarified. 8) The units of measurement for the parameters listed in the Table (baseline concentrations before and after MOE comments) in Appendix B-2 are missing.	body weight of the test animal (rat) which was initially reported as 0.35 kg, based on a generic rat body weight from US EPA. 8) EA amended to address comment.
Ministry of the Environment – Central Region	1) Excavation to 7.6 m below ground surface may be necessary and that groundwater will likely be encountered during excavation. The Regions acknowledge that a Permit to Take Water (PTTW) may be required if construction requires dewatering of greater than 50,000 L per day, and indicate that a Category 2 Permit may be required. 2) It is recommended that the identification of private water wells within the projected zone of influence during construction dewatering and develop a monitoring and mitigation plan for these private water wells. 3) The proposed Stormwater Water Management system will require a Certificate of Approval under Section 53 of the *Ontario Water Resources Act* (OWRA). 4) Effluent discharge, if any, from the residual waste facility will also require a Certificate of Approval for Sewage Works including a monitoring plan under Section 53 of the OWRA.	The EA has been amended to include a significant amount of detail to attempt to address the request of Central Region. In addition the following responses have been provided: 1) Comment acknowledged and will be integrated into project planning at the detailed design stage. 2) EA amended to address comment. 3) EA amended to address comment. 4) EA amended to address comment. 5) EA amended to address comment. 6) The facility will comply with all relevant emissions standards, including those contained in the 1989 CCME guidance document. 7) Dioxins and furans have been considered together in this assessment as a contaminant group (as TEQ Toxic Equivalents) for comparison with the applicable MOE limits. Therefore, for clarity, the text in Table 2-2 (and elsewhere in the report), 'Dioxins (TEQ Toxic

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	5) Air Quality Assessment Technical Study Report *Executive Summary* - On page 1 (and page 40 of the main report), the four waste trains listed add up to 410,000 tonnes per year (tpy). The Regions should confirm if total waste to be accepted by the facility is 400,000 tpy or 410,000 tpy. 6) The Air Quality Assessment Technical Study does not mention the CCME *Operating and Emission Guidelines for Municipal Solid Waste Incinerators, June 1989* or the CCME *Canada-Wide Standards for Dioxins and Furans, 2001.* The Regions should ensure that the project complies with all relevant regulations/ standards/ guidelines. 7) Air Quality Assessment Technical Study Report - On page 7, Table 2-2 Summary of Contaminants of Potential Concern does not list furans. 8) Air Quality Assessment Technical Study Report - The list of emission sources on page 46 does not list the HVAC in the scale house or the emissions from front end loaders in the tipping building. 9) Air Quality Assessment Technical Study Report - On page 49, the report concludes that contaminants without emission data available would be emitted from the facility in negligible amounts. Contaminants with Ministry standards (such as acetone, styrene and acrolein) were omitted using this rationale. TSS recommends the	Equivalents)' is equivalent to ''Dioxins and Furans (TEQ Toxic Equivalents)' or 'Chlorinated dibenzo-p-dioxins' (nomenclature used in O. Reg 419/05). 8) At the EA stage, a detailed design of the proposed facility has not been undertaken and therefore detailed source information is not available at this time. This data would be available at the time of the submission of the application for Section 9 approvals and would be included in the application package. 9) EA amended to address comment. 10) EA amended to address comment. 11) For emissions based on manufacturer's guarantees or manufacturer information, the estimates consider the mitigative effects of the APC. For emissions estimates based on the literature review, estimates are intended to be conservative and, thus, may not consider the mitigative effects of the APC. 12) It is expected that requirements for ambient odour monitoring would be evaluated and discussed with the ministry during permitting under Section 9 of the EPA (after the detailed facility design is completed). 15) Non-chlorine dust suppressants will be used as required and where feasible. 16) The truck traffic route evaluated in the modelling is expected to produce the maximum (i.e. worst case) impact at the receptors in closest proximity to the

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	Regions provide testing data from similar facilities or peer-reviewed scientific literature to confirm that the contaminants considered negligible (and therefore, not assessed in the Air Quality or Human Health Risk Assessments) are not being emitted in significant amounts. 10) Air Quality Assessment Technical Study Report - The third column of Tables 4-1 to 4-2 on pages 50-54 is erroneously labeled Scenario 1A – MCR (it should be labeled Scenario 1B – MCR). 11) Air Quality Assessment Technical Study Report - The report does not mention if the effects of the air pollution controls (APCs) have already been considered in the emission estimates in Scenario 1 or whether the emissions listed are conservative because they do not include the proposed APCs. 12) Air Quality Assessment Technical Study Report - The report lists mitigation measures for odour, but no modelling or monitoring has been completed for the project. 13) It is recommended that an odour monitoring program be implemented for this facility. Monitoring should be conducted prior to construction (for background values) and after construction is complete 14) Air Quality Assessment Technical Study	proposed facility, where the cumulative effect of emissions from the facility plus the vehicle traffic will be greatest. The route used in the modelling is expected to be the most likely route for vehicles to follow when travelling from the transfer stations to the site. If other paths were to be used, this would tend to spread out the vehicle emissions over a number of routes, thus reducing the impact of the vehicle emissions at any given receptor. 17) EA amended to address comment. 18) It should be noted that the MOE Operations manual references the probe siting criteria provided in U.S. Code of Federal Regulations, Title 40, Volume 5, Part 58, Appendix E (Probe and Monitoring Path Siting Criteria), Revised July 1, 1999. This reference has however, been superseded by a newer version of this regulation. The most recent version of the 40 CFR, Part 58, Appendix E (revised October 17, 2006) specifies a minimum separation distance from trees of 10-m (Table E-4). Therefore the siting of the Courtice Road monitoring station met current U.S. EPA probe siting requirements. 19) EA amended to address comment. 20) EA amended to address comment. 21) EA amended to address comment. 22) EA amended to address comment.

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	Report - The Regions have not listed any mitigation measures to address air quality issues during decommissioning. 15) Air Quality Assessment Technical Study Report - Non-chlorine based dust suppressants are recommended to protect water quality if dust suppression techniques will be utilized. 16) Air Quality Assessment Technical Study Report - The Regions have only examined truck traffic following the shortest path to the site using Highway 401. Other routes should be modeled as traffic will also arrive/depart from transfer stations within the two Regions and potentially via other routes. 17) Air Quality Assessment Technical Study Report - *Appendix A: Review of Ambient Air Quality* Table A-2-5 presents the summary of ambient $PM_{2.5}$ measurements. The maximum concentration is reported as the 98^{th} percentile. TSS recommends adding the actual maximum $PM_{2.5}$ concentration and re-labelling the 28.6 $\mu g/m^3$ concentration as the 98^{th} percentile concentration to maintain consistency with the other tables in the report. Additionally, the hourly SO_2 average concentrations from the electronic spreadsheet provided is 7.42 $\mu g/m^3$ and the Appendix A, Table A2-1 reports as 3.5 $\mu g/m^3$. In addition, values are	

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	also inconsistent for hourly and daily ambient NO_2 measurements; and daily ambient $PM_{2.5}$ measurements. 18) Appendix A refers to the supplementary document *Final Report on Ambient Air Monitoring at the Courtice Road Monitoring Station*, dated June 15, 2009. The comments below refer to this report: - Tall trees were situated less than 20 metres northeast (NE) of the monitoring station which does not meet the siting criteria from the MOE document *Operations Manual for Air Quality Monitoring in Ontario,* March 2008. Based on the windrose patterns, interference in wind flow in the NE quadrant is observed. - Typically, the predominant winds during the winter are north (N)/northwest (NW) and during the summer are southwest (SW) (this may be somewhat different when the site is situated in close proximity to the lake, such as in this case). The influence of the trees on the ambient measurements (background) for the above noted parameters may impact measurement efficiency. 19) Concerns with the editing of the raw data for the Courtice Station and data validity. 20) The EA statement of purpose of the project	

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	should be updated to reflect this change in York's current practices. It is not evident from the report why this strategy can only be maintained in the short-term. 21) The "Do Nothing" alternative is described as landfill-only system and has not been included for analysis. This does not appropriately characterize the existing system in York Region, as materials potentially sent to the Dongara plant will result in material/fuel recovery. The Do Nothing alternative should be carried through the evaluation for each of the alternatives to create an accurate representation of the benefits and costs of current practices compared to the other alternatives. 22) In order for the 400,000 tpy design capacity scenario to be properly evaluated and approved by the ministry, the Regions should compare, evaluate and assess each of the Alternatives To, Alternative Methods and the Preferred Undertaking at this maximum scenario at the same level of detail as the lesser scenarios.	
Ministry of the Environment – Human Toxicology And Air Standards Section, Standards Development Branch	The following are comments to the proponent's responses dated July 31, 2009 in response to the re-submission of the risk assessment: 1) Tables in the Multi-Pathway Risk Assessment for the 400,000 tpy scenario indicate that for the COPCs listed, the hazard quotient (HQ) values for the baseline (background) case are always the same	The EA has been amended to include a significant amount of detail to attempt to address the request of the Human Toxicology And Air Standards Section, Standards Development Branch. In addition the following responses have been provided: 1) EA amended to address comment. 2) Where TRVs were available then they were used,

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	as HQ values for the "project case" and "process upset project case" for all receptors (Tables 7-58 through 7-78). This means there is no incremental contribution from the facility. The proponent should provide an explanation to address how the emissions from a 400,000 tpy municipal solid waste thermal conversion facility would not affect the HQ of the cumulative exposure. 2) Air guidelines, standards and criteria are not necessarily a toxicity reference value (TRV). For one, they may be dated, and superseded by new scientific information. Therefore, risk calculations resulting from these 'regulatory' values may not be valid risk characterizations. Appropriate TRVs should be incorporated and the risks for adverse effects to human health recalculated. 3) A risk assessment report should be a stand-alone document. A detailed summary of all information used to understand and interpret data must be included in the main text of the report. Any reference to supporting documents should be included either as an appendix in the report or at least be in a CD that accompanies the report. A risk assessor will not review web sites to reveal important documents and/or information. Any reports referred to should be available as mentioned in our earlier comment. Information in appendices or attachments pertinent to the report must be included in the report.	either as RfC or UR. However, we will undertake a detailed review of all chemicals where benchmarks were used and attempt to find UR or RfCs from credible agencies. In the event that no such RfC or UR are found then we maintain that it is reasonable to provide benchmarks for the purposes of the EA, and have already acknowledged that that they may not be as robust as TRVs. 3) To clarify the Generic Risk Assessment was only one of the sources of information for selection of COPC for the assessment. This was stated as an editorial comment in the previous round of comments, however, we will supply the MOE of a full version of this report for their files on CD. 4) EA amended to address comment. 5) In short, baseline chemical concentrations were compared to the Ontario Typical Range (OTR) values or similar published concentrations. This is also based on professional experience having conducted baseline risk assessment in numerous other areas of Ontario.

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	4) The proponent responses adequately address most of MOE's comments. However, outstanding issues identified by other MOE team members for the 400,000 t/y scenario such as emissions and deposition modeling need to be resolved before SDB would be able to thoroughly assess information, calculations, interpretations and conclusions on this scenario. 5) The proponent asserted that the lifetime cancer risk (LCR) (Table 7-12) and HQ values reported in Tables 7-14 & 7-15 that are in excess of the regulatory benchmarks of (10^{-6} and 0.2, respectively) are entirely driven by the high baseline (background) concentrations and that such baseline (background) results would be expected for any community in Southern Ontario. The risk assessment would benefit from the inclusion of data to support the assertion that similar high background concentrations would be found in any community in Southern Ontario.	
Ministry of Agriculture, Food and Rural Affairs	This Ministry is has no concerns with the proposed EA.	Noted.
Canadian Environmental Assessment Agency	Perhaps the EA could be more explicit in stating there are no federal triggers.	Noted.
Canadian Nuclear Safety Commission	No comment received.	None required.

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Department of Indian and Northern Affairs	No comment received.	None required.
CN Rail	No comment received.	None required.
Environment Canada	No comment received.	None required.
Environment Canada Environmental Assessment and Federal Programs	No comment received.	None required.
Fisheries and Oceans Canada	No comment received.	None required.
Transport Canada	No comment received.	None required.
Health Canada	Based on noise and air quality information presented in the *Environmental Assessment Study Document (EASD),* HC has the following comments for this thermal treatment facility: 1) Tables 7-2 and 7-3 of the *Air Quality Assessment Technical Study Report (AQTSR)* indicate that the 24-hour particulate matter less than 2.5 microns (PM2.5) maxima predicted for both the 140,000 tonnes per year (tpy) and 400,000 tpy project scenarios reach 70% and 71%, respectively of the Canada Wide Standard (CWS) (CCME, 2000). Given that airborne levels of PM2.5 are already elevated in the vicinity of the project and that this contaminant is considered to be a non-threshold contaminant (i.e. adverse human health effects may be observed at any level of exposure), (CCME, 2000) HC suggests that the AQTSR discuss best available technologies and procedures that may be applied to mitigate PM2.5 emissions from the	The EA has been amended to include a significant amount of detail to attempt to address the request of Health Canada. In addition the following responses have been provided: 1) A site specific baseline concentration of 24 ug/m^3 was applied for PM2.5 for baseline concentrations. It is acknowledged that this is close to the CWS. The 24 hr concentration at the Max GLC for the project was predicted to be 0.53 ug/m^3 (Appendix E). Therefore, given that the PM2.5 concentrations at ground level are not expected to be above 1 ug/m^3, no additional mitigation measures are recommended or required. 2) The maximum predicted 1-hour NO_X concentrations represents the maximum predicted value over a 5-year period and is not intended to be indicative of the average or typical facility contribution to baseline levels. The maximum predicted NO_X concentrations for the facility alone are well below the applicable O. Reg. 419 standard (less

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	proposed facility. 2) Tables 7-3, 7-5 and 7-7 of the *AQTSR* and Tables 7-22 and 7-54 of the *Site Specific Human Health and Ecological Risk Assessment - Technical Study Report (HHERATSR)* identify considerable increases in NO2 levels as a result of the project. Given that NO2 plays a major role in the atmospheric reactions that produce ground-level ozone, which is known to be associated with respiratory and cardiovascular health effects, and that NO_2 by itself is linked with respiratory health effects (EPA, 1995), HC advises that the AQTSR discuss mitigation measures that may be applied to minimize project-related emissions. 3) Pages 7-3 and 7-5 of the *AQTSR* indicate that annual maximum ground level concentrations (GLC) and maximum concentrations at special receptors for chloroform are predicted to reach 81% of the provincial air quality criterion. Chloroform exposure through inhalation is associated with central nervous system depression and effects on the liver (EPA, 2000). While the background concentration accounts for virtually all of the maximum GLC, HC suggests that the *AQTSR* includes monitoring of this COPC to confirm that the proposed project will not contribute significantly to the overall airborne levels of this COPC. 4) Table 7-8 of the *AQTSR* indicates that under the	than 25%). 3) Chloroform is expected to be emitted in trace amounts from the facility with the maximum predicted annual average concentration being about five orders of magnitude less than the background level used in the assessment. Given this large difference between model predicted levels and ambient levels, it would not be expected that any uncertainty in the emissions estimates would significantly affect the results of the EA. However, Health Canada's comment will be considered when monitoring requirements are developed for inclusion in the Facility's CofA during the Section 9 approvals process. 4) Please note that there was an error in Tables 7-7 and 7-8 in the metals section of each table, in which the background concentration for a different averaging period was added to the maximum predicted concentration. Given that concentrations remain below the provincial air quality criterion we do not believe that additional mitigation measures are warranted. However, cadmium will likely be a COPC that will be monitored during the 3 year ambient air monitoring program. 5) It should be noted that the process upset emission rates used in the assessment provide a very conservative estimate of worst-case emissions (particularly for HAPs) that could be expected to be encountered over the course of the operating life of the facility.

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	400,000 tpy scenario, the 24-hour concentrations of cadmium are predicted to increase considerably, more than doubling over background to 73% of the provincial air quality criterion at receptors. The *Priority Substances List Assessment Report* of cadmium and its compounds completed under the *Canadian Environmental Protection Act (CEPA)* indicates that *"cadmium is entering the environment in a quantity or concentration or under conditions that may constitute a danger in Canada to human health"* (Government of Canada, 1994), thereby meeting the criteria to be added to the *Schedule 1* list of toxic substances under *CEPA*. Therefore, HC suggests that the *AQTSR* discusses mitigation measures that may be implemented to reduce project-related emissions of this COPC. 5) Tables 7-11 and 7-12 of the *AQTSR* indicate that airborne levels of sulphur dioxide (SO2), hydrogen fluoride (HF), particulate matter less than 2 microns (PM2.5), particulate matter less than 10 microns (PM10), cadmium, bromodichloromethane, chloroform, and xylenes are predicted to increase considerably in the case of process upsets. Given the potential human health implications of these substances, HC advises that the *AQTSR* discuss measures to minimize the air quality impacts of process upsets to the extent possible. 6) Tables 7-24 and 7-56 of the Human Health and Environmental Risk Assessment (*HHAERA)* present concentration ratio (CR) values for	The facility will include the following continuous monitors which will aide in identifying the occurrence of process upsets: opacity, moisture, CO, O_2, NO_X, SO_2, HCl, and HF. Process upset plans will be developed by the vendor at a later date to ensure compliance with their CofA. 6) Noted. 7) This TSR confirmed all different land uses in the area according to the ministry and HC guidelines, and concluded that there are no schools, hospitals, daycares, places of worship, recreational spaces and nursing homes in Acoustic Study Area which includes adjacent lands within 1000 m of the facility property boundaries. Outside this distance the model results show little to no influence of the proposed facility. 8) The hours of 23:00h to 07:00h were used as stipulated by the ministry as the regulating agency for this project. Also, National Guidelines for Environmental Assessment: Health Impacts of Noise, Draft Version, May 2005 uses the same day-night definition. We also do not anticipate any change in the assessment results, even if suggested day-night adjustment is made. Therefore, we believe that night time definition used is applicable for this assessment. 9) EA amended to address comment.

