

Clarington

Energizing Ontario

July 14, 2009

Hon. John Gerretsen
Minister of the Environment
12th Floor
135 St. Clair Avenue West
Toronto, Ontario M4V 1P5



REGION OF YORK
CLERK'S OFFICE

FILE No. - *Env - Serv*

Dear Mr. Gerretsen:

**RE: DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT
MUNICIPALITY OF CLARINGTON PEER REVIEW COMMENTS ON PRE-
SUBMISSION
FILE NO: E07.EN**

At a meeting held on July 13, 2009, the Council of the Municipality of Clarington passed the following resolution #GPA-465-09:

“THAT Report PSD-071-09 be received;

THAT Report PSD-071-09 including attachments #2 through #14 be forwarded to the Region and the Ministry of the Environment;

THAT SENES, AECOM and Steven Rowe be thanked for their efforts in completing the peer review in a timely manner;

THAT the Region's Project Team be requested to work closely with Clarington Staff on the detail design of Energy Park Drive, the stormwater management works and other Clarington Energy Business Park design details, the architectural concepts for the Energy from Waste facility and implementation plans for development;

THAT a copy of Report PSD-071-09 and Council's decision be forwarded to the Region of Durham, the Region of York and Ministry of Environment; and

THAT all interested parties listed in Report PSD-071-09 and any delegations be advised of Council's decision."

Yours truly,

A handwritten signature in black ink, appearing to read 'C. Greentree', written over a horizontal line.

C. Anne Greentree, B.A., CMO
Deputy Clerk

CAG*lb
Encl

c: SEE ATTACHED DISTRIBUTION LIST

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David Crome, Director of
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REPORT

PLANNING SERVICES

Meeting: GENERAL PURPOSE AND ADMINISTRATION COMMITTEE

Date: Monday July 6, 2009

Report #: PSD-071-09

File #: PLN 33.3.10

By-law #:

Subject: DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT
MUNICIPALITY OF CLARINGTON PEER REVIEW COMMENTS ON PRE-SUBMISSION

RECOMMENDATIONS:

It is respectfully recommended that the General Purpose and Administration Committee recommend to Council the following:

1. THAT Report PSD-071-09 be received;
2. THAT Report PSD-071-09 including Attachments 2 through 14 be ADOPTED as the Municipality of Clarington's comments on the Pre-Submission Environmental Assessment (EA) for the Residual Waste Process and Energy from Waste (EFW) Facility;
3. THAT as part of the Pre-Submission Review, Clarington Staff provide comments to the Region's Project Team on the peer review comment dispositions to assist with facilitating submission of the Environmental Assessment by July 31, 2009;
4. THAT SENES, AECOM and Steven Rowe be thanked for their efforts in completing the peer review in a timely manner;
5. THAT the Region's Project Team be requested to work closely with Clarington Staff on the detail design of Energy Park Drive, the stormwater management works and other Clarington Energy Business Park design details, the architectural concepts for the Energy from Waste facility and implementation plans for development;
6. THAT a copy of Report PSD-071-09 and Council's decision be forwarded to the Region of Durham, the Region of York and Ministry of Environment; and
7. THAT all interested parties listed in this report and any delegations be advised of Council's decision.

Submitted by: _____
David J. Crome, MCIP, RPP
Director of Planning Services

Reviewed by: _____
Franklin Wu,
Chief Administrative Officer

FL/sn

1.0 BACKGROUND AND PURPOSE OF REPORT

- 1.1 On April 16, 2007, Council adopted Resolution # C-211-07, which directed Staff to examine comprehensively the EA documentation and prepare a peer review among other items.
- 1.2 On May 28, 2007, Council adopted the recommendations in Staff Report PSD-070-07 which defined the scope of work for the various peer reviews and economic studies to be undertaken to assist Council in determining its position with respect to the proposed Energy from Waste (EFW) facility to ensure that the interests of the Municipality and its residents are protected.
- 1.3 Also included in PSD-070-07, consultants were retained to peer review various aspects of the Environmental Assessment (EA) process, including site selection, and the potential environmental effects of the proposed facility. Unlike some other peer reviews for the Municipality, Staff coordinated the peer review team and were responsible for some specific aspects of the Residual Waste EA peer review. Staff and the peer review consultants have met with the Regions' Project Team on a number of occasions to seek clarification and probe further into the analysis and methodology of the various studies. The Regions' Project Team for the EA has been cooperative in providing information to the Municipality's peer review consultants and exploring the issues raised.
- 1.4 The purpose of this report is to set out the Municipality's comments on the draft EA, dated June 12 as endorsed by Durham and York Regional Councils on June 24 and 25, respectively.

The Regional Councils endorsed the Durham–York Residual Waste Study Environmental Assessment (EA) and authorized Regional Staff to submit the EA to the Ministry of the Environment by July 31, 2009 subject to such minor adjustments as deemed necessary by the Commissioner of Works, based on the ongoing process, including preliminary review and documentation by the Ministry of the Environment.

Clarington's comments will be submitted to the Region's Project Team to be addressed as part of the "fine-tuning" revisions that are being made up until July 31, 2009. A copy of this report will be forwarded to the Ministry of Environment for their information.

The Region's Project Team has had Clarington's peer review comments since June 5th 2009. Many of the comments and issues raised have been addressed by the endorsement of the Host Community Agreement by Clarington Council on May 11, 2009 and Durham Regional Council on June 24, 2009. Clarington Staff and peer review consultants met with the Region's Project Team on June 12, 2009 to clarify issues yet to be addressed. A separate meeting for the peer review consultants on the Site Specific Human Health and Ecological Risk Assessment (HHERA) took place on June 5, 2009.

2.0 YORK/DURHAM RESIDUAL WASTE EA PROCESS

2.1 Environmental Assessment Process

- 2.1.1 The Regions of Durham and York, jointly are currently conducting an EA to determine how to manage the residual solid waste remaining after blue box and green box diversion efforts. Key dates in the study process:

• March 2006	Ministry of Environment approval of EA Study Terms of Reference
• June 2006	Selection of preferred approach to managing residual waste (Alternatives To)
• July 2007	Issuance of Request for Qualifications (RFQ)
• October 2007	Recommendation on preferred site (Alternative Methods)
• December 2007	Durham and York Region Council approval of preferred site
• January 2008	Approval of Qualified Bidders
• August 2008	RFP issued to qualified bidders
• February 2009	RFP's received
• April 2009	Identification of Preferred Vendor
• January-May 2009	Completion of all site specific studies
• May 2009	Clarington Council Endorses Host Community Agreement (HCA)
• June 2009	Approval of final EA and HCA by Durham and York Councils
• Late July 2009	Submission of final EA to Ministry of Environment (MOE)
• 2009/2010	EA review and decision by Minister of Environment
• Initiated in 2009	EPA Applications based on EA
• 2010-2012	Construction of the 140,000 tonne EFW

- 2.1.2 For the EA, the purpose of the undertaking (the project), was set out in the Ministry of Environment approved Terms of Reference, as follows:

- To process – physically, biologically and/or thermally – the waste that remains after the application of both Regions' at-source waste programs in order to recover resources – both material and energy – and to minimize the amount of material requiring landfill disposal. In proceeding with this undertaking, only those approaches that will meet or exceed all regulatory requirements will be considered.
- The waste proposed to be managed will be primarily Municipal Solid Waste (MSW) from residential sources generated within Durham and York Regions remaining after at-source diversion, a portion of post-diversion Industrial, Commercial and Institutional (IC&I) waste traditionally managed by the Regions at their waste disposal facilities; and Municipal post-diversion residual waste from neighbouring non-Greater Toronto Area (GTA) municipalities that may provide disposal capacity for processing residues.

The final description of the undertaking has been refined and altered from the conceptual description based on the EA Study findings and public/stakeholder input.