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	respiratory irritants that are predicted to increase considerably for the 1-hour and 24-hour timescales, both for project and process upset scenarios. Given that exposure to respiratory irritants may be associated with acute and chronic human health effects (Rom and Markowitz, 2007), HC advises that the EA document discusses methods to mitigate project- related emissions of all respiratory irritant COPCs to the extent feasible. 7) Page 13 *Appendix C-5 Acoustic Assessment Technical Study Report (TSR)* states that "*a total of 53 different land users are located in the <Acoustic Study Area> (ASA), but only residential and farm houses are considered as critical receptors for detail modelling purpose*." HC also considers schools, hospitals, daycares, places of worship, recreational spaces and nursing homes as critical receptors. Therefore, HC suggests that the *TSR* confirms the presence of absence of these receptors. Should these additional receptors be present in the study area, HC suggests that they be included in the acoustic assessment. 8) Page 14 of the *TSR* states that HC uses the hours of 23:00h to 0:700h to define the night time portion of the day-night sound level (DNL). Please note that HC uses 22:00h rather than 23:00h as the starting point for the night time period. 9) Page 13 of the *TSR* identifies three critical receptors as being "*representative*" for noise	10) A Section 5.5 Human Perception of Loudness section will be reworded to eliminate potential confusion. 11) The TSR assumed that duration of exposure for each representative receptor will be the same as construction activities. However, the daily activities may vary, and daily exposure is expected to be less since our assessment included the worst possible scenario. 12) Noted. 13) The backup alarms were not assessed separately in this TSR , since they are considered as emergency equipment. Also, the construction equipment sound levels were obtained as a peak levels which were assumed to include a full cycle of the machine operation, including backup alarms. However, it is common recommendation that on-site traffic flow is designed to minimize back-up requirements. 14) The TSR included an assessment of all acoustically significant trucks, but did not include assessment of any small truck (pickup trucks) associated with maintenance, and employee arrival/departure. Similarly, the most common forklifts are gas powered, and they do not generate significant sound at the source. Those sources will be at a minimum, and will not make any noticeable noise impact at the sensitive receptors.

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	modelling purposes. However, Page 24 of the *TSR* states that two noise *"monitoring locations were chosen to be representative of noise sensitive receptors."* It is unclear to HC the reason for selecting two monitoring locations, rather than three. Therefore, HC suggests that the selection of noise monitoring locations is explained further so that HC is able to review the representativeness of the baseline conditions. 10) Page 30 of the *TSR* discusses human perception of loudness. Table 5-2 *"Human Perception to a Change in Loudness"* indicates that a 1-3 dB change in sound level is *"insignificant due to imperceptibility."* This statement can be misleading to readers in the way it conveys potential impacts. For example, backup alarm sounds can be readily noticeable, yet barely change the average sound level. HC suggests that references to audibility based on a change in sound levels be avoided unless the new source of noise is very similar to the existing source with respect to the frequency spectrum (e.g. traffic plus more traffic). 11) Page 10 of the *TSR* indicates that construction activities may last up to 30 months. However, the *TSR* does not provide the duration of exposure for each representative noise receptor. HC suggests that the *TSR* provides this information to enable HC to provide advice on the potential human health implications from noise during construction activities.	15) Sections 2.4 to 2.6 of the TSR describe estimated noise adjustments as per applicable noise guidelines and standards. Table 6 presents the result of acoustic calculation and modelling for the worst case scenario including all applicable adjustments described in the relevant sections of the report. 16) At this stage of the facility design, there are no anticipated nighttime construction activities. However, if nighttime construction activities are considered in the future, the scenario will be addressed through a Certificate of Approval process. 17) The information to indicate the potential effectiveness of using vibratory pile driving could be included in the final report. Vibratory pile driving can be effective in reduction of impulsive noise, but is highly dependent upon geotechnical conditions. It is not possible to determine the possibility, or the extent of applicability of this method until detailed geotechnical work is completed. 18) The low frequency noise is not typically included in EA studies. However, the low frequency noise will be part of the acoustic audit and will be addressed, if required. 19) The conclusion on Page 40 is based on acoustical calculation and modelling including all applicable noise adjustments.

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	12) Page 10 of the *TSR* states that "*construction of the Facility for the 140,000 tpy scenario was considered as the worst case* <for construction noise> *and no modelling was performed for 400,000 tpy scenario.*" HC has noted that section 6.1.3 of the report indicates that the 400,000 tpy scenario is the worst case in the context of traffic-related construction activities. In each of these scenarios, it is difficult for HC to verify these conclusions about worst case scenarios without further information. Therefore, HC suggests that evidence is provided to support these conclusions in order to ensure that potential human health effects are not underestimated. 13) Table 3-2 of the *TSR*, "*Construction Noise Source Summary*" does not include backup alarms. Therefore, it is unclear whether or not they have been considered as a tonal source, with an adjustment made for the relative contribution of this source in estimating the change in percentage highly annoyed (%HA) at each receptor. As backup noise alarms can generate a considerable number of noise complaints for projects in general, HC suggests that this source be included in the noise assessment. 14) Page 22 of the *TSR* identifies "*minor sources*" of noise, including trucks and forklifts. However, the *TSR* states that these sources are not included in the noise assessment because "*the number and*	

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	nature of these smaller noise sources are not known and the contribution of these smaller sources is expected to be insignificant due to the setback distances involved between the process areas and the closest receptors." To prevent underestimating the potential human health impact of these sources, HC suggests that a worst-case scenario for these noise sources is estimated and included in the noise assessment. 15) Page 32 of the *TSR* includes Table 6-2 "*Comparison to Federal Guidelines (Facility for 140,000 tpy Scenario Site Preparation).*" The Table does not appear to have applied applicable noise adjustments (e.g. seasonal, time of day, type of area – rural or suburban, pure tone or impulse correction, construction duration longer than a year) in calculating the %HA and change in %HA for the three noise receptors (CSA, 2005). Therefore, HC suggests applying applicable noise adjustments in the noise assessment in order to account for potential human health implications that may be associated with the project. 16) Page 32 of the *TSR* also states that the noise assessment "*analysis assumes that the Facility would not include night time construction activities*." If it is the case that nighttime construction activities will not occur, HC suggests that this is confirmed in the *TSR*. If construction may occur during nighttime hours, HC suggests that the noise impacts of these activities on	

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	receptors are reflected in the assessment. 17) Table 6-4 on page 34, "*Comparison to Federal Guidelines (Facility for 140,000 tpy Scenario Structural Phase with Daytime Pile Driving*) shows that the change in %HA exceeds the suggested level of 6.5% at each receptor. The *TSR* indicates that pile driving may not be required or that vibratory pile driving is a possible method of lessening noise impacts associated with this activity. However, the TSR does not provide information to indicate the potential effectiveness of using vibratory pile driving. Therefore, HC suggests that the *TSR* includes information to estimate noise impacts from vibratory pile driving activities if it is used in the project. 18) Page 21 of the *TSR* identifies noise sources that may have a significant amount of acoustic energy in the low frequency range (e.g. pumps, compressors, turbine, boilers, condenser, a back-up power generator, and ID and process fans.) Although the human ear is less sensitive to low-frequency noise, perception can sometimes occur by way of vibrations in residences because of noise-induced "rattle" in these environments. Research indicates that annoyance related to noise is greater when low frequency noise is present (CSA 2005; Schomer and Averbuch, 1989). Assessment of sound environments is usually undertaken using A-weighted decibel levels (dBAs) which reflect the frequencies most audible to the	

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	human ear. Since low-frequency noise is not typically included in such assessments, HC suggests that the *TSR* include an assessment of the impacts of low frequency noise on receptors, including mitigation measures as appropriate to ensure that potential annoyance effects are addressed. 19) Page 40 of the *TSR* concludes that a change in %HA from operational noise will not exceed 6.5% at any noise receptor because the predicted sound level at points of reception will be 45dBA or less. HC suggests that the *TSR* clarify whether or not this conclusion includes consideration of all applicable adjustments (as described under HC's comments on Construction Noise, above) in the operational sound levels.	
Safe Environments Program, Regions and Programs Branch, Health Canada	1) *Table 4-2 (COPC Considered for the Human Health and Ecological Risk Assessment)* – Aluminum is listed as a contaminant of potential concern (COPC) in Appendix C-1, however, it is not assessed in the risk assessment report. Please provide an explanation as to why aluminum was not included in the risk assessment. 2) *Table 7-3 (Inhalation TRVs and Inhalation Benchmarks for Selected COPC) – Benzo(a)pyrene* -- Health Canada recommends that Canadian TRVs be used preferentially over TRVs from other jurisdictions (Health Canada, 2004a). Please consider using Health Canada's inhalation risk unit	The EA has been amended to include a significant amount of detail to attempt to address the request of the Safe Environments Program, Regions and Programs Branch, Health Canada. In addition the following responses have been provided: 1) Aluminum was not considered a contaminant of concern in the risk assessment based on screening conducted and lack of suitable emissions factors for this element. It was not listed in Table 4-2 of the report, nor could we find reference to it in our Appendix C-1. Regardless if it was included in the Appendices it was in error.

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	value for benzo(a)pyrene instead of the WHO (2000) TRV, and re-assess the human health risks for the carcinogenic PAHs that were assessed using the benzo(a)pyrene TEQ. 3) *Table 7-3 (Inhalation TRVs and Inhalation Benchmarks for Selected COPC)* – When converting from an oral TRV to an inhalation TRV, an adult body weight of 70.7 kg and an adult inhalation rate of 15.8 m3/day were used. HC suggests using a toddler exposure (for noncarcinogens) with a body weight of 16.5 kg and an inhalation rate of 9.3 m3/day because the toddler is a more sensitive receptor with respect to non-carcinogens. 4) *Table 7-5 (Oral TRVs for Selected COPC)* – Health Canada (2004b) values differ from several values used in the assessment. These are presented in the table below. For arsenic and total chromium, no justification was provided in the HHRA or in Appendix H as to why Health Canada values were not used. 5) *Table 7-10 (Maximum Concentration Ratio (CR) Values using Baseline Ground Level Air Concentrations for CACs)* – Please indicate the rationale for the selection of the 90th percentile value instead of the 95th percentile or maximum, as this may have an impact on the overall baseline CRs.	2) Given that the project is being carried out in Ontario and under the purview of the ministry, their approach to TRV selection was followed. We recognize that where projects are conducted under CEAA that it is appropriate to use Health Canada TRVs preferentially. 3) From the Regions' review of the WHO 2000 TRV derivation we believe that it satisfies the requirements of TRV selection in Ontario. 4) The Regions' have reviewed the CR values for all of these chemicals and they are typical HQ<0.00001, thus adopting the toddler approach would not affect the conclusions of the risk assessment. 5) Given that the project is being carried out in Ontario and under the purview of the ministry, their approach to TRV selection was followed. 6) For background concentrations, the ministry has accepted the 90th percentile value as a reasonable choice for Environmental Assessments which reflects the spatial and temporal variations between measured and predicted maxima. 7) Summing the CRs and HQs for those chemicals with similar toxic endpoints was completed at the request of the ministry. 8) There was no exposure frequency allocated to this scenario, rather the concentration ratio was simply a

Submitter	Summary of Comments	Proponent's Response
	10) *Table 7-13 (Maximum Concentration Ratio (CR) and Lifetime Cancer Risk (LCR) Values using Baseline Ground Level Air Concentrations for Chemical Mixtures*) – This table presents CRs for groups of substances with similar toxic effects. However, some of the substances that are in these categories do not have baseline data, and thus it is unclear how these values can be derived. Please provide a discussion about the appropriateness of summing CRs for substances with similar toxic endpoints given that data for specific substances in each grouping is missing. 11) *Section 7.3.3 (Receptor Screening*) - There is no discussion about the specific receptor characteristics. Please provide a discussion about the commercial/future development scenario and the commercial/industrial receptor group. 12) Appendix C, Table 2-2 (*Summary of Contaminants of Potential Concern*) – Several substances on this list do not appear to have been assessed in the report and no explanation is provided as to why they have been excluded. Please provide a discussion about how and why these substances were screened out from further assessment. 13) *Table 4-2 (COPC Considered for the Human Health and Ecological Risk Assessment*)- Bromoform is assessed as both a carcinogen and a non-carcinogen in the report, but this is not	division of the air concentration by the RfC at that specific location. This would thus represent an overestimate of potential risk at any one particular commercial scenario. 9) This was defined or determined by the Air Quality team. However, the term appreciable emissions used by the HHERA team should have been changed to "no credible emissions factor sources were found for incineration". 10) If the chemicals were on the original list but were not included for quantitative assessment is was because for incineration facilities the AQ Team were unable to find emissions factors for these chemicals. None of the chemicals were excluded on a toxicological or health basis from this project. 11) EA amended to address comment. 12) EA amended to address comment. 13) EA amended to address comment. 14) EA amended to address comment. 15) EA amended to address comment. 16) EA amended to address comment. 17) EA amended to address comment. 18) EA amended to address comment.

Submitter	Summary of Comments	Proponent's Response
	indicated in the Table (i.e. it should read "Bromoform (tribromomethane)**b**" with the "b" footnote). 14) *Table 4-2 (COPC Considered for the Human Health and Ecological Risk Assessment)* - Carbon monoxide (CO) is not listed in Table 4-2 as a criteria air contaminant (CAC) chemical of potential concern (COPC); however, it is assessed in the report. 15) *Section 5.2.1 (Baseline Ambient Air Quality Results)* – Baseline CO results (presented in Appendix A) are not presented in this section. Health Canada suggests that there be a discussion of baseline CO results in this Section. 16) *Section 5.2.1.2 – NO2 – "The measured annual NO2 level at the Courtice Road station was similar to that in other urbanized area of Ontario such as Toronto...and was well below the annual national ambient air quality objectives (NAAQO) maximum desirable level of 60 µg/m3"*. Please present the annual average for NO2 in this Section. 17) Page 180, Local Farmers, Farmer – Infant – first sentence – "famer" should read "farmer" 18) Appendix G – there are no inhalation rates presented in the receptor characteristics tables. Please present the inhalation rates for each of the receptor groups assessed in the report in the	

Submitter	Summary of Comments	Proponent's Response
	receptor tables in Appendix G.	
Municipality of Clarington	No comment received.	None required.
Municipality of Clarington Fire Chief	No comment received.	None required.
City of Oshawa	No comment received.	None required.
The Corporation of the City of Pickering	No comment received.	None required.
Town of Ajax	No comment received.	None required.
The Corporation of the Town of Whitby	No comment received.	None required.
Township of Brock	No comment received.	None required.
Township of Scugog	No comment received.	None required.
Township of Uxbridge	No comment received.	None required.
The Regional Municipality of York	No comment received.	None required.

Submitter	Summary of Comments	Proponent's Response
Central Lake Ontario Conservation Authority		
Ganaraska Region Conservation Authority	No comment received.	None required.
Kawartha Conservation Authority	No comment received.	None required.
Lake Simcoe Region Conservation Authority	No comment received.	None required.
Nottawasaga Valley Conservation Authority	Response from Patti Young: The study area is outside of the NVCA watershed – Document has been returned.	None required.
Toronto and Region Conservation Authority	The preferred site is not within TRCA's jurisdiction; therefore TRCA staff has no comments on the final EA document.	None required.
Hydro One Inc.	As Hydro One facilities are within the study area of this EA, Hydro One would like to be included in the loop- and would like to receive all the info related to assessing the subject EA such that Hydro	Comment noted.

Submitter	Summary of Comments	Proponent's Response
	One will be able to assess the impact on our facilities.	
Commissioner/ Medical Officer of Health Durham Region	Comment including Direction Memo (2009-COW-01) and a copy of the letter from Dr. Lesbia Smith date July 24, 2009 were sent to Gavin Battarino of the MOE. The facility as proposed will not pose an unacceptable public health risk if the facility performs as assumed in the SSHERA.	Comment noted.
Medical Officer of Health and Director of Public Health Programs York Region	No comment and do not require further involvement with this proposal.	None required.
Durham District School Board	No comment received.	None required.
Durham Catholic District School Board	No comment received.	None required.
Summary of GRT Comments on Amended EA		
Ministry of the Environment – Environmental Monitoring And Reporting Branch	EMRB's review did not identify any significant issues with the air dispersion modelling aspects of documents. The following are comments with regards to the responses to our September 24, 2009 Memorandum comments:	1) Acknowledged. 2) Acknowledged. Correcting this typo was overlooked in the amended report. Since this typo was minor, we do not propose to revise the amended report.

Submitter	Summary of Comments	Proponent's Response
	1) The emission rate from the main stack has been corrected in the model input for the PM2.5 model run for the "Facility+ On-site Traffic" scenario. The corrected model outputs have been incorporated into the amended report. 2) In the deposition model run reviewed by EMRB, the modelling consultant used the same EMRB-approved particle size of 2.5 microns for both dry and wet deposition estimates for particles although a different particle size of 1 micron was quoted for wet deposition estimate (Appendix D – CALPUFF Methodology of the Final Appendix C-1, Page D-50, 3rd bullet from the top). This typo is still in the amended report on the same page. 3) The emission rates listed in Table B3-5 of Appendix B - Emission Inventory of the Final Appendix C-1, do not agree with those listed in Table G1 of Appendix G - Deposition Predictions at Special Receptors, of the Final Appendix C-1, for at least the following compounds, acetaldehyde, bromodichloromethane, bromoform, carbon tetrachloride and ethylene dibromide. This inconsistency still exists in the amended report. As the proponent confirmed that the emission rates listed in Table B3-5 are correct and the emission rates listed in Table G-1 are higher. Therefore, the model results are more conservative if emission rates listed in Table G-1 were used.	3) This inconsistency was not addressed in the amended report as the values in Appendix G-1 were higher than those in Table B3-5, and therefore the results and analysis presented in the final report were conservative (i.e. over-estimated the actual impact of emissions of these contaminants). 4) Acknowledged.

Submitter	Summary of Comments	Proponent's Response
	4) It is anticipated that the amendments necessary to address our outstanding our comments on the minor issues would not change the general conclusion of the air dispersion modelling results. As indicated in our previous memorandum, that the results of the reviews by Environmental Assessment and Approvals Branch and Central Region Technical Support staff on various aspects of the Environmental Assessment reports (i.e. emission estimates, traffic patterns, etc.) may potentially affect EMRB's review of the air dispersion modelling.	
Ministry of the Environment – Air and Noise Unit	*Air* 1) The documentation submitted has addressed some of the concerns raised in the letter dated September 25, 2009, and acknowledged that additional and/or detailed site-specific analysis will be submitted to the ministry in support of future approvals under Section 9 of the Environmental Protection Act (EPA). 2) In particular, an odour impact assessment for the worst case emissions scenario would be required, as well as an emissions inventory prepared in accordance with the requirements of O.Reg. 419/05. The odour impact assessment can build on any odour impact assessment that has been completed as part of the EA process, to demonstrate that adverse odour impacts are not	*Air* 1) Acknowledged. 2) An odour impact assessment will be provided as part of the supporting information provided for the environmental approvals/permits of the facility once detailed design data of the facility is available. *Noise* 1) Noted. 2) All existing residences in the study area were considered as noise points of reception. 3) Ambient noise levels within the study area were determined according to NPC-233.