- 2.1.3 Refinements to the description of the undertaking as the EA has progressed have resulted in the following description:

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

2.2 Clarington Comments on the Environmental Assessment Process to date

- 2.2.1 Clarington Staff have been involved in the EA process for Residual Waste since its inception in 2005, when the initial terms of reference were being drafted and conceptual description of the undertaking was being formulated.

- 2.2.2 Staff Reports have dealt with various aspects of the Residual Waste EA as follows:

PSD-018-06 Feb, 13, 2006, Comments on the Terms of Reference

PSD-070-07 May 22, 2007, Municipal Peer Review and Other Studies

PSD-097-07 September 4, 2007, Update on Municipal Peer Review

PSD-141-07 December 3, 2007, Municipal Comments on Step 7 –Evaluation of Short-List of Sites and Identification of Preferred Site

PSD-141-07 Addendum, December 10, 2007.

FND-002-08 January 21, 2008, Peer Review & Economic Studies Costs to Date

FND-022-08 Addendum, February 25, 2008

CAO-002-09 May 11, 2009, Status of EFW Host Community Agreement Negotiation

CAO-022-09 Addendum, May 11, 2009

- 2.2.3 In addition, Council has heard many presentations on the various alternatives and specific aspects of waste management over the past three years. Council has received numerous delegations and hundreds of submissions from residents over that time period and passed a number of resolutions. Recently Council endorsed being a "willing host" for the Energy from Waste facility conditional upon the Municipality of Clarington and Region of Durham executing a Host Community Agreement to implement the Host Community Agreement as set out in the May 11, 2009 CAO Report and Addendum.

- 2.2.4 In preparing Clarington's comments on the Final EA, previous comments, the Region's Project Team's disposition of these comments plus the final commitments recommended to address the anticipated impacts have been taken into consideration. An EA is a

process through which it is determined whether an undertaking is conceptually and technically acceptable based on the mitigation measures, follow-up commitments, and monitoring programs that will be implemented as part of the undertaking.

- 2.2.5 The EA for the Energy from Waste Facility (Durham/York Residual Waste Project) is in its final stages of completion. The Pre-submission review period, extending from June 12th to July 31st, is an opportunity for the Region's Project Team to "fine tune" the document prior to submission to the Minister of Environment for approval. Clarington's peer review consultants and Staff will continue to work with the Region's Project Team in reviewing how Clarington's comments will be addressed in the EA. Clarington will also have the opportunity to comment during the review period provided by the Ministry of Environment, following EA submission; the 12 week MOE review period (Aug 1 to October 23).

2.3 Environmental Protection Act and Other Required Environmental Approvals

- 2.3.1 The proposed EFW facility will require at least the following approvals under the Ontario Environmental Protection Act (EPA):

- Certificate of Approval (Air and Noise) under Section 9 Part II which regulates emissions to the natural environment, in particular air.
- Certificate of Approval (Waste) under Section 27 Part V of the Act for the use, operation, establishment, alteration, enlargement or extension of a waste management facility.

The Ministry may place the EFW under a comprehensive Certificate of Approval (C of A). The specifics of the C of A have yet to be worked out between the builder (Covanta), the proponent (the Regions) and the Ministry. Because it stems from an EA process the Certificate of Approval applications could voluntarily be posted to the Environmental Bill of Rights (EBR) website, however, there is no legal requirement, no EBR appeal rights (EBR Section 32) and no EPA hearing appeal rights (EPA Reg 206/97). The Municipality will be asked to provide comments as a commenting agency.

In addition to these C of A approvals, the EFW will be required to develop a "Spill Prevention and Contingency Plan" according to O. Reg 224/07 under the EPA.

- 2.3.2 The conceptual facility size of 400,000 tonnes/year was used for the EA study. The EFW facility will be built in phases and EPA approval will be required for each phase. To address the requirements of the EPA and to obtain the required approvals, supporting technical studies and design plans have been completed to an appropriate level of detail to demonstrate no adverse effects on the environment and show that the applicable environmental standards will be met, providing that the mitigation measures and commitments set out in the EA documentation are carried through.
- 2.3.3 The Certificate of Approval applications will be required to meet the emission limits proposed by the vendor in response to the RFP. The proposed revised Ontario A-7 Guidelines for air emissions have been released by MOE for review and comment. If the proposed revised guidelines are approved, then the Certificate of Approval applications will be required to meet the more stringent of the two guidelines. Future phases of the

EFW would have to meet the emission guidelines in place when that expansion phase is undertaken and the C of A application is made.

- 2.3.4 Other potential environmental approvals for an EFW facility include the Ontario Water Resources Act. The Region's Project Team have indicated that based on the work completed to date, no issues have been identified that would prevent receipt of this approval or any other approvals that are required for the project to proceed.

3.0 CLARINGTON'S PEER REVIEW OF FINAL EA DOCUMENTS

3.1 Comments on the Draft Environment Assessment (EA) Study Document, June 12, 2009

- 3.1.1 The Peer Review consultants have provided comments on the Draft Environmental Assessment Study Document that was released on May 25, 2009 and have received verbal and written responses to these comments. Clarington's peer reviewers were SENES, AECOM and Steven Rowe supplemented by Clarington Staff for certain aspects. The peer review comments on Site Specific Studies and Draft Environmental Assessment were circulated to Council and the Region's Project Team on June 5, 2009 (except for the HHERA which was circulated on June 12, 2009). Many issues are to be addressed through additional clarification and will be addressed in revisions by the Region's Project Team, in the upcoming weeks prior to submission. The disposition of the peer review comments are in Attachments 2 through 14. Staff and the peer reviewers will continue to review the proposed wording for the final report and assist in resolving clarification issues.
- 3.1.2 The Draft Environmental Assessment was reviewed by Steven Rowe with assistance from AECOM and SENES. The peer review comments and Region's Project Team disposition are Attachment 2 to this report. Our peer review consultant has had the opportunity to review the Region's Project Team response and the additional information released on June 12.
- 3.1.3 *Section 8 – Site Identification Process.* The Peer Review team continue to have concerns over the traceability of decisions arising from Step 7, "Alternative Methods" the Site Identification Process. While some of the concerns raised in PSD-141-07 in December 2007 have been addressed through the inclusion of additional information and are resolved, others remain. The concerns expressed previously over the trading off of criteria and the traceability of how certain factors played out in the comparative analysis have, to date, not been addressed satisfactorily. Overall, the site selected (Clarington 01) has low levels of impact for the majority of factors; the baseline air quality was a concern; however, what cannot be determined from the information provided is whether it is the "best" site.
- 3.1.4 *Section 9 – Vendor Identification Process.* The Region's Project Team has committed to assess whether the Covanta proposal is consistent with the EA process. The peer review team will review this information when it is made available. The process to identify the preferred technology vendor does not incorporate the EA principles of traceability and transparency; however, it would be appropriate for the MOE to provide guidance on whether the RFQ/RFP process sufficiently addresses these requirements given the other issues prevalent in any bidder process.