Submitter	Summary of Comments	Proponent's Response
	likely to occur due to emissions from the proposed undertaking. *Noise* 1) Only one noise review letter dated September 25, 2009 was issued by the EAAB. Any reference to other letters/dates such as September 16, 2009 should be deleted. 2) All existing residences, whether situated on lands zoned residential or zoned other designations should be considered as noise points of reception. 3) Ambient noise levels within the study area should be based on the MOE Exclusion Limits of Leq(1h) 50 dBA day & 45 dBA night in accordance with MOE Publication NPC-205. If higher ambient noise levels are to be used in lieu of the MOE Exclusion Limits, then such elevated sound levels should be supported by either noise predictions (in accordance with MOE Publication NPC-206) or noise measurements (in accordance with MOE Publication NPC-233). If noise measurements are used, then contributions from non-vehicular traffic sources should be limited to facilities that are not undergoing municipal or provincial noise mitigation programs. 4) Acoustic Audits should be carried out for the two considered phases of the facility, namely 140 ktpy and 400 ktpy. Reference to other phases of the	4) An Acoustic Audit will be recommended during construction of 140,000 tpy facility.

Submitter	Summary of Comments	Proponent's Response
	facility such as 150 ktpy and 250 ktpy should be deleted.	
Ministry of the Environment – Waste Unit	Although the information requested below is not critical for consideration of the EA submission, it is identified as "outstanding" to ensure that it is given due consideration and included in the future Part V application: 1) Page 10-27 contains a description of the emergency situation procedure when both boilers are shutdown. The proposal is to purchase power from the utility company to operate the fans to provide negative pressure in the Tipping Building. However, the details of treatment of the odourous air exhausted from the building have not been included in the EA. 2) Page 10-28 contains a description of the high temperature combustion zone within the boiler/furnace combustion chamber. The expected combustion temperature as well as any supplementary fuel provisions should be further described. As the design and proposed operational conditions of this equipment are critical in ensuring that emissions of contaminants and odours are minimized, detailed information would need to be submitted in the future Part V application. 3) Page 10-40 contains references to floor trenches and a settling basin to collect and contain	Requested information will be provided as requested in the future Part V application under the Environmental Protection Act.

Submitter	Summary of Comments	Proponent's Response
	wastewater to be used for quenching residue in the ash discharges. The description of this system is too general. The locations of these floor trenches and the settling basin must be identified and shown on the floor plan. And the design of the settling basin, including any leakproofing provisions, as well as the expected wastewater quality must be described in the future Part V application. 4) Although, the review of the various versions of the EA has been a time-intensive effort, the waste reviewer noted a significant improvement in the content quality of the amended (November 27, 2009) EA document. The revisions did not only provide the necessary clarification of the site's proposed design and operational procedures but also included the required revisions to ensure that the proposal complies with the Ministry's requirements.	
Ministry of the Environment – Environmental Assessment Project Coordination Section	1) A more detailed explanation substantiating that the York Region waste management strategy is only short term should be provided. 2) Subsection 3.4 of the EA study states that the "Do Nothing" alternative described in the EA does not meet the purpose of the undertaking and will therefore not be considered in this study. This statement contradicts the requirements set forth in the ministry's Code of Practice: Preparing and Reviewing Environmental Assessments in Ontario (Codes), which states that for the purposes of comparison and evaluation of the "Alternatives	1) York Region's waste disposal strategy is defined as "short-term" relative to the disposal planning period defined by this EA and also when considering the typical planning period associated with the development of new waste disposal infrastructure. York Region has committed to this project for a minimum of 25 years through the signing of a Memorandum of Understanding with the Region of Durham. 2) The following provides a comparison of the preferred Undertaking to the "Do Nothing"

Submitter	Summary of Comments	Proponent's Response
	To", a "Do Nothing" system is a required component of the EA process. 3) The description of the "Do Nothing" alternative is not an adequate representation of the current waste management practices for the Regions, as set forth in section 2 and 3.4 of the EA study. 4) It is not understood why existing landfill capacity and/or the siting of new landfill capacity was excluded from the EA study considering that the management of any process residual materials from the thermal treatment of waste will ultimately require landfill disposal capacity and forms part of the undertaking for which approval will be sought. 5) It is not clear as to how and when the existing waste management systems will be reviewed or what processes and protocols will be applied to determine the projected long term disposal capacity requirements of the Regions. 6) The EA does not include a contingency plan to address the possibility that the EA could be refused. 7) Section 9.3 of the Amended EA and the Addendum to Section 9.2 of the Amended EA do not make reference to whether or not the information compiled during the procurement process will be made available for review upon the conclusion of the procurement process.	alternative: • The preferred Undertaking has the ability to generate energy of sufficient quantity to market to the Ontario electrical grid with a better environmental performance per kwh than some current forms of energy generation supplying power to the grid. • The preferred Undertaking has the ability to capture additional resources for recycling that would normally be lost to landfill disposal. • The preferred Undertaking will provide a local residual waste management solution that is not subject to the significant public policy risks associated with the export of waste outside the Region's jurisdictional control. • The environmental performance of the proposed EFW facility has been demonstrated to be preferred overall from a full life cycle analysis when compared to a remote landfill alternative including generating systematically less GHG emissions per tonne of waste when compared to a remote landfill alternative. • The preferred Undertaking is a locally owned and operated long-term solution providing a greater degree of control over the economic and environmental performance of the facility; and,

Submitter	Summary of Comments	Proponent's Response
		The preferred Undertaking allows the Proponents the opportunity to take responsibility for the waste they generate and not burden another municipality with having to deal with someone else's waste issues. 3) We recognize that York Region has secured alternative waste disposal capacity for a portion of their residual waste stream, however, this capacity is not sufficient to manage the entire disposal capacity need of the Region and does not address the initial need of 20,000 tonnes/year disposal capacity as discussed in this EA. 4) Covanta is currently proposing the use of Republic's Pine Ave. Landfill in Niagara Falls, New York as the primary site for ash management and the Modern Landfill in Model City, New York as a backup should it be required. However, Covanta has committed to investigating more local landfill alternatives now that they have been identified as the preferred vendor. 5) A review of the existing waste management systems will include the identification of any potential short-comings that may exist in the current waste management systems such as the availability of long-term processing capacity for recyclable and/or organic material and developing additional strategies to increase waste diversion. The review would also examine ways to maximize the use of existing approved disposal capacity and consider necessary

Submitter	Summary of Comments	Proponent's Response
		additional infrastructure to further improve diversion performance (i.e. current diversion rates, capture rates etc.). The waste management system reviews would examine the current waste systems' performance and projected waste management needs of the Regions. This is determined by obtaining current residential and IC&I waste generation data from the Regions and analyzing the data to determine performance. In addition, per capita waste generation estimates and populations projections would be determined to project the amount and composition of waste the Regions will need to manage during the planning period. This intervention will then be used to project long-term waste disposal capacity requirements. The assessment of the current system performance and evaluation of options would address short and long-term needs. Typically the Regions review and update their Integrated Waste Management Master Plans at a minimum every 5 years, however, continuously review and update system components as required. 6) Each Region has established short-term disposal capacity to manage the post-diversion residual waste until the EFW facility is constructed and operating. The following describes the respective short term contingency plans. Durham Region: Durham Region has secured an

Submitter	Summary of Comments	Proponent's Response
		agreement in the Modern Landfill Inc. for the landfill disposal of non-hazardous residual waste. The terms of the agreement are for a three year period commencing January 01, 2011, with the option to extend for two (2) additional one (1) year periods. The landfill disposal location is: Modern Landfill Pletcher Road, Niagara County Lewiston, New York, USA York Region: York Region's current contract with the City of Toronto and the Greenlane Landfill would be utilized to manage York Regions residual waste disposal capacity need until such time as the EFW facility is operating. Should this EA be refused, the Regions would have to enter into discussions with the MOE to determine their alternatives to proceed in securing long-term disposal capacity. In the meantime, these short-term contracts already established would manage the waste disposal requirements until a new alternative is identified. However, please note that these contracts are temporary and do not provide a local waste disposal solution nor do they meet the purpose and need of the undertaking. 7) Following the completion of the procurement process, the Proponents will make available to the Ministry of the Environment, upon request to the Proponents, information/documentation with respect to the procurement process that would be subject to

Submitter	Summary of Comments	Proponent's Response
		release in accordance with the purchasing policies of the Region of Durham and the provisions of the Municipal *Freedom of Information and Protection of Privacy Act*.
Ministry of the Environment – Central Region	1) During the October 13, 2009 meeting, the issue of potential odour emissions from the facility was discussed. At the time of the meeting the ministry was obtaining clarification from the Regions as to why odours were not addressed in the Air Quality Impact Assessment. There was no agreement that no further modelling or monitoring was required. Consequently, the response from Durham / York should be revised to reflect this at variance conclusion. 2) The issue of potential odour impacts from the proposed facility was also discussed during the December 1, 2009 workshop. To substantiate Regions' conclusions that adverse off-property odour effects are not expected as a result of onsite operations, the MOE recommended that the Regions' submit an odour mitigation plan, at the time of detailed design studies, to the Director of Central Region for approval. This plan should include: - An overview of the potential odour emissions that may occur during the handling, processing and transportation of the wastes - Several odour surveys conducted at the	1) The statement in the comment response table was not meant to imply that odour modelling or monitoring would not be considered during the permitting phase of the project. 2) Section 5.2.4 of the amended Air Quality Technical Study Report provides a commitment to provide an odour management plan to the ministry for review and approval during the permitting phase of the Facility. Odour monitoring requirements will be addressed in this plan. The specific requirements noted by the ministry will be addressed in the odour management plan. 3) Acknowledged. 4) Acknowledged.

Submitter	Summary of Comments	Proponent's Response
	tipping area, truck queues and any other potential odour sources that might be identified - An estimate of odour emission rates from the different sources as noted above - Dispersion modelling to assess the impacts at the nearest sensitive receptors 3) Since the Regions found no readily available VOC emission data applicable to the proposed facility, the Ministry recommends the Regions include VOC emissions testing as part of the Stack Testing commitment in Table 13-1 "*Summary of Environmental Mitigation and Commitments to Future Work*" of the ESD. 4) The Regions have committed to an ambient air quality monitoring in the immediate vicinity of the facility for a 3-year period. The proponent should submit an ambient air monitoring plan to Central Region, Technical Support Section for review and approval prior to the beginning of construction of the facility.	
Ministry of the Environment – Ecological Standards Section, Standards Development Branch	Overall, the ecological risk assessment is well presented and the proponent has appropriately responded to my previous review comments dated on July 7, 2009 and September 25, 2009 and I have no further comments.	Noted.

Table 2. Public Comment Summary Table

Proposal: Durham York Residual Waste Environmental Assessment Study
Proponent: Regions of Durham and York

Submitter	Summary of Comments	Proponent's Response
Area Residents	General comments stating opposition to the project.	Comments have been received and forwarded to the ministry for consideration.
Area Residents	General comments regarding concerns with the decision-making processes of the municipal and/or regional councils, including requests for a referendum.	Comments regarding the municipal political process, including requests for a referendum, cannot be addressed within the scope of this environmental assessment.
Area Resident	Comment stating that the proponents' political preferences drove key decisions, as opposed to arriving at conclusions as a result of orderly, rigourous and transparent studies, i.e. conclusions based on factual data evaluated properly to produce a defensible outcome.	The conclusions reached and recommendations made by the consultant team over the course of the subject environmental assessment (EA) have been based on a rigorous and objective, third-party assessment of both first and second-order data and information that has yielded a traceable and, therefore, defensible EA document.
Area Resident	Comment stating that Durham Region's support of the facility is contradictory with their participation on the Inter-Governmental Declaration on Clean Air.	Disagree with this comment.
Area Residents	The Durham Region energy from waste (EFW) consultants appear to be employees of Covanta, which is the current preferred vendor for construction of the incinerator. This would be a conflict of interest.	Stantec Consulting Limited is not employed by Covanta.
Area Resident	The proponents selected two consulting firms, Jacques Whitford (now Stantec) and MacViro (now Genivar), both of whom were members of the Canadian Energy from Waste Association (CEFWC) until the last year - Jacques Whitford (Stantec)	The team's experience in the completion of EA studies together with its technical expertise in energy-from-waste applications was considered an asset to the proponents of the subject EA study. At no time did the consultant team perform its contractual obligations in anything but a professional and objective manner.

Submitter	Summary of Comments	Proponent's Response
	apparently no longer a member. The principal funders of the CEFWC are Covanta Energy, Veolia Montenay and Waste Management/Wheelabrator Technologies. All 3 became pre-qualified vendors eligible to submit a bid for the Durham project.	
Area Resident	Comment regarding the purpose of EA and how it is to produce an environmentally safe facility. In addition, the process is public (and supposedly transparent) in order that the public is assured that the proposed facility is safe. If, at the end of an EA, the public is not satisfied that it is safe, it follows that the EA has failed and the facility should not be built.	The conclusions reached and recommendations made by the consultant team over the course of the subject EA have been based on a rigorous and objective, third-party, assessment of both first and second-order data and information that has yielded, a traceable and, therefore, defensible EA document.
Area Residents	Comments directed to the Ministry of the Environment (MOE), urging them to stand by their mandate to protect the air, land and water for a healthy environment within the community, by not approving the project.	Any comments on provincial policies or decisions directly related to the scope of this EA should be forwarded to the ministry during the comment period on the ministry Review.
Area Resident	Comment stating that the building of an incinerator would be in contradiction to all other environmental initiatives that the government is currently working toward, including the recently passed Bill 167 which calls for the reduction and elimination of toxins.	Any comments on provincial policies or decisions directly related to the scope of this EA should be forwarded to the ministry during the comment period on the ministry Review. It is at this time that the ministry will respond to comments directly related to the scope of this EA and the ministry's Review.
Area Resident	The Ontario Waste Diversion Act 2002 has the purpose "to promote the reduction, reuse and recycling of waste and to provide for the development, implementation and operation of waste diversion programs to promote the reduction, reuse and recycling of waste and to provide for the development, implementation and operation of waste	Any comments on provincial policies or decisions directly related to the scope of this EA should be forwarded to the ministry during the comment period on the ministry Review. It is at this time that the ministry will respond to comments directly related to the scope of this EA and the ministry's Review.

Submitter	Summary of Comments	Proponent's Response
	diversion programs."	
Area Resident	Would the toxics and carcinogens emitted from this facility be permitted under the Toxics Reduction Act?	The actions required by the Province to meet the government implementation of the Toxics Reduction Act are beyond the scope of the EA.
Area Residents	Comments were received stating that energy from waste facilities often emit more greenhouse gas (GHG) emissions than coal plants, or add cumulatively to GHG emissions, and the development of the facility would be contrary to Ontario's goals for reducing greenhouse gas emissions.	The actions required by the Province to meet its GHG reduction targets are beyond the scope of the EA.
Area Resident	Comment received stating that Ontario needed a waste policy strategy to include the manufacture of plastics, paper and wood products that goes beyond diversion.	Any comments on provincial policies or decisions directly related to the scope of this EA should be forwarded to the ministry during the comment period on the ministry Review. It is at this time that the ministry will respond to comments directly related to the scope of this EA and the ministry's Review.
Area Resident	A comment was received stating that the Government of Ontario has demonstrated that it is committed to the health of our environment. Further, the submitter urged the Government of Ontario to make the safer, greener decision regarding the proposed incinerator in Durham Region.	Any comments on provincial policies or decisions directly related to the scope of this EA should be forwarded to the ministry during the comment period on the ministry Review. It is at this time that the ministry will respond to comments directly related to the scope of this EA and the ministry's Review.
Area Residents	Comments were received stating that development of the facility would not be in compliance with the ministry's Zero Waste vision for the province.	Any comments on provincial policies or decisions directly related to the scope of this EA should be forwarded to the ministry during the comment period on the ministry Review. It is at this time that the ministry will respond to comments directly related to the scope of this EA and the ministry's Review.
Area Resident	Considering the ministry's vision for Ontario as found in the Environmental Bill of Rights' (EBR) Statement of Environmental Values, the EA fails to follow a planning process that leads to a preferred technology, preferred site and preferred vendor that	The EA was undertaken in accordance with the approved Terms of Reference (ToR).

Submitter	Summary of Comments	Proponent's Response
	represent environmentally responsible decision-making.	
Area Residents	Comments were received directing the ministry to honour their obligation to consider cumulative effects, and implementation of Certificate of Approval (CofA) requirements.	Any comments on provincial policies or decisions directly related to the scope of this EA should be forwarded to the ministry during the comment period on the ministry Review. It is at this time that the ministry will respond to comments directly related to the scope of this EA and the ministry's Review.
Area Resident	The EA Study Document ignores the current Ontario and global context and appears to assume that the EA Study can come to a conclusion without considering current global and Ontario based environmental, health and economic conditions.	Any comments on provincial policies or decisions directly related to the scope of this EA should be forwarded to the ministry during the comment period on the ministry Review. It is at this time that the ministry will respond to comments directly related to the scope of this EA and the ministry's Review.
Area Resident	Comments regarding sustainability/resource and energy conservation and a statement that the EA ignores this and the ministry Vision Statement (EBR) and the ministry's Zero Waste Vision.	Any comments on provincial policies or decisions directly related to the scope of this EA should be forwarded to the ministry during the comment period on the ministry Review. It is at this time that the ministry will respond to comments directly related to the scope of this EA and the ministry's Review.
Area Resident	Comment regarding air quality/healthy communities/health risk in relation to the ministry's Vision Statement and concerned that the National Pollutant Release Inventory (NPRI) reporting from 469 facilities in the Durham/York regions illustrated the fact that there were emissions above thresholds for the EA.	A facility being required to report to the NPRI does not imply an exceedance of any health-based regulatory guidelines or standards. The NPRI is a reporting system that allows the federal government to track annual contaminant releases from industrial sources across the country that meet certain emissions thresholds and is not a regulatory permitting tool.
Area Resident	Clarington Council approved a zero-waste motion and the Regional Works Committee endorsed that position. These motions proposed that the Region achieve that target by 2038. However this target is incompatible with an incinerator because increased	Although the Regions are focused on continually increasing diversion, the population growth projections for the Regions will offset the increase in diversion, resulting in a similar quantity of waste requiring management over the planning period. Should waste

Submitter	Summary of Comments	Proponent's Response
	diversion is a gradual process and the incinerator needs a minimum quantity of waste to function.	diversion targets not be achieved a facility expansion would be required in the future.
Area Resident	Request to put the project on hold until it can be demonstrated to be a rational part of a long-term materials strategy.	Waste diversion is a high priority for both Durham and York Regions. Initiatives including recycling, composting and diversion of household hazardous waste have been investigated as part of this project. The Regions will continue to invest in, encourage and promote diversion programs so that these diversion targets can be met and to reduce the amount of waste requiring disposal at the proposed facility. The Regions are dedicated to educating their residents of the resources available to them and hopefully through this education, people will become more involved with diversion efforts.
Area Resident	A request was directed at the ministry to order that a more comprehensive and extensive assessment to be done, or to authorize an Assessment done by the Province.	Any comments on provincial policies or decisions directly related to the scope of this EA should be forwarded to the ministry during the comment period on the ministry Review. It is at this time that the ministry will respond to comments directly related to the scope of this EA and the ministry's Review.
Area Residents	Comments were received that asserted that should the project be approved the ministry must require the most stringent and comprehensive environmental surveillance possible, including soil, agricultural products, ambient air and human bio-monitoring.	Any comments on provincial policies or decisions directly related to the scope of this EA should be forwarded to the ministry during the comment period on the ministry Review. It is at this time that the ministry will respond to comments directly related to the scope of this EA and the ministry's Review.
Area Residents	Concerns were raised about the agreement between the Regions of York and Durham and that the Region of Durham should not have to cover York Regions costs and still keep them as a partner considering they "backed out" of the agreement.	York Region is continuing as a full partner in the preparation of the EA submission and as such is contributing 50% of those costs. York Region has reduced its share of waste to be processed at the facility to 20,000 tonnes per year and as such will contribute proportionately to the construction and operation costs of the facility.