- 3.1.5 *Section 10 – Identification and Description of the Undertaking.* Greater clarity could be provided within the EA documentation on the possible timing of the Phase 1 (250,000 tonnes/yr) and Phase 2 (400,000 tonnes/yr) expansions. Section 10.6 could more clearly articulate the Region's understanding of when the post-diversion residual wastes will reach the thresholds based on anticipated population growth, diversion rates, etc.
- 3.1.6 *Section 12 – Changes to the EA.* The Service Area of the EFW facility should be defined in the EA for each Phase of its development. The role of Clarington is currently not defined with regard to the minor and major amendments.
- 3.1.7 *Section 13 – Commitments.* The Region's Project Team is reviewing and where applicable revising the language with respect to the commitments and adding clauses based on the Host Community Agreement. The June 12 version of the Draft EA did not include all of the commitments that are set out in the Host Community Agreement with regard to the Site Liaison Committee, Community Relations Plan and Community Complaints System. In addition, Table 13-1 sets out commitments for construction and operations separately; however, when Phase 1 and 2 expansions are being built both the commitments for construction and operations will be in effect simultaneously. The specific role and functioning of the Site Liaison Committee should be reviewed in light of any lessons learned from the EA Site Liaison Committee when the terms of reference are being drafted.
- 3.1.8 *Section 14 – Monitoring.* The Environmental Assessment Compliance Monitoring Program should include the commitments made during public consultation sessions with regard to how the facility will be built, operated and expanded. A list of commitments could be compiled based on the consultation records. MOE should inform Clarington of the requirements for the compliance monitoring program and provide ongoing updates on how the monitoring is being achieved. Clarington Staff could assist the Ministry and Region's Project Team in formulating the compliance monitoring program, if requested and directed to do so by Council.
- 3.1.9 *Section 16 – Consultation Summary.* The June 12 Draft EA included the consultation summary and it has been reviewed by the peer reviewers and appears complete. Traceability should be noted as a key issue and will be important in the EA compliance monitoring program.

3.2 Comments on the Site Specific Studies (Appendices C1-C12), June 12, 2009

3.2.1 *Appendix C-1 Air Quality Assessment Technical Study Report*

The Air Quality Assessment was reviewed by SENES Consultants (Barrie Lawrence), the comments and Region's Project Team Disposition is Attachment 3 to this report. Our peer review consultant has had the opportunity to review the Region's Project Team responses and also the 400,000 tonne scenario which was released on June 12.

In summary the peer reviewers are satisfied that the modeling was done in a competent and professional manner. The meteorological mismatch and minor matters related to the emission rate and factors can be addressed by the Region's Project Team as they fine-tune their documentation.

The air quality assessment should be modeled to account for new or changed conditions when the proposed expansions to 250,000 and 400,000 tonnes/year are undertaken regardless of the timeframe and using the revised baseline conditions that exist at the time of each expansion.

3.2.2. *Appendix C-2 Surface Water and Groundwater Assessment Technical Study Report*

The Surface Water and Groundwater Assessment Technical Study Report were reviewed by AECOM (Will McCrae) and SENES Consultants, surface water and ground water respectively. The comments and the Region's Project Team Disposition is Attachment 4 to this report. Our peer review consultants have had the opportunity to review and meet with the Region's Project Team to discuss the more pertinent matters.

In summary the peer reviewers are satisfied that the modeling was carried out on the "worst case" scenario (all storm drainage within the site); it showed no adverse affects on the environment. The recently approved Host Community Agreement will improve the stormwater management quality treatment and remove much of the storage from the EFW site to a remote site.

The ground water comments have been addressed to the peer reviewer's satisfaction as outlined in the dispositions provided by Region's Project Team. A hydrogeological assessment will be conducted onsite as part of the detailed design to support dewatering and groundwater management.

This report would not require updating for the 400,000 tonne scenario.

3.2.3 *Appendix C-3 Facility Energy and Life Cycle Assessment*

The Facility Energy and Life Cycle Assessment was reviewed by SENES (Murali Ganapathy and Talar Sahsuvaroglu). The comments and the Region's Project Team Disposition is Attachment 5 to this report. Our peer review consultants have had the opportunity to review the disposition proposed by the Region's Project Team and accept their recommendations.

The benefits of green house gas reductions are not clear at this stage, if and/or when the facility is being expanded to the 250,000 and/or 400,000 tonne/yr., much more will be known about the other potential occupants of the Clarington Energy Business Park. As such, this study should be updated at that time to determine the potential benefits of this project.

3.2.4 *Appendix C-4 Geotechnical Investigation Technical Study Report*

The Geotechnical Investigation Technical Study Report was reviewed by AECOM (Will McCrae). The comments and the Region's Project Team Disposition is Attachment 6 to this report. The peer review team is satisfied with the responses provided by the Region's Project Team in the disposition which acknowledge additional geotechnical information will be required at the detailed design stage. For the 400,000 tonne/yr. scenario, from an EA perspective this study is acceptable and would not require updating.

3.2.5 *Appendix C-5 Acoustic Assessment Technical Study Report*

The Acoustic Assessment Technical Study Report was reviewed by SENES Consultants (Fred Bernard). The comments and the Region's Project Team Disposition is Attachment 7 to this report. Many of the comments provided were technical in nature and have been addressed to the peer reviewer's satisfaction in the disposition. To ensure transparency and traceability the formula's used and assumptions about the location of equipment should be identified.

The largest outstanding issue is whether pile driving is going to be necessary and how this would be mitigated with the possible expansions to 250,000 and 400,000 tonnes/yr. as there would be additional receptors compared to existing conditions. Since it is likely there will be more "receptors" in the immediate area at that time it is recommended that the Acoustic Assessment be revisited and updated at the time of the expansions.

3.2.6 *Appendix C-6 Visual Assessment Technical Study Report*

The Visual Assessment Technical Study Report was reviewed by Clarington Staff. The comments and the Region's Project Team Disposition is Attachment 8 to this report.

The Visual Assessment was carried out for beyond the boundaries of the Clarington Energy Business Park, it followed current practices and standards for visual impact assessments. However, the visual assessment for receptors within the CEBP is to be updated based on the peer review comments and visualizations provided to the Region's Project Team on June 12, 2009. The most current information regarding other projects (e.g. Highway 407 and OPG) and the status of the Clarington Energy Business Park will be included. Staff will work with the Region's Project Team to help finalize all of the technical comments on the visual assessment for the July 31st submission timeframe.

Details regarding the proposed measures used to mitigate the visual effect of the Facility while not available at this time should be referenced in Section 13 – Commitments of the Final EA Report. It has been duly noted that the cash allowance, no less than nine million dollars, in the RFP is described in the Host Community Agreement; however, from an economic perspective this is not a direct benefit to Clarington as it can be assumed that regardless of where this facility was sited the Regions would have made provision to ensure that the architectural treatment was world class.

As stated in the disposition comments, the visual impact assessment focused on the "worst case" scenario where the basic design specifications and dimensions were used. The actual facility will employ high quality design and architectural principles to ensure that the facility will be consistent with the prestige commercial and industrial business park that is envisioned.

Given that the 250,000 and 400,000 tonne/yr scenarios will have visual impacts within the CEBP the visual assessment should be updated at the time of these expansion phases and include the receptors that are within the CEBP at that time.

3.2.7 *Appendix C-7 Natural Environmental Assessment Technical Study Report*

The Natural Environment Assessment Technical Study Report was reviewed by SENES Consultants (Paul Patrick). The comments and the Region's Project Team Disposition is

Attachment 9 to this report. The Region's Project Team has agreed to edit/update the report based on the peer review comments which is acceptable.

3.2.8 *Appendix C-8 Social/Cultural Assessment Technical Study Report*

The Social/Cultural Assessment Technical Study Report was reviewed by SENES Consultants (Gwen Brice) with additional comments provided by AECOM and Steven Rowe. The peer review comments and the Region's Project Team Disposition is Attachment 10 to this report.

The outstanding issues with regard to this report are the types of mitigation that will be undertaken to address the social impacts of this project. The Host Community Agreement addresses a number of the economic and anticipated social/cultural impacts of the project however; given the timing of the approval of the HCA these mitigation measures were not included in the overall study. During a meeting on June 12, 2009 the Region's Project Team committed to addressing many of the outstanding issues raised in the Visual, Economic and Social/Cultural Assessments. The concerns identified from the Visual and Economic Assessments have impacts and mitigation measures that ripple through the Social/Cultural Assessment.

The peer reviewers will work with the Region's Project Team to finalize all of the technical comments on the social/cultural assessment for the July 31st submission timeframe. A review of the final documentation will be required to confirm that commitments made in the disposition table are satisfactorily addressed. Should any outstanding items remain they will be reported to Clarington Council for direct submission to MOE as part of the formal review.