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Area Resident	Concern raised regarding the legal/jurisdiction environment and that only contractual aspects are reviewed from the point of view from citizens' rights and stewardship mandates and makes no mention of previous Supreme Court decisions.	The EA was undertaken in accordance with the approved ToR, including the consideration of the appropriate municipal, provincial, and federal legislative requirements.
Area Resident	Just because something may be meeting a particular standard at a given time does not necessarily make it safe. Moreover, that is when the system works as it is expected to do. In actuality, provisions must be made for system failures.	The EA was undertaken in accordance with the approved ToR, including the consideration of the "worst-case" scenario and associated process upsets.
Area Residents	The fact that York region is only a 20% partner in the capital costs also argues against treating the EA study area as a homogenous area when looking at the capital costs, debt burden and tax impacts. What consideration was given to compensating for the economic disparities between regions, and prorating the economic impacts according to commitment to capital costs?	Each Region undertook a financial assessment to determine the financial viability and impacts associated with moving forward with the proposed undertaking. These financial assessments fall outside the scope of this EA study.
Area Residents	York Region is contributing nothing to this solution. There was not even an EA done for any location in York Region, nor was there an EA done in any other area of Durham.	York Region is continuing as a full partner in the preparation of the EA submission and as such is contributing 50% of those costs. York Region has reduced its share of waste to be processed at the facility to 20,000 tonnes per year and as such will contribute proportionately to the construction and operation costs of the facility. In accordance with the approved ToR, the alternative waste management solutions and alternative sites considered to address the waste management problems were within the boundaries of both York and Durham Regions. The evaluation and siting process was carried

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		out appropriately in accordance with the ToR.
Area Residents	Was the Greenbelt considered during the siting and evaluation process?	Yes, the Greenbelt was considered during the evaluation and siting processes for the proposed facility
Area Resident	Can the Minister and staff explain the approval of the Highway 407 East Link, even though it is located in the Greenbelt?	Any comments on provincial policies or decisions directly related to the scope of this EA should be forwarded to the ministry during the comment period on the ministry Review. Any decision by the Province on other undertakings is beyond the scope of the EA.
Area Resident	A comment was received quoting previous political statements by the Honourable Ruth Grier (1994) and Honourable Leona Dombrowsky (2003) that opposed incineration that should be considered during the ministry's review.	Any comments on provincial policies or decisions directly related to the scope of this EA should be forwarded to the ministry during the comment period on the ministry Review. It is at this time that the ministry will respond to comments directly related to the scope of this EA and the ministry's Review.
Area Resident	A request was received by the ministry to ensure that air emissions monitoring commitments made during a Energy From Waste Site Liaison Committee meeting (January 14, 2009) be made a requirement of the EA for the facility.	Any comments on provincial policies or decisions directly related to the scope of this EA should be forwarded to the ministry during the comment period on the ministry Review. It is at this time that the ministry will respond to comments directly related to the scope of this EA and the ministry's Review.
Area Resident	A comment was received stating that the ministry would fail to protect the Canadian environment and its citizens if the project is approved.	Any comments on provincial policies or decisions directly related to the scope of this EA should be forwarded to the ministry during the comment period on the ministry Review. It is at this time that the ministry will respond to comments directly related to the scope of this EA and the ministry's Review.
Area Residents	Comments received requesting either a public hearing or an Environmental Review Tribunal (ERT) for approval of a waste incinerator project.	Any comments on provincial policies or decisions directly related to the scope of this EA should be forwarded to the ministry during the comment period on the ministry Review. It is at this time that the ministry will respond to comments directly related to the scope of this EA and the ministry's Review.

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Area Residents	A comment was received stating the opinion that waste management should be controlled by the Federal and Provincial government and not by municipalities.	Any comments on provincial policies or decisions directly related to the scope of this EA should be forwarded to the ministry during the comment period on the ministry Review.
Area Residents	Comments were received that stated support for project.	Comment noted.
Area Residents	Received requests for notification when the EA will be submitted, as well as several requests for copies of the EA or for information regarding where it was available for review.	Upon submission of the EA notification will be sent to all those interested persons who participated in the EA process. Notification will also include where the EA will be made available for review.
Area Residents	Comments were received voicing concerns that there was a lack of adequate opportunities for consultation, or that the project was not adequately publicized.	It is the opinion of the Proponents that sufficient consultation was completed to support the conclusions of the Environmental Assessment. All public consultation conducted as part of this study was in accordance with the approved ToR.
Area Residents	Received comments identifying other organizations and groups that oppose the project.	The Regions are aware that 75 Durham Region doctors, Canadian Union of Public Employees, Canadian Auto Workers Union, Durham Regional Labour Council, Canadian Labour Congress and several local community groups are opposed to the proposed facility. Their concerns have been taken into consideration.
Area Resident	A comment was received stating that a petition was signed by over 2,200 residents (dated June 24, 2009) and given to Durham Region Council. And that the response indicated that this did not show enough opposition.	There is no record of this response provided by Council.
Area Resident	A comment was received requesting records of the public consultation efforts for the project.	Details regarding public consultation can be found in the Record of Consultation which has been posted on the region's project website. Additional details can also be found in the EA under Section 16 – Consultation Summary.

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Area Residents	A comment was received voicing the opinion that there was inadequate time for councilors and the public to adequately review, analyze and comment on the EA documents.	Please note that the review period provided for public, Committee and Council review of the Draft EA Study Document was in accordance with the approved Terms of Reference and accepted practices.
Area Residents	A comment was received that identified concern regarding the reduced need for Clarington's peer review of the documents. Clarington peer reviewers were dismissed by Clarington Council July 6th and were not permitted to complete their pre-submission discussions with staff and the Project Team.	It is the opinion of the Project Team that all of the comments submitted by Clarington's Peer Reviewers have been addressed. Following the comments received on the Draft EA, no comments have been received from Clarington on the formal EA submission.
Area Resident	A comment was received stating the opinion that there was a lack of presentation to the Health and Social Services Committee of the most recent Air Quality Report (AQR) or the Human Health and Ecological Risk Assessment (HHERA).	No requests were made to the Consultant Team regarding providing presentations to the Health and Social Services Committee on the AQR or HERA. The Consultant Team has made presentations whenever asked to do so, at numerous Committee and Council meetings, on all issues including those related to Health.
Area Resident	A comment was received stating the lack of communication regarding the completion of the public consultation period on July 15, 2009.	In order to complete the Record of Consultation for inclusion with the final EA documentation, we had to stop receiving comments on the EA on July 15, 2009 to facilitate assembly of the documentation and printing. Any comments submitted after July 15th can be forwarded directly to the ministry.
Area Residents	A question was received asking if comments could be submitted via email, and a request was made to update public notices to reflect this information.	Submissions can be forwarded by e-mail, and all subsequent notices regarding the EA process will include this information.
Area Resident	A question was received asking why the EA was not posted on the EBR website.	The EA and notice has not been posted on the EBR website as this was not a requirement.
Area Resident	A question was received asking who the current government review team (GRT) members are.	The most recent GRT list was provided. The GRT list is also available on the Project website.
Area Resident	A question was received asking if the EA study had been circulated to any federal stakeholders and who these individuals are.	The EA was circulated to the GRT. The GRT is made up of both provincial and federal members. The most recent GRT list was provided. The GRT list is also

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		available on the Project website.
Area Resident	A request for a copy of the proposal submitted by Covanta was received.	All information related to the Request for Proposals (RFP) that can be released publicly has been included in Section 9 and 10 of the EA document.
Area Resident	Comment that there was a lack of consultation with the Métis.	Aboriginal communities, including the Métis, were consulted appropriately. Please refer to the most recent contact lists available on the Project website.
Area Resident	A question was received asking if the proponents have any concrete recommendations to ensure that a community relations committee becomes an effective forum to discuss community concerns and follow through with corrective actions by the Regions and the selected project contractor?	A site liaison committee has been established as part of the EA study. It is intended that a community relations committee will be maintained for the facility over its operating period. The mandate of this committee during operation of the facility has not yet been established.
Area Resident	Comment that although the Report on Consultation on Proposed Siting Methodology and Criteria describes the consultation process undertaken, it is equally important to show how the results of the consultation were considered in making any changes to the methodology and criteria and in assigning priorities for the comparison of short listed sites.	Please refer to the Record of Consultation which documents consultation undertaken to date and how comments were considered.
Area Resident	Comment stating that most public advertisements used thermal treatment, residual waste, energy from waste terminology, instead of providing clear explanations in lay terms to interested and potentially impacted members of the public.	The terms "thermal treatment" or "energy from waste" are commonly accepted terms for the proposed waste management alternative. The term "undertaking" is a term used and required during the environmental assessment process.
Area Residents	Concerns were received regarding the appropriateness of the selected site, and that the facility would be situated too close to many sensitive receptors.	The Clarington 01 site has the most advantages and fewest disadvantages compared to the other alternative sites. The EA has been amended to include additional rationale clarifying the evaluation and site selection processes. Please refer to Sections 7(Alternatives To) and 8 (Alternative Methods) of the amended EA document for the revised descriptions of the

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		Alternatives To and Alternative Methods evaluations.
Area Resident	A comment was received identifying a lack of opportunities within the site selection process to identify new willing sellers (i.e., feedback loops), as per Report No: PSD-070-07 from Clarington's General Purpose and Administration Committee.	Section 8.5.2 of the EA describes the identification of "Willing Seller" sites. It is the opinion of the Project Team that all of the comments submitted by Clarington's Peer Reviewers have been addressed. Following the comments received on the Draft EA, no comments have been received from Clarington on the Formal EA submission.
Area Resident	A question was received asking if all relevant future land use designations and policies in the Durham Regional Official Plan and the Clarington Official Plan are considered.	Yes, all relevant future land use designations and policies were considered during the EA process.
Area Residents	A comment was received stating that as part of the site selection process a number of reports were prepared. The Regions' project team previously committed to release these reports in July; however they have not been. It is premature for the regions' project team to complete their analysis and determine the preferred site in advance of these studies being released, comments provided and due consideration of them.	The evaluation and siting process was carried out appropriately in accordance with the ToR. All supporting information and reports used in the evaluation and siting process were submitted to the ministry with the EA.
Area Resident	A comment was received stating that as per Clarington staff reports and peer reviewers addressed in PSD-097-07: The Regions should consider carrying forward at least two geographically separate sites through the RFP to provide for the optimum siting opportunity in relation to the specific technology and the specific HHERA.	The EA was undertaken in accordance with the approved ToR. The siting process was designed to arrive at a preferred site. Each Vendor evaluated in the RFP was providing a technology consistent with that identified in the evaluation of "Alternatives to" and as a result, it was not necessary to carry two sites forward in the RFP process.

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Area Resident	A comment was received stating that by choosing to separate the site selection and technology, the project team in effect turned Step 7 as described in the EA ToR into Steps 7 and 8. Does MOE consider the separating of the two decisions to be consistent with the EA ToR?	In January 2008, the Regions sought clarification with respect to the separation of the siting and procurement process, to ensure consistency with the approved ToR.
Area Residents	A comment was received stating that the site selection process was scoped towards public lands, thereby showing a preference for the Clarington 01 site and a predetermined outcome adopted by Durham Council.	The evaluation and siting process was carried out appropriately in accordance with the ToR. The EA has been amended to include additional information clarifying the evaluation and site selection processes. It is the opinion of the Project Team that all of the comments submitted by Clarington's Peer Reviewers have been addressed. Following the comments received on the Draft EA, no comments have been received from Clarington on the Formal EA submission.
Area Resident	A comment was received regarding the extreme difference between Clarington 01 and East Gwillimbury air sheds (Industrial criteria air pollutant emissions). The comment also stated that there a decision on site selection had a great impact on results of the AQR and HHERA .	The HHERA team had conducted a Generic Risk Assessment that flagged a couple of issues of concern but overall concluded that it was likely that a facility could be located either in York or Durham. Regardless of where the facility was to be placed, it would need to be demonstrated that it would not have an impact on human or ecological health, including from a cumulative point (baseline + project). The role of the HHERA team was to assess the potential for risk to humans and the environment once a site and vendor were selected.
Area Resident	A comment was received stating that in Clarington peer review, it is discussed how the 'advantages and disadvantages' evaluation generated a number of	The evaluation and siting process was carried out appropriately in accordance with the ToR. The EA has been amended including additional information

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	questions and concerns from the peer reviewers regarding how the sites were ranked in order to select a preferred site.	clarifying the evaluation and site selection processes. It is the opinion of the Project Team that all of the comments submitted by Clarington's Peer Reviewers have been addressed. Following the comments received on the Draft EA, no comments have been received from Clarington on the formal EA submission.
Area Residents	A question was asked that if the only independent reviewers, Clarington's Peer Review Team, are still not satisfied with the way decisions arose from the Site Identification Process, how can we be sure that the best site was chosen?	It is the opinion of the Project Team that all of the comments submitted by Clarington's Peer Reviewers have been addressed. Following the comments received on the Draft EA, no comments have been received from Clarington on the formal EA submission.
Area Residents	A comment was received stating that in the opinion of Senes, public health and safety and natural environment are separate issues and should have been dealt with as separate criteria for impact and fairness of assessment for the preferred site.	The evaluation and siting process was carried out appropriately in accordance with the ToR. The EA has been amended including additional information clarifying the evaluation and site selection processes. It is the opinion of the Project Team that all of the comments submitted by Clarington's Peer Reviewers have been addressed. Following the comments received on the Draft EA, no comments have been received from Clarington on the formal EA submission.
Area Resident	A comment was received stating that it appears that because land does have to be expropriated to facilitate this project, that in fact Clarington 01 does not meet the criteria set out in Table 4.5 making Clarington 01 disadvantaged in respect to complexity of required agreements.	There are no expropriations required to facilitate the use of Clarington Site 01.
Area Resident	A comment was received stating that as per Wiliam McCrae in peer review report PSD 071-09, the matter of mitigation on a number of issues has not been properly handled in the analysis of the sites and as such is not reflected in the final assessment of	The evaluation and siting process was carried out appropriately in accordance with the ToR. The EA has been amended including additional information clarifying the evaluation and site selection processes. It is the opinion of the Project Team that all of the

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	advantage and disadvantage under the various indicators. How are we to know whether or not these mitigating factors led to differences between the two sites in the final evaluation?	comments submitted by Clarington's Peer Reviewers have been addressed. Following the comments received on the Draft EA, no comments have been received from Clarington on the formal EA submission.
Area Resident	A comment was received stating that a range or an actual proposed capacity for the facility, is not indicated for the site selection process, as per peer review reports PSD-097-07 and PSD-093-07.	Given the imprecise nature of the calculation of building size, infrastructure requirements, buffer zone needs, etc, up until the actual site and vendor were determined the Regions feel that the estimated numbers used throughout the siting process were consistent and will not have led to the exclusion of any sites because of size. The EA has been amended including additional information clarifying the evaluation and site selection processes.
Area Resident	Comment expressed that if incineration is so benign it should be located in the immediate urban areas.	The opportunity to identify sites within "immediate urban areas" was provided for in the EA study. The Long-list of sites included sites within "urban areas".
Area Resident	A comment was received stating that the Oshawa Airport is federally regulated	Comment noted. Section 8.0 of the EA study has been updated to reflect this comment.
Area Resident	A question was received regarding the fact that the Clarington 01 site was advantaged over the Gwillimbury site even though information for the Clarington site was missing.	Yes, Clarington Site 01 remains advantaged. The studies completed on the site specific impacts confirmed the suitability of the site for establishing a new energy from waste facility.
Area Resident	A comment was received stating that Table 8-25 claims that Clarington site is neutral and advantaged and Gwillimbury is disadvantaged in both cases. Is this summary correct?	The evaluation and siting process was carried out appropriately in accordance with the ToR. The EA has been amended including additional information clarifying the evaluation and site selection processes.
Area Resident	A question was recieved asking why are both the Clarington 01 and the Gwillimbury's rated as Advantage for institutions around facility when	The evaluation and siting process was carried out appropriately in accordance with the ToR. The EA has been amended including additional information

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	Clarington is planning offices, day care center, restaurant, etc. on site while Gwillimbury has current industrial use and Waste facility Depot in surrounding area? Additionally, why wasn't the Waterfront Trail considered?	clarifying the evaluation and site selection processes. Please refer to Sections 7(Alternatives To) and 8 (Alternative Methods) of the amended EA document for the revised descriptions of the Alternatives To and Alternative Methods evaluations. In addition, Section 10 has been revised providing a more detailed description of the undertaking. Section 8 also outlines the evaluation and site selection processes and provides a relative comparison considering the potential effects of traffic and potential effects on recreational uses (i.e, Waterfront trail).
Area Residents	Comments were received requesting that alternatives to the project be considered, or that other alternative waste management options were more appropriate than the proposed facility and were not adequately considered.	In accordance with the approved ToR, in determining the scope of alternative systems to be evaluated, the focus was on covering the range of options to recover resources, both materials and energy, from the residual waste stream rather than all possible combinations of the alternative approaches available for consideration.
Area Resident	A question was received regarding what ministry buffer requirement was considered for this EA. Approximately 2000 people may work in the Clarington Energy Business Park (CEBP) and should they be counted as sensitive receptors?	Section 8.8.9.2 discusses the documents referenced in determining the appropriate "buffer" distances. The future build out of the CEBP was taken into consideration when evaluating potential sites.
Area Residents	Comments were received that stated that almost the whole Clarington 01 Site with the exception of hedgerows is used for agriculture purposes. Not only site itself, but the whole future Energy Park is located on Canada's best prime agricultural soil that is found nowhere else. Protection of prime agricultural land is not seriously considered by any government, even though it is Clarington's largest industry.	Although the Clarington Site 01 has been used for agricultural purposes in the past, it is designated industrial. The EA considered the proximity to prime agricultural land during the evaluation and siting processes.