3.2.9 *Appendix C-9 Stage 2 Archaeological Assessment and Built Heritage Assessment Technical Study Report*

The Stage 2 Archaeological Assessment and Built Heritage Assessment Technical Study Report was reviewed by Clarington Staff. The peer review comments and the Region's Project Team Disposition is Attachment 11 to this report. The peer review team is satisfied with the dispositions provided by the Region's Project Team.

3.2.10 *Appendix C-10 Traffic Assessment Technical Study Report*

The Traffic Assessment Technical Study Report was reviewed by AECOM (Will McCrae, Garry Pappin). The comments and the Region's Project Team Disposition is Attachment 12 to this report. The peer review team is satisfied with the majority of responses provided by the Region's Project Team in the disposition. The approval of the Host Community Agreement and Recommendation 8 of Regional Report 2009-COW-03 (acquisition/expropriation of certain lands) will mitigate and address a number of the specific issues raised by the peer review team. The Traffic Assessment is for the "worst case" scenario which is that construction access and ongoing delivery of waste would be on the existing public road system; however, the mitigation that is being suggested through the Host Community Agreement is that both of these activities occur along the private lane adjacent to the railway tracks.

As stated by the Region's Project Team "refinements to the haul route would be confirmed subsequent to the EA submission, and would be addressed in the permitting

documentation reflected in conditions of approval for design and operation of the Facility".

There is a commitment in the EA to update the Traffic Assessment for future expansions of the facility if the 400,000 tonne/yr. scenario is reached prior to 2023.

Currently the Traffic Assessment assumes that all waste material arriving at the site is by transfer trailer except for packer trucks from Clarington. The Region may wish to route the packer trucks from South Oshawa to the site rather than through a transfer station. As noted in Comment 13 on the disposition sheets by the Peer Reviewers, should a revised method of haulage be chosen after the project is approved, an addendum to the report should be prepared to identify potential impacts and mitigation. This would not be a change to the EA.

3.2.11 *Appendix C-11 Economic Assessment Technical Study Report*

The Economic Assessment Technical Study Report was reviewed by SENES (Malcolm Martini). The comments and the Region's Project Team Disposition is Attachment 13 to this report. The peer reviewers to date have not received the final version of this report which is to be updated based on the Business Case prepared for the Region of Durham.

As noted in the dispositions by the Region's Project Team significant work remains to be added and clarified within the economic assessment for the report to be finalized. The peer reviewers will work with the Region's Project Team to finalize all of the technical comments on the economic assessment for the July 31st submission timeframe. Should any outstanding items remain they will be reported to Clarington Council for direct submission to MOE as part of the formal review.

There is no reason to update this study if and when the facility expands.

3.2.12 *Appendix C-12 Site Specific Human Health and Ecological Risk Assessment (HHERA) Technical Study Report*

The Site Specific Human Health and Ecological Risk Assessment (HHERA) Technical Study Report was reviewed by SENES (Harriet Phillips/Mehran Monabotti). The comments and the Region's Project Team Disposition is Attachment 14 to this report.

The peer review concluded that the Site Specific HHERA for the EFW treatment facility for the 140,000 tonne/yr. scenario is comprehensive and conforms to risk assessment guidance.

The peer review identified a number of areas where the study could be clarified to be more transparent. However, it was concluded that these changes would not change the overall conclusions of the assessment as the risks are predicted to be very low, and in fact the calculated risks would likely be lower when the appropriate technology and site is selected. A specific discussion on nano-particles was suggested to address a concern identified by the public. As well, it was suggested that a "plain-language" summary of the report be prepared so that members of the public can better understand the approach and results of the risk assessment.

If and when the facility expands to 250,000 and/or 400,000 tonne/year, these studies should be revised based on the revised baseline conditions existing in the area. This means a revised Air Quality study should be conducted and its data used for developing the HHERA. Further, effects of the EFW plant upset conditions should be studied within the scope of expanded capacities as these could have significant effects.