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Area Resident	A question was received asking why the existing Wesleyville site was not considered as a potential site for the facility.	Your comments regarding adapting the existing site in Wesleyville have been noted. During the siting process the Wesleyville site was investigated but since the owner did not offer the site as a "willing seller" host site, it was not considered further.
Area Resident	A comment was received stating that here is a lack of clarity as to which "Do Nothing" alternative was considered as varying definitions are found for the "Do Nothing" alternative in the EA study and background documents, which are substantially different.	The EA has been amended to include further discussion and clarification on the "Do Nothing" alternative and how it was taken into consideration.
Area Resident	A comment was received stating that enhanced waste diversion is a viable, "reasonable" and a more economical and safer alternative option that was ignored. Waste analyses by several Durham residents have demonstrated that enhanced diversion, along with reduction, and reuse- which Durham has barely considered in their plans- would render an incinerator economically unviable.	Please refer to Section 7.4.1 of the EA document for a discussion on the consideration of additional diversion.
Area Resident	A comment was received stating that describing the incinerator as an "energy from waste" project, without fully explaining the range of potential impacts clearly and openly in the early stages, meant that the average member of the public who might be aware of this project, assumed this to be a benign option.	The result of the comparative evaluation of alternative technologies was reported accurately to the public over the course of the EA process.
Area Resident	A comment was received stating that a request for the results of the assessment of soil, fruit and vegetable samples for the Environmental Baseline Study was received.	A number of samples (including soil and produce) were obtained as part of the Environmental Baseline Study. The results of the tests conducted on the samples are outlined in the Environmental Baseline Study Report, which forms part of Appendix B of the HHERA.
Area Resident	A comment was received regarding how the loss of hedgerow and tree habitat (i.e., grass and shrub	Following the implementation of mitigation measures

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	habitat) and its impact to local wildlife would be mitigated. The existing hedgerows plus connection to other hedgerows must be protected to follow up the Provincial Biodiversity Plan.	including potential hedgerow compensation, planting plan for the wildlife corridor, and incorporation of landscaping plan that will take advantage local plant species, the facility is not anticipated to have a significant effect on the natural features and ecological functions of the site. Any wildlife on-site would retreat to similar habitat in the vicinity of the site. Any comments on provincial policies or decisions directly related to the scope of this EA should be forwarded to the ministry during the comment period on the ministry Review. It is at this time that the ministry will respond to comments directly related to the scope of this EA and the ministry's Review.
Area Resident	A comment was received identifying the lack of mitigation for the Courtice Water Pollution Treatment Plant.	The Courtice Water Pollution Treatment Plant EA is outside the scope of the EA.
Area Residents	A comment was received that the impact on surface water from this facility or its outfall concentrates only on Tooley Creek, and no concerns about the quality of Tooley Creek wetland or Lake Ontario itself even though this large surface water body that is closest to the site in question.	The proposed facility footprint lies within the Tooley Creek watershed area. By analyzing the existing drainage pattern the Regions were able to determine that surface water runoff enters Tooley Creek north of the Canadian National (CN) Rail line. Lake Ontario and the Tooley Creek coastal wetland are downstream of the existing surface water drainage receiving point. Proposed stormwater management design is careful to avoid increasing peak flows as indicated in the comment. Peak flow attenuation is proposed in conceptual storm water management design. Surface water runoff will be directed toward existing drainage patterns to Tooley Creek to avoid creating water losses and to maintain the watershed's water balance. Surface water runoff will be subject to enhanced water quality treatment levels which are the most rigorous provincial

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		storm water management criteria. Sanitary effluent from the facility is proposed to be directed to the sanitary sewer and subsequently the Courtice Water Pollution Control Plant.
Area Resident	A comment was received identifying that Lake Ontario is under federal jurisdiction and shouldn't the EA process be coordinated with the provincial EA?	The federal government has been consulted with throughout the process and has determined that the project does not trigger the requirements of the Canadian Environmental Assessment Act (CEAA).
Area Resident	A comment was received stating that the EA does not specify how waste water is to be processed and discharged.	Stormwater will be directed to an on-site storm water management pond and wastewater directed to the sanitary sewer.
Area Resident	Comments were submitted on the effects of climate change on water resources.	Unfortunately, the exact effects of future climate change on water resources cannot be predicted with a significant degree of certainty. The predictive judgment of a number of well recognized and accepted scientific bodies regarding climate change effects on water resources are cited.
Area Residents	Comments were received regarding concerns that the potential for groundwater contamination from residual ash was not adequately considered.	Potential effects on surface and groundwater were discussed as part of the Surface Water and Groundwater Assessment Technical Study Report conducted at the Clarington 01 site indicating no significant net or cumulative effects. At no time is there any possibility of the groundwater at the Clarington 01 site becoming contaminated by leachate from the ash.
Area Resident	Concerns expressed with potential use of bottom ash in construction material and that the EA is in error in stating that this is practiced in Europe because contaminants, initially trapped in the bottom slag (or ashes), have been shown to be leaching out over time.	Although disposal options do exist in Ontario for both the benign bottom ash as well as the hazardous fly ash. Shipment of ash across the border is Covanta's proposed ash disposal solution in their response to the RFP. Covanta representatives have already indicated that they will be pursuing Ontario based landfill options where available. Details regarding how Covanta

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		proposes to stabilize fly ash on site as well as contingency plans for ash management should the US border close to ash shipments from the Durham/York facility will be finalized at the detailed design stage in preparation for the application for the Certificate of Approval.
Area Residents	Concerns were raised regarding the potential for cumulative effects as a result of the development of the project, in addition to the existing facilities in the area, including St. Mary's Cement, Darlington Nuclear Power Plant, Bowmanville Wood Products, Highway 401 and the proposed Highway 407 extension.	Cumulative effects analysis is not required by provincial EA legislation; however the Study Team cooperated with Ontario Power Generation (OPG) and the Ministry of Transportation (MTO) to provide appropriate comments in the EA documentation regarding cumulative effects. The HHERA considers the additional effects of the actual emissions from the new facility added to current ambient conditions. Ambient air data has been monitored since September 2007. Local biomonitoring of environmental media including soil, water, vegetation, fish and small mammals was carried out to establish the current baseline conditions at the Clarington 01 site.
Area Residents	Comments were received that stated that the detailed data in the EA is for a 140,000 tonnes per year (tpy) facility and are concerned about the environmental impact of a facility that could be expanded to 400,000 tpy.	The EA has been amended to seek approval for a capacity of 140,000 tpy. While the future need for a capacity of up to 400,000 tpy is recognized. Any subsequent expansions would be subject to additional approval requirements.
Area Resident	A comment was received stating that there is a lack of redundancies and "fail safes" contemplated in the EA.	Details with respect to "redundancies" and "fail safes" related to facility operation will be included as part of the Design and Operations Report to be submitted as part of the CofA (waste) application.
Area Resident	A comment was received stating that there are no quantifications for the expected equipment failure rates or any operator improper action(s) that may result in emission exceedances. The Risk Analysis is	The Process Upset Case addresses this concern. Evaluation of the Process Upset Case involved the quantitative (i.e. measureable) assessment of COPC emissions from the Facility operating at upset

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	predicated on everything operating perfectly; instead of planning for the worst case, this is an instance of presenting the best outcomes. For such instances of less than optimal operation, the duration and exposures subjected to the general population should also have been provided.	conditions (i.e., Facility startup, shutdown, loss of air pollution control systems).
Area Resident	A comment was received stating that there are no indication of penalties to the operator if emissions exceed the stated values, power production commitments are not fulfilled or compliance documents are non representative.	The contractual agreement with the preferred Vendor (which includes these types of penalties) is outside the scope of the EA study.
Area Resident	A comment was received stating that there is no indication that the incinerator will be for household waste only and that Carbon-Rich construction material will not be processed, particularly if the household recycling programme is successful and deprive the waste stream of much of its combustible material.	The facility is designed to manage only those post-diversion residual wastes from Durham and York Region. Any expansion beyond this capacity to support the importation of wastes from outside Durham and York Regions (as discussed and allowed for in the approved EA ToR) would be addressed as part of the approval under O.Reg. 101/07 (or the applicable piece of legislation at that time).
Area Resident	A comment was received stating that there is no epidemiological data whatsoever to assess the health impacts of incineration and the risks are assessed on the basis of "Models" - these are what their name imply, an idealization of reality.	The effects of bioconcentration of chemicals were indeed taken into consideration during the fate and transport modelling conducted for those chemicals that have the ability to bioconcentrate in the environment. The reviewer is referred to Section 4.2.2 of the HHERA Technical Report.
Area Resident	A comment was received stating that there is a total absence of consideration about the genetic aspects and on the implications for human fertility and embryonic health.	These issues are taken into consideration by the regulatory agencies when developing the toxicity reference values for the contaminants of concern. They are incorporated into the science and toxicology of the development of these values.
Area Resident	A comment was received stating that although there is a study of the past in the form of Archeological and Built Heritage studies, there is no attempt to provide a	The EA planning process is one that plans for the future and takes into account the long-term potential impacts (positive and negative) of the undertaking.

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	forward-looking study of the future legacy being contributed by the project.	
Area Resident	A comment was received stating that there are arguments that taint the outcome of this study. The most glaring of these is the claim that Clarington sites offer the least in terms of travel distance.	A site-specific traffic impact study was conducted at the Clarington 01 site which showed that there would be no significant impacts as a result of the trucks transporting waste to, and ash from, the proposed facility.
Area Resident	A comment was received stating concerns about the process to address minor or major amendments.	Section 12 of the EA document provides the context for the consideration of changes to the undertaking in the event that an amendment is to occur following Approval of the EA.
Area Resident	A question was asked that in the event of an emergency how and how long would it take to empty the refuse pit?	The time required to perform this task would be determined during detailed design.
Area Residents	Several comments were received that identified concerns with Covanta and their past environmental performance record.	Following an extensive procurement process, Covanta has been selected as the contractor and operator of the proposed Durham/York facility. More details regarding the selection of Covanta as the preferred vendor are outlined in the Regional Municipality of Durham's Joint Works and Finance and Administration Report 2009-J-18 of April 14, 2009 titled "Recommendation of a Preferred EFW Proponent: Request for Proposals 604-2008".
Area Resident	A comment was received stating that Durham should consider purchasing the equipment in the event the vendor goes bankrupt.	Durham and York Regions will own the facility and its equipment.
Area Residents	Several comments were received regarding concerns about the potential costs and financial risks associated with the facility.	Financial risks associated with the proposed Durham/York facility were examined as part of the Site Specific Economic Impact Assessment and considered acceptable.
Area Residents	Several comments were received regarding concerns raised about the perception that property values would decrease or that taxes may increase as a result	There is no indication that existing energy from waste facilities in other jurisdictions have an adverse impact

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	of the construction and operation of the facility.	on host community property taxes or real estate values. For more details, please refer to Appendix C-8 of the EA document for a report titled "Social/Cultural Assessment Technical Study Report".
Area Residents	A comment was received stating concerns regarding the reduced potential for the creation of long-term jobs from the development of other alternative waste management options, and that the facility would lead to the privatization of public work.	The exact number of long term jobs directly created at the facility has not yet been determined. The estimated number of 33 is within the expected range. However, the creation of jobs is not the primary objective of this project. Any jobs created either directly or indirectly will have a positive effect on the area and on the economy.
Area Resident	A question was received asking if the proponent has considered as a factor in the economic study the potential competition from a research park located on the campus of Durham College and the University of Ontario Institute of Technology (UOIT) as a competitor to the CEBP for prestige occupants?	Consideration of this research park is outside the scope of this EA Study.
Area Resident	A question was received asking what efforts were made to study and quantify the job creation potential of the aggressive diversion, stabilized landfill and zero waste options before adopting thermal treatment?	The purpose of this EA study is to identify a long-term solution for the management of post-diversion residual waste. Job creation was not taken into consideration as part of the systems evaluation, but rather the system's ability to manage the residual waste stream.
Area Resident	A comment was received stating that there the economic assessment expects some revenues to offset operating costs but there are no contracts in place, or even firm assurances, to confirm these revenues. What steps have the proponents taken to secure revenue from power, steam and carbon credits?	Durham Region has negotiated an agreement with the Ontario Power Authority for the sale of electricity. This agreement cannot be signed until EA approval is granted.
Area Resident	A comment was received regarding the assessment of the potential costs and benefits of the facility.	Financial risks associated with the proposed Durham/York facility were examined as part of the Site Specific Economic Impact Assessment and considered acceptable.

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Area Resident	A comment was received regarding the Updated Business Case.	The Deloitte Business Case is outside the scope of this EA study. The Business Case was completed for Durham Region to assist the Region in determining the financial viability and impacts to the Region associated with moving forward with this facility. Although, information from the business case has been utilized in the EA economic assessment, the economic assessment is not dependant on the results of the business case.
Area Resident	A comment was received questioning the efficiency and cost effectiveness of the facility to generate electricity.	EFW facilities are first and foremost solid waste management facilities providing one solution to disposal of post-diversion residual waste as an alternative to disposal of the Region's waste in a distant landfill. The generation of energy is a useful secondary by-product of the primary solid waste management function of an EFW facility. On a per household basis, an EFW facility processing the residual waste from a single household produces enough power to run the energy efficient lights of that household.
Area Resident	A comment was received stating that the power generation figures presented by Durham Region staff are not supported by the bid by Covanta. The power generation scenarios 2, 3 that include the effects of district heating should not be considered in the EA study because they appear to be an afterthought to the project. There is at present no infrastructure to support district heating in the land designated for the CEBP, there are no tenants in the CEBP. The claims of energy savings due to district heating are not supported by facts.	The assessment of potential economic benefits of the undertaking did not take into account any revenue from district heating. Should this be an available option in the future, it would represent an additional source of revenue from the facility to reduce overall operating costs. A Facility Energy and Life Cycle Analysis (LCA) was completed for the Clarington 01 site which examined the costs and benefits regarding energy generation and use at the proposed Durham/York facility. The facts to support the energy savings are given in the Facility Energy and LCA report.

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		The 20 MW figure mentioned in reports is the nominal size of the turbine generators, not the operating electrical output.
Area Resident	A question was received asking if the buildings in the CEBP require emergency heating facilities (gas, kerosene) as a backup?	At this point, there are no agreements in place for district heating from the facility. Should this opportunity arise, an assessment as the to the potential requirements would need to be completed.
Area Resident	A comment was received stating that the original figures for the Electrical Energy Grid split used in table 4-3 (section 4.2.1 – Electrical energy) are attributed to the Ontario Power Authority's (OPA) Integrated Power System Plan (IPSP) but there is no citation in the references section of the Life Cycle Analysis report.	The reference is in the text. It is noted that the reference is not repeated in the references section.
Area Resident	A comment was received stating that the Facility Energy and LCA report makes claims of advantages of EFW technology but these claims appear to be based on simplistic assumptions about energy generation in Ontario.	LCA model analysis results are given in the appendices to the report and are clearly supportive of the conclusions reached in the report. Table 4-3 is a representation of a future custom energy grid which takes into account diurnal and annual variation as well as the replacement of coal-fired generation and, as is clearly stated in the report, it is believed that it will yield a conservative estimate of energy offset benefits.
Area Resident	A question was received asking why potential district heat from Darlington Nuclear is not used?	The Regions cannot comment on the operations of the Darlington Nuclear facility.
Area Resident	A question was received asking about the differences in LCA model results for greenhouse gas emissions between the Durham/York Residual Waste EA and the Metro Vancouver Study.	LCA of waste management options is an approach that allows for the comparison of waste management alternatives, based on a set of variables that are specific to the local/regional circumstances in which the waste management facilities or systems may be located. In addition, LCA model approaches vary in regards to the emission parameters considered, the robustness of the

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		data set that is used to support the model and in regards to greenhouse gas emissions, the consideration of some or all of the potential sources and/or offsets that could apply. It is the combination of the differences in fundamental assumptions used in the modeling that results in the primary differences between the findings of each study.
Area Residents	A comment was received regarding traffic impacts to the region associated with the operation of the facility.	A site-specific traffic impact study was conducted at the Clarington 01 site which showed that there would be no significant impacts as a result of the trucks transporting waste to, and ash from, the proposed facility.
Area Resident	A comment was received stating that the EA does not properly account for the distances travelled by wastes and ignores the distances travelled by the wastes prior to the getting to the transfer stations.	The distance waste would have to be transported was taken into consideration as part of the comparative site evaluation process.
Area Residents	Comments were received regarding the transportation and final management of ash.	Shipment of ash across the border is Covanta's proposed ash disposal solution in their response to the RFP. Covanta representatives have already indicated that they will be pursuing Ontario based landfill options where available. Details regarding how Covanta propose to stabilize fly ash on site as well as contingency plans for ash management should the US border close to ash shipments from the Durham/York facility will be finalized at the detailed design stage in preparation for the application for the CofA.
Area Resident	A comment was received stating that the peer review consultants for Traffic Impact Analysis found significant errors in the way traffic calculations were done, if adjusted could change ranking of East Gwillimbury as advantaged under truck haulage emissions criteria.	It is the opinion of the Project Team that all of the comments submitted by Clarington's Peer Reviewers have been addressed. Following the comments received on the Draft EA, no comments have been received from Clarington on the formal EA submission.
Area Resident	A comment was received stating that the Traffic	With respect to the Traffic Impact Study, the Manheim

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	Impact Study did not account for potential effects of the increased traffic associated with Manheim Auction Sale Day.	Auction Sale Day is a distinct event occurring at a specific time of day and on a regular weekly schedule. With good communication and careful scheduling, the impact of the additional truck traffic should be minimal, provided that the present situation is not already creating traffic problems on the existing roads.
Area Resident	A question was received asking why rail wouldn't be used to transport materials to and from the facility to reduce potential impacts to traffic on Highway 401.	Rail haul was considered as a part of this project, but was not studied in detail because it is best suited for long haul application and was deemed to be much more costly than truck haul and provide relatively minor benefits in return.
Area Resident	A question was received asking why the Clarington 01 site was identified as having a major advantage over the Gwillimbury site, considering that the Highway 407 link likely would not be used because of the fact that it is a tolled highway.	A site-specific traffic impact study was conducted at the Clarington 01 site which showed that there would be no significant impacts as a result of the trucks transporting waste to, and ash from, the proposed facility.
Area Resident	A question was received asking if the increased population (due to the Growth Plan projection) travel pattern was considered?	A site-specific traffic impact study was conducted at the Clarington 01 site which showed that there would be no significant impacts as a result of the trucks transporting waste to, and ash from, the proposed facility.
Area Residents	A comment was received stating concerns about the facility processing waste shipped in from outside of Durham and York Regions.	The initial design capacity for which approval is being sought does not contemplate the import of waste from outside the Durham and York Region.
Area Resident	A question was received asking which other municipalities in the Greater Toronto Area (GTA) besides York and Durham does the Host Community Agreement refer to and where is that information found in the EA study documentation?	The Host Community Agreement is outside the scope of this EA study.
Area Residents	A question was received asking what approvals would Durham and York require if they were to process Industrial, Commercial and Institutional (ICI) waste beyond what is traditionally managed at	The facility designed to process 140,000 tpy of residual municipal solid waste (MSW) from Durham and York Region. Any expansion beyond this capacity to support additional waste streams would be addressed as part of

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	regional disposal facilities at present?	the approval under O.Reg. 101/07 (or the applicable piece of legislation at that time).
Area Resident	A question was received asking where the detailed analysis of the impacts of burning biosolids could be found in the EA documents?	This has not been included in the EA assessment, nor does the approval being sought in the amended EA document include this waste stream.
Area Residents	Comments were received regarding the potential waste stream entering the facility, how hazardous materials will be identified, sorted and removed.	An extensive list of unacceptable materials that are prohibited from the facility is used to guide personnel operating the truck scale and personnel on the tipping floor in how to deal with any non-processible waste that has not been removed before arriving at the facility. Front end loader operators and the waste pit crane operators are trained to identify and remove such waste, including hazardous materials. Waste that is removed from the incoming waste stream is set aside for transport to the appropriate disposal facility.
Area Resident	A comment was received identifying concerns that there is no sorting facility planned for the facility.	No qualified vendors put forth options where significant secondary sorting would be completed prior to combustion. The comparison of risk is based on concentration of emission and does not necessarily reflect the material being combusted.
Area Resident	A comment was received stating that the cost of the incinerator is currently estimated at over 200 million tax dollars, with another possible cost for expansion in the future. There is also another $14 million a year to run it. When the cost of natural gas goes up, so will the cost of running this incinerator. There will also be a health cost to running this incinerator which will increase cancer rates and cardiovascular diseases. The cost to recycle some things is currently high, but unlike the cost of natural gas, the cost of these evolving technologies will decrease in time as our	Financial risks associated with the proposed Durham/York facility were examined as part of the Site Specific Economic Impact Assessment. Waste diversion is a high priority for both Durham and York Regions. As a result of public feedback through the consultation process, the proposed thermal treatment facility is being designed to handle Durham and York's residual waste only after 65% diversion has already been achieved. In future years, the diversion rate will have to increase to even higher rates to offset the effects of population growth in the Regions. The

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	society adjusts to building a sustainable environment. We know that reusing, recycling and reducing waste will eventually lead to the final answer in dealing with waste; the elimination of waste. Things, such as plastics that could be recycled will be burned, releasing dozens of toxins into the air.	Regions will continue to invest in, encourage and promote diversion programs so that these diversion targets can be met and to reduce the amount of waste requiring disposal at the proposed facility. The Regions are dedicated to educating their residents of the resources available to them and hopefully through this education, people will become more involved with diversion efforts. However, even with extensive diversion efforts, disposal capacity is still required for the remaining waste. The results of the HHERA conducted at the Clarington 01 site have indicated that no adverse effects are expected from the proposed Durham/York energy-from-waste facility. As such, it is not expected that there would be any adverse effects on human health or the environment, as a result of emissions from the facility.
Area Resident	A comment was received stating that the EA forecast is dismissive of zero waste initiatives and represents a "status quo" approach to waste planning which only serves the interest of proponents of incineration.	Zero waste initiatives including recycling, composting and diversion of household hazardous waste have been investigated as part of this project. Waste diversion is a high priority for both Durham and York Regions. As a result of public feedback through the consultation process, the proposed thermal treatment facility is being designed to handle Durham and York's residual waste only after 65% diversion has already been achieved. In future years, the diversion rate will have to increase to even higher rates to offset the effects of population growth in the Regions. However, even with extensive diversion efforts, disposal capacity is still required for the remaining waste.
Area Resident	A comment was received stating that in Europe they have a different waste stream than we have. They have regulations which limit what can be burned, and	Please note, the emissions to air are a function of the air pollution control (APC) technologies. We agree that European facilities in some cases process a different

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	they have secondary separation, not only source separation as will be the case here. We cannot compare their emissions or risks to ours.	waste stream, however, this does not necessarily equate to different emissions. Assessments involving emissions from the stack have been based on the performance standards of the APC equipment, not on the waste being processed.
Area Residents	A comment was received that claimed that the approved ToR did not include consideration of bottom ash or fly ash, or the management of these toxic by-products.	The EA was carried out in accordance with the ToR approved by the Minister of the Environment (March 2006). Bottom ash and fly ash are considered within EA.
Area Residents	Questions were received asking why have the many impacts of ash disposal been excluded from the consideration of the EA study and why the review of mixing the fly ash with Portland cement to "stabilize" it was left out of this EA.	Bottom ash and fly ash are considered within the EA. Details regarding how Covanta propose to stabilize fly ash on site as well as contingency plans for ash management should the US border close to ash shipments from the Durham/York facility will be finalized at the detailed design stage in preparation for the application for the CofA.
Area Residents	Questions were received asking how ash would be stored at the facility. In particular, section 10.6.3.1 of the main EA document implies that bottom ash would be stored indoors, while Section 10.4 of the Durham-Clarington Host Community Agreement states:"....Bottom ash can be stored outside if fully screened."	Despite what has been written into the Host Community Agreement regarding the possibility of storing bottom ash outdoors, there is no provision for such storage. The facility as proposed in Covanta's response to the RFP provides for bottom ash screening, storage, and transfer to truck for removal to be carried out entirely within the totally enclosed residuals storage building.
Area Resident	A comment was received stating that if approved, it must be a condition of EA approval that bottom ash testing would be conducted by independent consultants with results made publicly available.	All facility design and operations requirements concerning the preferred alternative will be the subject of subsequent Environmental Protection Act (EPA) approvals and associated permits. Any comments on provincial policies or decisions directly related to the scope of this EA should be forwarded to the ministry during the comment period

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		on the ministry Review. It is at this time that the ministry will respond to comments directly related to the scope of this EA and the ministry's Review.
Area Resident	A question was received asking where in the EA documents could they find a complete description and chemical profile of process residues and public and occupational health, as well as environmental impacts, of residue production, storage, transport and final disposal over a 25 – 35 year period?	The EA document does not provide a description of the chemical profile of the process residuals, however, it does contain a commitment that these residuals will be managed in a manner appropriate for their chemical specifications. The facility will be designed and operated in accordance with all public and occupational health legislative requirements.
Area Resident	A question was received asking how is it possible to assess the accuracy of residual waste quantity estimates for the planning period (2011-2045) and if the preferred alternative to manage that is appropriate, without knowing for which period 60% diversion is assumed and from what dates would 70%, then 75% diversion be assumed?	The discussion regarding waste generation projections over the course of the specified planning period for the EA study is provided in section 3.3 of the EA document and include a discussion of enhancements to current waste diversion programs that are provided in subsection 3.3.1.5. Discussion of the characterization and quantities of post-diversion residual waste that would require management, including the charting of total projected waste generated together with the amount diverted and the residual amount for each year of the planning period is provided in Figures 7-8 and 7-9 of subsection 7.4.1.5 "Characterization and Quantities of Post-Diversion Residual Waste".
Area Residents	Questions were received asking if increased diversion rate may affect the anticipated energy output of the plant and reduce the expected energy recovery and, if so, will there be a need to pull higher energy content materials back in the waste stream away from	To accommodate a potential shift in the energy content of the waste material being received at the facility, the RFP provided a range of energy values. It will be the responsibility of the operator to manage the material appropriately. As has been stated throughout this EA

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	diversion to maintain the post diversion waste energy content needed for the facility and potentially undermining diversion efforts?	study, this facility will not compete with either Region's waste diversion efforts.
Area Residents	A comment was received that questioned the numbers presented in the Deloitte business case which took into consideration population increases and other factors.	The Deloitte Business Case is outside the scope of this EA study. The Business Case was completed for Durham Region to assist the Region in determining the financial viability and impacts to the Region associated with moving forward with this facility. Although, information from the business case has been utilized in the EA economic assessment, the economic assessment is not dependant on the results of the business case.
Area Resident	A comment was received stating that the analysis of typical waste assumed to be suitable for incineration include obvious candidates for recycling contained therein, even with present technology.	Please refer to Section 7.4.1 of the EA document for a discussion on the consideration of additional diversion. As part of the assessment of potential residual waste quantities requiring disposal, a 75% waste diversion scenario was taken into consideration.
Area Residents	Comments were received that stated manufacturers should be responsible for reducing packaging or using environmentally sensitive packaging to reduce waste in the region.	The Regions agree that extended producer responsibility, along with more stringent packaging laws, and incentives for further research into new ways of recycling plastics and using recycled materials are important issues, however they were not included in the scope of this project.
Area Residents	A comment was received stating that there new legislation at the provincial and federal levels are necessary to bring the diversion rates even higher by giving producers part of the responsibility for recycling.	The Regions agree new legislation at the provincial and federal levels are necessary to bring the diversion rates even higher by giving producers part of the responsibility for recycling, however they were not included in the scope of this project. Any comments on provincial policies or decisions directly related to the scope of this EA should be forwarded to the ministry during the comment period on the ministry Review.
Area Residents	Several comments were received regarding zero	Any comments on provincial policies or decisions

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	waste and how the project would negatively affect the ministry's zero waste vision. Many suggested that use of current and new landfill facilities could provide additional time to identify a more suitable alternative waste strategy.	directly related to the scope of this EA should be forwarded to the ministry during the comment period on the ministry Review.
Area Resident	A comment was received quoting that "there are 50 million tonnes of new landfill capacity in Southern Ontario" (John Barber, The Globe and Mail - June 6, 2007).	The statements about the extent of new landfill capacity in Southern Ontario have not been proven and we have not seen any documented evidence to substantiate these claims.
Area Residents	Comments were received that noted Europe would no longer consider the development of EFWs.	The concept that the European Union (EU) has outlawed the construction of new incinerators is false. The latest directive approved in November 2008 includes EFW incineration as a means of recovery in the hierarchy of Waste Management. In fact there are plans to build many new incinerators across the EU in the coming years by almost all of the member countries.
Area Resident	A comment was received regarding locations for the disposal of construction waste in York Region.	York Region has recently opened its first Community Environmental Centre located at 130 McCleary Court in the City of Vaughan. This site will accept the types of materials described, provided that they are separated. For example, clean dry wall (that has not been painted) can be separated and recycled at this facility. The site also takes residual waste (ie., waste or garbage materials that are not able to be recycled) for a fee.
Area Residents	Comments were received stating that water accumulation in the bottom of the pit and the need for bottom drainage.	The refuse pit is completely sealed so that any water entering the pit is contained. The small amount of water that may enter the pit either with the incoming waste or because of tipping floor wash down would be mixed with the waste and ultimately incinerated.
Area Residents	Comments were received on the preliminary conceptual design drawings.	The site plans are based on preliminary designs provided by Covanta. Different facility layouts were

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		considered for the 140,000 and 400,000 tpy facilities.
Area Resident	A comment was received noting that based on the calculations of 140k/tpy x 75% and how the operation with one burner is possible to 52.5 tpy and how the related emissions are relatively dismissed.	Comment noted. Operation at this capacity would not result in emissions that would generate higher ground level concentrations than the scenarios examined in the assessment and was therefore not examined. The emissions estimation procedures were based on ministry guidance documents and standard quantification practices. The design information provided by Covanta (including manufacturer's guarantees) were used to conservatively estimate worst-case emissions from the facility for an extensive list of contaminants of potential concern.
Area Resident	A comment was received regarding the Covanta proposal and how the EA is not the place for "marketing"	This piece of pollution control equipment is manufactured by Covanta who hold a patent on the technology. The identification used for this equipment accurately reflects its technology and is appropriate for an EA.
Area Resident	A comment was received regarding the use of "per second units" for contaminant emission rates attempting to show that emissions are small.	The air quality dispersion model used in the assessment requires emission be input in units of grams per second to perform hourly dispersion calculations. The tables reflect the values actually used in the dispersion model. These are standard units used in expressing emission rates which are well-understood by air quality practitioners and regulators.
Area Resident	A comment was received stating that there is no validation for using the CALPUFF model and disagrees with the model results and contour lines and gradients.	The CALPUFF model is routinely used to perform regulatory dispersion modelling in numerous jurisdictions and was approved by the ministry for use in this study.
Area Resident	A comment was received stating a disagreement with the location of max changes with throughput capacity and statistical max less than 400k/tpy than at 140k/tpy on figures 7-09, 7-10, 7-15, and 7-16 of the EA.	For an explanation of the statistical maxima please refer to page 135 of the AQR which notes that "The predicted maximum ground level concentrations for the 140,000 tpy facility unit emission rate are higher than

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		those for the 400,000 tpy facility with a unit emission rate. This is due to the unit emissions being divided between the additional flues and stacks in the larger facility, as compared to the 140,000 facility scenario.
Area Resident	A comment was received stating that the EA should acknowledge and assess against proposed new air standards under Regulation 419.	The proposed standards were posted on the EBR on July 31 2009 the same day as submission of the final EA and therefore could not be considered in the AQR. If these proposed standards are implemented, the facility will have to demonstrate compliance with these criteria when applying for their CofA under Section 9 of the EPA.
Area Resident	A comment was received stating that the emissions limits for carbon monoxide (CO), dioxins and furans and organic matter do not meet the proposed revised A7 Guideline: Combustion and Air Pollution Control Requirements for New Municipal Waste Incinerators.(A& Guideline) The EA acknowledges the proposed changes to the air standards but does not purport that they will be able to meet them should they come into force.	The EA conservatively assessed the facility as if these proposed changes were not implemented (i.e. assessed a higher emissions case). If the proposed revisions to A7 Guideline are implemented, the facility will have to meet these limits as a condition of their Certificate of Approval under Section 9 of the EPA.
Area Resident	A comment was received stating that there are no background concentrations or ambient monitoring data provided for combustion gases.	The contaminants chosen for monitoring were ones that are commonly associated by the public as being of concern with waste incinerators such as dioxins and furans, PAHs, criteria air contaminants and metals, and could be cost-effectively monitored.
Area Resident	A question was received asking if the assumptions to estimate process upset are reasonable?	The methodology used to assess process upsets followed the U.S. Environmental Protection Agency (U.S. EPA) / California Air Resources Board (CARB) guidance.
Area Resident	A question was received about Article V of the Ozone Annex to the Canada – U.S. and why if the facility emissions for the chemicals identified in the article are high enough to exceed the reporting criterion the	Note that the reporting criteria required under Article V of the Ozone Annex to the Canada – U.S. Air Quality Agreement are not an indicator of whether emissions are 'high' or 'low' and is not an emissions limit – it is a

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	Project team chose not to obtain ambient background measurements for these chemicals?	reporting threshold. The contaminants chosen for the monitoring were ones that are commonly associated by the public as being of concern with waste incinerators.
Area Resident	A question was received about the Stockholm Convention, which is an international treaty on Persistent Organic Pollutants and whether or not the facility will violate it?	The federal government is responsible for ensuring that Canadian commitments to international treaties are met. The facility will meet all currently enacted Federal guidelines for municipal waste incinerators.
Area Resident	A comment was received about the comparison of ambient air quality levels on a Regional scale.	The ambient air quality levels are a result of a number of different emission sources: industrial, vehicle traffic, commercial, residential, etc. Comparison against regional totals (industrial plus community emissions) is appropriate as this provides a better indication of the actual air quality of the region and the relative change due to an additional source.
Area Resident	A comment was received stating that the PM (particulate matter)$_{2.5}$ values are very high in the study area and the addition of the facility may/will trigger exceedances of various regulatory benchmarks.	The results of the dispersion modelling showed the predicted ground-level concentrations were below the applicable provincial regulatory standard for $PM_{2.5}$. In addition, a human health and ecological risk assessment was conducted which determined that there will be no adverse impacts on human health or the environment due to the operation of the facility.
Area Resident	A comment was received stating that ozone levels are already high in the study area and are already in exceedance of some of the NAAQO criteria. Furthermore, NO_2 emissions are documented in the HHERA to be of concern in the traffic case.	Ozone formation was assessed in Section 7.5 of the AQR following accepted methodologies used in other EA Studies. The changes in regional ozone levels due to facility-related emissions are expected to be small. In the direct vicinity of the facility, a decrease in maximum ozone levels may occur due to the chemical transformation of nitrogen monoxide (NO) to nitrogen dioxide (NO_2).
Area Resident	A comment was received stating that the 401 widening will have an impact, but there is no quantitative assessment of the impact provided.	As there is no data currently available on the proposed 401 widening, potential emissions from this project could not be assessed. The expansion will require an environmental assessment and the air quality impacts of

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		the widening would be assessed at that time.
Area Residents	Comments were received stating concerns about the use of the CALMET model in the AQR	The ministry has reviewed, requested modifications to, and accepted the final WRF and CALMET model output generated for this study.
Area Residents	Comment was received stating that the comments submitted by Clarington's Peer Reviewers have not been addressed.	It is the opinion of the Project Team that all of the comments submitted by Clarington's Peer Reviewers have been addressed. Following the comments received on the Draft EA, no comments have been received from Clarington on the formal EA submission.
Area Resident	A question was received asking if the ambient air monitoring at the Courtice Station was included as an appendix?	The ambient air quality monitoring conducted at the Courtice Road Site is summarized in Appendix A of the AQR.
Area Resident	Comments were received stating concerns about the use of the CALPUFF modelling in the AQR.	The CALPUFF modelling system is recommended in ministry Guideline A-11 for applications where wind circulation may be driven by lake or sea breeze, or other situations where steady-state straight line transport assumptions may not be appropriate. The ministry approved the use of CALPUFF for this assessment.
Area Resident	A question was received asking if it is appropriate to adjust for meteorological anomalies and remove some data points?	This procedure is based on ministry protocols published in Guideline A-11 and these values are removed as dispersion models generally over-predict maximum ground level concentrations. The model predictions at special receptor locations, which were used in the HHERA, conservatively did not consider meteorological anomalies
Area Residents	Comments were received stating that the estimated emissions of the 400,000 tpy facility are close to 3 times those of the 140,000 tpy facility.	Addressed via an amendment to the EA Study document.
Area Residents	Comments were received about the differences in the maximum concentrations of emission from the 400,000 tpy facility and those of the 140,000 tpy	Addressed via an amendment to the EA Study document.

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	facility.	
Area Resident	A question was received asking what were the predicted maximum concentrations or the predicted statistical maximum concentrations used in the HHERA?	The model predictions at special receptor locations were used in the HHERA conservatively and did not consider meteorological anomalies. The ministry would require that statistical maximum concentrations be used, therefore the approach taken in the air quality and HHERA was more conservative than what is required by the ministry.
Area Resident	A comment was received stating that the proposed monitoring program for the facility does not continuously monitor for heavy metals, fine and ultrafine particulate matter and the organic carcinogens.	The final monitoring requirements for the facility will be determined by the ministry during the required permitting under Section 9 of the EPA. Continuous stack sampling of metals, speciated volatile organic compounds (VOC) or PAHs is not currently technically feasible. Annual sampling is routinely required by the ministry for many facilities (including incinerators) and is widely considered an adequate method to characterize emissions from industrial sources.
Area Resident	A question was received asking if comparisons of emissions from other Covanta facilities have been provided to justify the claim that the proposed facility is "state-of-the-art".	The emissions criteria which were included in the RFP document represented a compilation of better than A-7 and EU regulated limits and provided the Maximum Achievable Control Technology (MACT)standard by which vendors were evaluated. In their submissions to the RFP, all vendors, including Covanta, guaranteed emission figures that met or exceeded those requested in the RFP.
Area Resident	A question was received asking what guarantees do the public have that if the incinerator is approved, that standards would not be watered down further in future approvals processes?	Any comments on provincial policies or decisions directly related to the scope of this EA should be forwarded to the ministry during the comment period on the ministry Review.
Area Residents	Comments were received about compliance with the proposed emissions revisions to the A7 guideline.	Should a new A-7 guideline be approved, the Regions will enter into discussions with the ministry to determine how best to address this new guideline and

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		how to notify the public of any potential changes.
Area Residents	Concerns were raised regarding the potential for cumulative effects on the air quality in the region.	Cumulative effects analysis is not required by provincial EA legislation; however the Regions provide appropriate comments in the EA documentation regarding cumulative effects. Potential emissions from the proposed Durham/York facility were considered in conjunction with emissions from sources currently present in the surrounding area as part of AQR conducted at the Clarington 01 site. The results of the dispersion modelling of the cumulative impact of the proposed facility showed the maximum predicted ground-level concentrations were below the applicable regulatory limits for all contaminants. The results of the HHERA have indicated that no adverse effects are expected from the proposed facility.
Area Residents	Comments were received regarding emissions standards and the monitoring of toxic emissions.	Emissions standards and monitoring were discussed as part of the HHERA. The Regions will incorporate all of the continuous monitoring specified under Ontario's A-7 and EU 2000/76/EC criteria which are set based on MACT criteria. A Continuous Emissions Monitoring system will provide for the monitoring of hydrochloric acid (HCl), hydrogen fluoride (HF), sulfur dioxide (SO_2), nitrogen oxide (NOx), CO, oxygen (O_2), opacity (a measure of particulate) and moisture on a year-round continuous basis.
Area Residents	Concerns were raised regarding ambient air environmental monitoring.	The proposed Host Community Agreement with the Municipality of Clarington includes ambient air monitoring for the first 3 years of facility operation.
Area Resident	A comment was received stating that the description of the options for Acid Gas scrubbing is not sufficient.	This description is provided as a conceptual basis for the site-specific evaluation of the preferred undertaking at the preferred site location. These descriptions are not meant to provide a detailed assessment of the relative design performance of APC component options.

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Area Resident	A comment was received stating that the EA study did not include emission of N_2O from combustion.	N_2O was considered in the AQR.
Area Resident	A comment was received outlining concerns with compliance with the ICF report entitled Determination of the Impact of Waste Management Activities on Greenhouse Gas Emissions: 2005 Update, Final Report	The ICF model was considered to be incapable of providing a full analysis of LCA impacts for all aspects of the thermal treatment system now was it considered to have been subjected to rigorous peer review. The Municipal Solid Waste Decision Support Tool (MSW-DST) was therefore selected for the analysis.
Area Residents	A comment was received stating that the NOx control system will not meet ministry's Ontario Guideline A-7 requirements.	The Facility will meet the ministry A-7 Guideline. By itself, the VLN process reduces NOx emissions to close to the A-7 limit. As will be normal practice, when operated in conjunction with SNCR system, NOx emissions will be well below the applicable standards.
Area Resident	A comment was received stating outdated data for climatic conditions, such as air temperature and precipitation, were used in the assessment.	The air temperature and precipitation data was based on Canadian Climate Normals for the period 1971-2000, which is the most recent climatological data available from Environment Canada. A climate review examines long-term trends for a region which are more appropriate for comparative purposes than looking at an individual year.
Area Residents	Comment were received stating that the Gwillimbury site has significantly less air contaminants and yet this site and the Clarington 01 sites are both evaluated as being neutral.	Many factors besides local emissions sources affect the air quality of a particular area including meteorology, regional air quality trends, source release characteristics of the local emissions sources, and source-receptor distances. Comparisons of the measured data at the Courtice site to other monitoring locations throughout Ontario are provided in Appendix A, Section A2 of the AQR. The air quality monitoring showed that measured contaminant levels were below air quality criteria at both the Clarington and East Gwillimbury sites and the measured ambient levels would not preclude the

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		inclusion of the Project at either of these sites.
Area Resident	A comment was received stating concerns about the location and set up of monitoring station to collect meteorological and ambient air data for the Baseline Study.	The siting of the monitoring station required some compromises in order to obtain a site with power, adequate security and sufficiently far enough away from major roadways to be considered representative of neighbourhood scale air quality. These compromises in configuration have been previously used and the results reviewed and accepted by the ministry. Any deviations are not expected to affect the results of the monitoring.
Area Resident	Where is the evidence that the additional annual emissions particulate matter added to the Clarington air shed would have no impact on the health of residents?	The results of the dispersion modelling of the cumulative impact of the proposed facility in conjunction with existing air quality levels showed the maximum predicted ground-level concentrations were below the applicable regulatory limits for all contaminants. The dispersion modelling of $PM_{2.5}$ emissions from the project (including current background $PM_{2.5}$ levels) predicted that the maximum ground-level concentrations were below the applicable regulatory limit for $PM_{2.5}$.
Area Resident	A comment was received stating that the Air Quality Technical Report in its ground level concentration of EFW estimates that within 8 km from the facility increase in air pollution would be around 10% to 20% above background level. Since the background level in Oshawa-Courtice-Bowmanville area is already very high, mainly due to St. Marys Cement plant, this increase is unacceptable.	The results of the HHERA conducted at the Clarington 01 site have indicated that no adverse effects are expected from the proposed Durham/York energy-from-waste facility. As such, it is not expected that there would be any adverse effects on human health or the environment, as a result of emissions from the facility.
Area Residents	Comments were received regarding the production of greenhouse gas emissions from the incinerator.	A Study was completed comparing the emissions from an EFW facility and those from a remote landfill. The study found that on a life cycle basis, thermally treating the residual waste to produce electricity and recover

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		additional metals from the ash produces less greenhouse gas emissions that contribute to global warming, less smog precursors and less acid gases than the current practice of transporting the waste and disposing of it in a remote landfill.
Area Resident	A question was asked regarding the sensitivity of the radiation sensors and how the waste will be screened.	The sensitivity of the radiation sensors are typically quite sensitive, however, this would be finalized at the detailed design stage.
Area Resident	A question was received regarding how to determine possible equipment failures and/or emissions violations for chemicals not detected continuously .	The contaminants and parameters measured by the Continuous Emissions Monitoring system will provide an indication of the operation of all the air pollution controls systems that control all contaminants being emitted from the facility. For instance, continuously monitoring opacity provides an indication of the proper operation of the fabric filter, which controls emissions of particulate and metals. Monitoring of O_2 and temperature in the boiler economizer will provide an indication of the effectiveness of the combustion processes which are used to control VOC emissions.
Area Resident	A comment was raised stating that no rationale was provided regarding the selection of COPCs for ambient air monitoring and whether other compounds were monitored.	The contaminants chosen for the monitoring were ones that are commonly associated by the public as being of concern with waste incinerators such as dioxins and furans, PAHs, criteria air contaminants and metals, and could be cost-effectively monitored. No other contaminants were monitored. All contaminants that were monitored are included in the report.
Area Resident	A comment was received stating that the facility would produce 1.38 tonnes of CO_2 per tonne of waste burned and at this rate the emissions per kilowatt hour (kWh) become higher than the equivalent coal CO_2 emissions.	The Facility Energy and LCA does not compare the EFW facility to coal-fired electricity generation, rather it compares GHG emissions to other forms of waste disposal, i.e., remote landfill.

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Area Resident	A comment was received stating that the Canadian and Ontario GHG emissions are presented as tonnes/year while the project GHG emissions are presented as kilotonnes/year.	The project-related GHG emissions were expressed as percentages of the Provincial and National totals in the report, which is the key metric used to assess the significance of these emissions, as per CEAA guidance. The difference in units used to express Canada/Ontario totals versus the project was inadvertent and doesn't affect the conclusions of the assessment.
Area Resident	A comment was received about the inputs to and coefficients for MSW-DST model not stated in the use of the US EPA/Research Triangle Institute's MSW-DST	The coefficients for the different components of the model are determined during the analysis from the data provided to RTI who ran the model on the Regions' behalf.
Area Resident	A comment was received stating that in section 4.2.6 – Landfill Information, the assumption is that landfill gas (methane) is collected and flared. What is the justification for assuming this? Why not compare the best alternative for landfill, namely energy recovery from methane?	The comparison is made to a landfill with gas collection and flaring to reflect the most likely landfill configuration in the remote landfill scenario.
Area Resident	A comment was received about the impacts of the production of CO_2 and GHG.	See the Table 8-2 Summary of Project Annual GHG Emissions (page 275) of the AQR for requested information. Table 8-2 presents GHG emissions for both the 140,000 and 400,000 tpy scenarios.
Area Residents	Several comments were received identifying the fact that 75 Doctors in Durham Region oppose the incinerator and have signed a petition to that fact.	The Regions are aware that 75 Durham Region doctors have expressed their opposition to the proposed facility. Their concerns were submitted to the proponents for consideration in the EA.
Area Residents	Comments were received identifying that 33,000 doctors in Europe have petitioned against incineration technology due to health effects.	Please note that an open letter was sent to the European Parliament in June of 2008 by various associations including the ISDE (International Society of Doctors of the Environment) on behalf of the 33,000 physicians they collectively represent, not by the actual physicians themselves. The open letter was not a petition of doctors citing concerns regarding the health effects caused by incineration and opposition to this method of

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		waste disposal, rather, in the letter, the associations collectively asked the plenary of the European Parliament to take into account health considerations when voting on the amended draft of the new Waste Framework Directive.
Area Residents	Comments were received identifying the need for a baseline health study, which reasonably and ethically ought to be addressed.	These concerns were addressed in a separate document entitled Review of International Best Practices of Environmental Surveillance for Energy-From-Waste Facilities. It was concluded that such a baseline health study would not be warranted in this case.
Area Resident	A comment was received stating concerns with the small sample sizes of environmental media collected to determine baseline concentrations.	The baseline study was undertaken using credible methodology and scientific approach. Such sample sizes are common and allow for statistical analysis to be completed. However, based on comment from the ministry during the draft, the baseline concentrations used in the risk assessment were revised to be the maximum concentration in the specific environmental media. The exception was for the soil samples where it was mutually agreed that there were enough samples for the ministry to accept statistical representation.
Area Resident	A comment was received stating that the soil, terrestrial vegetation, small mammals, surface water, sediment and fish were sampled within only a 1 km radius of the site.	The 1 km radius was selected based on the HHERA and the review of scientific literature. There are no ministry standards for such a radius.
Area Residents	Comments were received stating concerns from impacts local food products and the potential uptake of chemicals emitted from the facility.	The HHERA included an assessment of local food products and the potential uptake of chemicals emitted from the facility. The results of the HHERA indicate that there would not be an adverse impact to either the produce or to wildlife or people consuming these

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		products.
Area Residents	Many comments were received related to health concerns associated with the facility, including cancer, breathing problems, asthma, autism, and childhood illness and exposure to toxic chemicals such as dioxins and furans.	HHERA conducted at the Clarington 01 site has indicated that no adverse effects are expected from the facility. As such, it is not expected that there would be any adverse effects on human health or the environment.
Area Residents	Comments were received stating that there is no scenario to evaluate the emissions from the Facility operating at upset conditions in combination with existing baseline conditions and existing traffic emissions.	The Process Upset Project Case includes – Baseline (including traffic), Project Alone (including traffic) and Process Upsets. Therefore, it accounts for what the commenter is asking for.
Area Resident	A comment was received stating that it appears there is no Assessment Scenario in the HHERA to address non-facility traffic emissions.	The Project Case includes monitored baseline chemical concentrations that include those from industry and traffic, traffic from the facility and the chemical emissions from the facility. Non-facility traffic emissions do not need to be modeled as they have already been included in the baseline monitoring data.
Area Resident	A comment was received stating that there are conflicting statements that appear in the HHERA.	These conflicting statements will be addressed as an addendum to the HHERA technical Study.
Area Resident	A question was received asking if any of the results for the Maximum Predicted Concentrations at Special Receptors at 140 000 tpy exceed any benchmarks?	There were no exceedances at any of the receptor locations for the 140,000 tpy scenario.
Area Resident	A question was received asking why the Project Team decide against baseline monitoring of HCl?	There was no decision against measuring for HCl in the baseline, it is just not typically done. HCl may be included in the ambient air monitoring program contemplated for the operational facility.
Area Resident	A comment was received stating that the Project Team makes a very broad statement regarding the baseline assessment in the Human Health Multi-Pathway Assessment.	Baseline chemical concentrations were compared to the Ontario Typical Range (OTR) values or similar published concentrations. This is also based on professional experience having conducted baseline risk assessment in numerous other areas of Ontario.

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Area Resident	A question was received asking if the ministry agreed that the Baseline Case model risks can be largely attributed to two sources of uncertainty in the risk assessment process.	Any comments on provincial policies or decisions directly related to the scope of this EA should be forwarded to the ministry during the comment period on the ministry Review.
Area Resident	A comment was received stating that despite knowledge that compounds such ozone, acrolein and 1,3-butadiene are emitted from incinerators, no emissions data is available from vendors, operators and the industry in general. Is it acceptable to the MOE to exclude these chemicals from the HHERA?	Any comments on provincial policies or decisions directly related to the scope of this EA should be forwarded to the ministry during the comment period on the ministry Review.
Area Resident	A comment was received stating that the study team makes no mention that when CR values are calculated using World Health Organization (WHO) benchmarks, values close to 1 result for the following CACs: Maximum Concentration Ratio Values Using Baseline Ground Level Air Concentrations.	The concentration ratios were indeed close to 1, but did not exceed 1 for the scenario.
Area Resident	A question was received asking if the data to support the statement the exceedance of annual NO_2 was not unexpected as any urban area in Ontario would produce similar results?	The supporting information for the supposition that NO_2 concentrations are similar in most urban areas in Ontario is not provided in the report, but was rather based on past experience of the HHERA team. A table providing typical NO_2 ranges in Ontario will be provided as an addendum.
Area Resident	A question was received asking if the ministry is satisfied with the rationale provided for not using the National Illness Costs of Air Pollution (ICAP) model released by the Canadian Medical Association and the Air Quality Benefits Assessment Tool (AQBAT) released by the federal government.	Any comments on provincial policies or decisions directly related to the scope of this EA should be forwarded to the ministry during the comment period on the ministry Review.
Area Resident	A question was received asking if the ministry approves of the statement that elemental mercury (Hg0) is assessed in the Inhalation Assessment for direct inhalation exposure but it is not included in possible food chain uptakes as it does not bio-	Any comments on provincial policies or decisions directly related to the scope of this EA should be forwarded to the ministry during the comment period on the ministry Review.

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	accumulate.	
Area Resident	A question was received asking about dioxin and furan soil loading estimates for the normal operation and process upset scenarios in the Inhalation Assessment.	There is an error in the text on page 75 of the Inhalation Assessment. The dioxin and furan loading levels are accurately reflected in Table 6-1 of the EA. The levels in the assessment should have been 2.6% and 7.3% for the 140,000 tpy and 8.1 and 12% for the 400,000 tpy scenario.
Area Resident	A comment was received stating that the heavy metal loading to fish by facility emissions is extremely concerning. What are the reasons for this and does the MOE approve?	Methyl mercury concentrations were not measured in the baseline fish tissue so no percent loading could be predicted. It should be also noted in the project team's opinion the fate and transport model very much over predicts fish concentrations in body burdens. Regardless these concentrations did not pose an undue risk to receptors in the HHERA. Any comments on provincial policies or decisions directly related to the scope of this EA should be forwarded to the ministry during the comment period on the ministry Review.
Area Resident	A comment was received urging the ministry to be very thorough in their review of the models used in the site specific studies.	Any comments on provincial policies or decisions directly related to the scope of this EA should be forwarded to the ministry during the comment period on the ministry Review.
Area Resident	A question was received asking if the ministry approves or supports the models used in the site specific studies?	Any comments on provincial policies or decisions directly related to the scope of this EA should be forwarded to the ministry during the comment period on the ministry Review.
Area Resident	A question was received asking how is the information of Neurodevelopmental injury from toxics described by the Landrigan/Grandjean group incorporated into the Hazard Quotient (HQ) for metals and organics and is there a reference provided to show that this has been done?	The specific information from the Landrigan/Granjean group (2008) has not been incorporated into the specific toxicity reference values used in this study. However, each of the individual toxicity reference values does protect for neurodevelopmental injury, either directly if this is the critical point of departure or mode of effect

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		for a particular chemical, or if another health endpoint is compromised at a lower dose in the toxicity studies it is selected to form the basis of the toxicity reference value. Therefore, neurodevelopmental injury is accounted for in toxicity reference values for those chemicals where this is a potential health impact.
Area Resident	A comment was received stating that no actual data on facility emissions from any equivalent facility anywhere was used. The risk assessor has used the maximum allowable emissions from the Ontario A-7 guideline.	The incinerator emissions were in many cases specific to the proposed facility, while in other cases the air quality standards that were set by the Regions as part of the RFP process were used. These values are the lower of the Guideline A-7 or the EU standards. By using the limits of operation in the risk assessment we are conservatively overestimating the total exposure to people and the environment. The facility will not be able to operate at the margin of these guidelines throughout the lifetime of the facility, and for many chemicals the facility is likely to emit an order of magnitude or less of an individual chemical routinely.
Area Resident	A question was received asking how accurate is the Meteorologic Dispersion and Deposition Modelling, based as it is in another complex mathematical model?	The CALPUFF dispersion model used in the assessment is an approved Ontario MOE and US EPA model for conducting air quality assessments. The model was extensively validated by the US EPA during its development to ensure it accuracy. Dr. Smith did not review the dispersion modelling and her comments therefore reflect that the dispersion model review was conducted by the MOE and not herself. The CALPUFF model includes algorithms for fumigation due to low level thermal inversions and thermal internal boundary layers.
Area Resident	A comment was received stating that the Multipathway Exposure Assessment model uses more than a thousand variables and 124 highly complex formulae, and thus susceptible to error and	There are indeed a number of variables and formulae used in the site specific risk assessment. All of these values and formulas are taken from the US EPA, ministry or Health Canada guidance or measured site

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	manipulation.	specific data. They have been validated for use on numerous other assessments by regulatory agencies. The results of the entire risk assessment were reviewed in detail by Intrinsik, Senes and the ministry to ensure that such errors did not exist or would not impact the conclusions of the risk assessment.
Area Resident	A comment was received stating that the Non cancer risk assessment uses the HQ appears to be a crude indicator covering all other diseases which may accrue from the facility. When current knowledge about the myriad non cancer effects of PM, inorganics, and organic pollutants is appreciated, the current HQ method may be regarded as primarily cosmetic.	The derivation of exposure doses and the use of toxicity reference values in the threshold (non-carcinogenic) chemicals is well established and based on years of research and refinement by the US EPA, Health Canada and the WHO, amongst others. It does account for the myriad of noncarcinogenic effects that a chemical can have. It is the most sensitive effect, or that that occurs at the lowest dose of a chemical that is selected for the basis for the derivation of the toxicity reference values used in the HQ. After uncertainty factors, typically between 100 and 1000 fold, of protection are added onto the concentration that was shown to be without effect, it is used in the HQ.
Area Resident	A comment was received stating that the HHERA shows exceedances of health benchmarks, in the baseline case and project case. There is a concern that the HHERA does not reflect conclusions drawn by the Canadian Medical Association or the Ontario Medical Association regarding air pollution.	There were some exceedances of benchmarks in the Baseline Case that then extend into the Project Case and Upset Project Case. This did not increase, nor were chemical concentrations emitted from the proposed facility sufficient enough to increase these risks or contribute to new risks being calculated. The HHERA followed standard protocols and approved methods by the ministry, the US EPA and Health Canada. The intention of this guidance is to ensure when properly applied that the resulting risk assessment leads to an overestimation of potential risk. The results of the HHERA conducted at the Clarington

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		01 site have indicated that no adverse effects are expected from the proposed facility. As such, it is not expected that there would be any adverse effects on human health or the environment, as a result of emissions from the facility.
Area Resident	A comment was received stating that the HHERA LRASA is a drastic underestimation.	The maximum concentrations of contaminants were determined through the atmospheric modeling to fall typically within 2 km of the facility. Ground level air concentrations of contaminants and their subsequent deposition to soil and other environmental media would be greatest in this area. However, the HHERA Team extended their study zone out to 10 km to better communicate potential risks to local residents. Any area beyond this 10 km radius would receive a lower concentration of chemical emissions from the facility and hence receptors are protected through the assessment of risk within the LRASA.
Area Resident	A comment was received stating that the HHERA resulted in no adverse health effects because of the legal compliance, this is a health issues.	The ministry defines acceptable risk as HQ<0.2 for multi-pathway assessments, HQ or CR<1.0 for inhalation assessment and a incremental lifetime cancer risk less than 1-in-1,000,000 or 10-6
Area Resident	A comment was received stating that the HHERA assumes wrongly that only the farmers eat local foods. It also assumes wrongly that city residents buy their food from the super-market and that it originates from other pristine uncontaminated environments.	The risk assessment did not conclude that there would be a risk from ingesting locally produced food. Farmers were used as a surrogate for the general public as they were assumed to have the highest ingestion rate, so equally those consuming local food would be equally protected. It is for this reason that a more conservative HQ of 0.2 is used as the acceptable regulatory benchmark for identifying potential risk to receptors.
Area Resident	A comment was received stating that assuming a Process Upset Case of 20% unrealistic.	It is very conservative to assume that for 20 % of the operating time that the facility will be in upset

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		conditions. This would not be allowed to happen through regulatory oversight and yet was still used as a conservative estimate of upset conditions for the risk assessment.
Area Resident	A comment was received stating that bio-concentration effects are ignored.	These results are generated based on bio-concentration factors applied in the fate and transport modeling.
Area Resident	A comment was received stating concerns about health effects related to breast milk from polychlorinated biphenyls (PCBs) and dioxins.	PCBs and dioxin are considered to have a threshold concentration by the ministry. This concentration was not exceeded by the addition of the facility.
Area Resident	A comment was received stating concerns regarding health effects of ingesting local groundwater were not assessed appropriately.	This is addressed in Section 6.7. US EPA (2005) guidance on evaluating the changes in environmental media from air emissions states that groundwater is not a substantive exposure pathway for combustion emissions. The potential for the Project to result in measurable changes to the potable groundwater aquifers is considered very low. It was also determined that a large proportion of residents in the LRASA obtain their drinking water from municipal supply services that will be unaffected by air emissions from the Facility. As a result, the groundwater ingestion pathway has not been considered this HHERA.
Area Residents	Comment were received stating concerns with adverse health effects from emissions of existing municipal waste incinerators.	Of all of the issues and chemicals related to emissions have been addressed in the HHERA conducted at the Clarington 01. The results indicate no adverse effects are expected from the proposed facility. As such, it is not expected that there would be any adverse effects on human health or the environment, as a result of emissions from the facility.
Area Resident	A question was received asking how the St. Mary's Cement test burn proposal in Bowmanville relate in cumulative effects to the HHERA?	At the time of preparation of the HHERA there was no public information available as to how the trial burns at

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		St. Mary's Cement would impact their emissions from the facility. This is because the trial burns had yet to occur. The baseline information collected at the Clarington 01 site includes any potential influence the existing St. Mary's facility and were used in the cumulative effects assessment for the project.
Area Resident	A comment was received stating that the HHERA is not based on any epidemiological data.	The risk assessment followed standard protocols and approved methods by the MOE, the US EPA and Health Canada. The intention of this guidance is to ensure when properly applied that the resulting risk assessment leads to an overestimation of potential risk.
Area Resident	A question was received asking by whom and when would it be determined which contaminants would be monitored during the soil testing for contaminants for the proposed minimum of three years.	At this point the specifics of the monitoring program have not been developed. It is anticipated that the protocol for the soils monitoring program would be developed by the Regions, in consultation with Public Health, with final decisions on specifics of which chemicals and frequency of testing being made by the ministry.
Area Resident	A comment was received stating that the concern that dioxins and furans are persistent, do not break down or lose their toxicity under natural conditions, and bioaccumulate in the food chain	The fate and transport model used in the site specific risk assessment did account for the persistency and bioaccumulation potential of dioxins and furans. In fact, they were modeled to be deposited in the environment over the 30 year period of operation of the facility without any upgrades to pollution control technology. The model accounts for their uptake and accumulation in local foods, fish and wild game. The results of the site specific risk assessment indicate that there would not be an undue risk to humans from exposure to these compounds, even after 30 years of facility operation.
Area Resident	A comment was received stating that the Regions' study team did not use the WHO benchmarks as their Toxicity Reference Values (TRVs) for the assessment	The draft of the HHERA did not incorporate the WHO values into the air quality assessment. However, the

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	of Particulate Matter 2.5 and Oxides of Nitrogen and instead used ministry Ambient Air Quality Criteria (AAQC) and other air standards as their TRVs.	final report does indeed include this assessment at the request of the peer reviewers. WHO values were also provided in the final HHERA and additional discussion is provided in Table 7-4. This was completed for SO_2, NO_2, PM_{10} and $PM_{2.5}$.
Area Residents	Comment were received stating concerns about the Mathematical Modeling used to determine the risk in the EA.	The risk assessment followed standard protocols and approved methods by the ministry, the US EPA and Health Canada. The intention of this guidance is to ensure when properly applied that the resulting risk assessment leads to an overestimation of potential risk. Given that it was a deterministic risk assessment, mathematical confidence could not be provided. Rather, a qualitative assessment of uncertainty and how it potentially impacts the findings were provided in both the human health and ecological risk assessment sections.
Area Residents	Comments were received stating that garbage incinerators have been used for many years in Europe, and there is ample epidemiological research on their negative effects on surrounding population.	The Regions are aware of the epidemiological literature surrounding emissions from incinerators from around the world that were built and operated prior to new emissions guidelines taking effect in the late 1990s. Emissions controls and standards being proposed for the facility are lower than those from previous decades and the results of the site specific risk assessment indicate that there would be no undue risk to either humans or the environment.
Area Residents	Comment was received identifying a link between fine particulate air pollution from incineration and increases in mortality, cardiac mortality and mortality from lung cancer.	The Regions are aware these links and they were taken into consideration during the preparation of the risk assessment. The results of HHERA conducted at the Clarington 01 site have indicated that no adverse effects

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		are expected from the proposed facility. As such, it is not expected that there would be any adverse effects on human health or the environment, as a result of emissions from the facility.
Area Residents	Comments were received stating concerns for buying local food products due to local pollution resulting from the project.	The site specific risk assessment included an assessment of local food products and the potential uptake of chemicals emitted from the facility. The results of the HHERA indicate that there would not be an adverse impact to either the produce or to wildlife or people consuming these products.
Area Residents	Comments were received stating concerns regarding the potential for emitted chemicals to react synergistically with others to create additional chemicals of concern or unpredicted health issues.	In addition to the evaluation of individual chemicals of concern, an assessment of chemical mixtures was conducted in the HHERA. There are currently no regulatory benchmarks to evaluate chemical mixtures. Furthermore, the evaluation of exposure to chemical mixtures is complicated by the narrow probability of each chemical in the mixture occurring at one specific location at the same time with a receptor also present at that location and time to be exposed to them. Regardless of these limitations chemical mixtures were evaluated for information purposes only in the risk assessment.
Area Resident	A comment was received stating concerns with the latency period of toxic pollutants and chemicals that would be emitted from the facility.	The risk assessment conducted for the facility actually accounted for the 30 years of operation and a latency period of 75 years of exposure to chemicals to people.
Area Residents	Comment was received stating concerns regarding the emission of particulate matter from the facility, and that values presented for particulate matter PM_{10} and $PM_{2.5}$ do not reflect the current science on particulate matter.	It should also be noted that there is a Canada Wide Standard for respirable particulate matter ($PM_{2.5}$ and smaller) of 30 ug/m3 which is currently being phased in (with a target date for all regions to meet this level by 2010). As part of the permitting requirements of the project, Ontario regulations will require the facility to ensure that its $PM_{2.5}$ emissions, in combination with

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		local ambient background $PM_{2.5}$ levels, are below the Canada Wide Standard (CWS). Once in operation, these facilities have strict monitoring programs in place to ensure the safety and protection of human health and the environment. The final HHERA was updated to include the WHO values for NO_2, SO_2 and PM.
Area Resident	A question was received asking how were PM concentration and risk incorporated into the HQ? How is this figure derived? Does it reflect the recent epidemiologic literature on the subject?	The PM HQ was derived using both the CWS and the toxicity reference value published by the WHO. The WHO value does indeed attempt to account for the recent epidemiologic literature on the subject, while the CWS value does not.
Area Resident	A comment was received stating that the AQR completed by the Region's Consultants indicates that there's not enough data to assess fine particulate levels according to the Canada-wide standard, because that requires monitoring over a three-year period.	The CWS for $PM_{2.5}$ is based on the average of the 98^{th} percentile concentrations over 3 consecutive years. The monitoring that was conducted (a 15-month period) does provide a good indication of the potential for the CWS standard to be exceeded at the site when considered in conjunction with other longer-term ambient monitoring data, such as that from the MOE Oshawa station. In Oshawa, the 3-year average 98^{th} percentile $PM_{2.5}$ value was 29 ug/m3. Since the 98^{th} percentile PM2.5 concentration over the 15 month monitoring period at Courtice (29 ug/m^3) was less than 30 ug/m^3 and similar to the Oshawa monitoring data, it is unlikely that the CWS would be exceeded at the monitoring site.
Area Residents	Comments were received stating concerns regarding the release of nanoparticles in the emissions from the facility, and their potential effect to human health.	When examining the potential impacts of exposure to PM on human populations, the emphasis in the HHERA was focused on the fine and/or ultrafine fractions of particulate matter including nanoparticles. The results of the HHERA indicate that no acute (1-hr or 24-hr) or chronic (annual average) exposures at the

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		maximum ground level concentration exceed the regulatory benchmark for any of the 10 evaluated cases at 140,000 or 400,000 tpy.
Area Residents	Comments were received stating concerns regarding the potential for odour being released from the stack of the facility or from the shipment of garbage to the facility.	Waste is shipped in fully enclosed trucks to minimize odours and is tipped inside the building. The doors to the facility are closed before tipping so that odours do not escape. Air used for the combustion is drawn from the tipping floor which causes a negative pressure in the building, further minimizing the opportunity for odours to escape. There will be no noticeable odours from the stack.
Area Residents	Comments were received stating concerns that potential impacts to Lake Ontario were not considered (i.e., deposition of materials and drinking water).	Lake Ontario was not considered as a specific receptor in the site-specific assessments, however the watersheds leading into Lake Ontario were considered. The highest rate of deposition of parameters emitted to the air would be in the watersheds. Given the large surface area and volume of water in Lake Ontario, any low level concentration of chemical deposit would not be measurable in this waterbody, thus no adverse effects to Lake Ontario or on drinking water obtained from Lake Ontario are anticipated.
Area Resident	A comment was received stating that the Rice Lake is not included, although its distance from "Ground Zero" is much less than Lake Simcoe and its size is about the same as that of Lake Scugog.	This report is appropriately focused on local groundwater and surface water conditions and effects. As such it looks at its resident watershed, Tooley Creek as well as local groundwater conditions.
Area Resident	A comment was received stating that the acoustic impact from steam dumps is not considered.	Steam Dump is considered to be an emergency operation, and is not usually assessed in the environmental assessments. However, if emergency equipment is tested regularly for maintenance purpose it is assessed like emergency generators and fire pumps.
Area Resident	A comment was received stating that noise contour patterns do not properly account for the "Linear	Noise contours maps represent predicted noise impact levels from the proposed facility only, and do not

Submitter	Summary of Comments	Proponent's Response
	Distortion" or "Acoustic Signature" resulting from Hwy401 for both 140 000 tpy and 400 000 tpy scenarios.	include any other existing noise sources in the area.
Area Residents	Comments were received offering product and services to be used during the design, construction and operation of the facility.	The proposed facility is being designed by Covanta with "state-of-the-art" air pollution control technology. Unfortunately, the Proponents at this time cannot comment on the potential for that company to provide services to the facility.

Table 3. Aboriginal Communities Comment Summary Table

Proposal: Durham York Residual Waste Environmental Assessment Study
Proponent: Regions of Durham and York

Aboriginal Communities	Summary of Comments	Proponent's Response
Chippewas of Georgina Island	No comment received.	None required.
Chippewas of Mnjikaning	No comment received.	None required.
Mississaugas of Scugog Island	No comment received.	None required.
Anishinabek Nation/Union of Ontario Indians	No comment received.	None required.
Association of Iroquois and Allied Indians	No comment received.	None required.
Batchewana First Nation	No comment received.	None required.
Beausoleil First Nation	No comment received.	None required.
Caldwell First Nation	No comment received.	None required.
Curve Lake First Nation	No comment received.	None required.
Delaware First Nation (Moravian of the Thames)	No comment received.	None required.
Mississauga of the New Credit First Nation	No comment received.	None required.
Mississaugas of Alderville First Nation	No comment received.	None required.
Mohawks of the Bay of Quinte	No comment received.	None required.
Ojibways of Hiawatha First Nation	No comment received.	None required.
Huronne-wendat Nation	No comment received.	None required.
Oneida Nation of the Thames	No comment received.	None required.
Six Nations of the Grand River	No comment received.	None required.
Wahta Mohawks	No comment received.	None required.

Aboriginal Communities	Summary of Comments	Proponent's Response
Métis Nation of Ontario	No comment received.	None required.
Curve Lake First Nation	No comment received.	None required.
Delaware First Nation (Moravian of the Thames)	No comment received.	None required.
Mississauga of the New Credit First Nation	No comment received.	None required.
Mississaugas of Alderville First Nation	No comment received.	None required.
Mohawks of the Bay of Quinte	No comment received.	None required.
Ojibways of Hiawatha First Nation	No comment received.	None required.
Huronne-wendat Nation	No comment received.	None required.
Oneida Nation of the Thames	No comment received.	None required.
Six Nations of the Grand River	No comment received.	None required.
Wahta Mohawks	No comment received.	None required.
Métis Nation of Ontario	No comment received.	None required.
Huronne-wendat Nation	No comment received.	None required.
Oneida Nation of the Thames	No comment received.	None required.
Six Nations of the Grand River	No comment received.	None required.

MAKING A SUBMISSION?

A five-week public review period ending April 2, 2010 will follow publication of this Review. During this time, any interested parties can make submissions about the proposed undertaking, the environmental assessment or this Review. Should you wish to make a submission, please send it to:

Agatha Garcia-Wright, Director
Environmental Assessment and Approvals Branch
Ministry of the Environment
2 St. Clair Avenue West, Floor 12A
Toronto, Ontario M4V 1L5
Fax: (416) 314-8452

Re: Durham and York Residual Waste Study Amended Environmental Assessment
Attention: Gavin Battarino, Project Officer

Under the *Freedom of Information and Protection of Privacy Act* and the *Environmental Assessment Act*, unless otherwise stated in the submission, any personal information such as name, address, telephone number and property location included in all submissions become part of the public record files for this matter and can be released if requested.