4.0 CONCLUSION

- 4.1 This report provides an overview of the peer review process, the comments provided by the peer review team, and the disposition of these comments by the Region's Project Team (Attachments 2-14). Staff have reviewed the further comments by the peer reviewers and, as such, are recommending that they be submitted to the Region's Project Team as the Municipality's comments on the Durham/York Residual Waste Environmental Assessment Pre-Submission.
- 4.2 Staff and the peer reviewers will work with the Region's Project Team to help finalize the technical comments for the July 31st submission timeframe.
- 4.3 The Residual Waste Environmental Assessment lays the foundation for many aspects of the subsequent works for the EFW. Specifically there will be a process for the determination of the architectural design of the EFW. The commitments within the EA documentation and the Host Community Agreement will be important to the overall development of the Clarington Energy Business Park as an economic driver for the Municipality and Region.

Attachments:

Attachment 1	Glossary of Terms
Attachment 2	Disposition Sheets – Draft Environmental Assessment
Attachment 3	Disposition Sheets – Appendix C-1 Air Quality
Attachment 4	Disposition Sheets – Appendix C-2 Surface Water and Groundwater
Attachment 5	Disposition Sheets – Appendix C-3 Facility Energy and Life Cycle
Attachment 6	Disposition Sheets – Appendix C-4 Geotechnical Investigation
Attachment 7	Disposition Sheets – Appendix C-5 Acoustic Assessment
Attachment 8	Disposition Sheets – Appendix C-6 Visual Assessment
Attachment 9	Disposition Sheets – Appendix C-7 Natural Environment Assessment
Attachment 10	Disposition Sheets – Appendix C-8 Social/Cultural Assessment
Attachment 11	Disposition Sheets – Appendix C-9 Stage 2 Archaeological Assessment and Built Heritage Assessment
Attachment 12	Disposition Sheets – Appendix C-10 Traffic Assessment
Attachment 13	Disposition Sheets – Appendix C-11 Economic Assessment
Attachment 14*	Disposition Sheets – Appendix C-12 Site Specific Human Health and Ecological Risk Assessment (HHERA)

* (Under Separate Cover)

List of Interested Parties to be Notified of Councils decision:

Region of York, Works	Paul Andre Larose	Brian and Sharon
Region of Durham, Works	Don Wilkinson	Thompson
Jim McKay, Jacques	Noah Hannah	Bill and Lorna Turner
Whitford Stantec	Katherine Miles	Doug Woods
Ministry of Environment	Donna Mcaleer-Smith	Don Wright
Joachim Baur	Kristin Robinson	Lakeridge Health
Alexandra Bennett	Steve Tharme	Lorraine Huinink
Barry Bracken	David Climenhage	John Oates
Kathi Bracken	Steve Conway	Rev. Christopher Greaves
Wendy Bracken	Chester Miles	Leslie Heinrichs
Karen Buck	Bernadine Power	Diana Kanarellis
Terry Caswell	Hilary Balmer	Elaine and Vincent Ho
Katie Clark	Willis & Marilyn Barrabal	Ron Campbell
Shirley Crago	Stewart and July Dayes	Stephanie Adams
Kevin Diamond	Maureen Dingman	Betty Robinson
Wayne Ellis	Carl Zmozynski	Nicola Keeme
Linda Gasser	Gaston Morin	Mable M. Low
James Gibson	Ann and Mike Buckley	Rebecca Harrison
Glenda Gies	Fraser and Cathy Grant	Charlie and Irene Briden
Tenzin Gyaltsan	Jean and Wallace Mcknight	Nadia McLean-Gagnon
Ron Hosein	Stephanie Adams	Dorothy Barnett
Dr. Debra Jefferson	Julie Allen-Freeman	Marc Tepfenhart
Laurie Lafrance	John and Dale Cerniuk	Rosemary Davies
Lee McCue	Garland and Anne Foote	Wendy & Ron
Warren McCarthy	Slyvain Gagnon	Libby Racansky
Cathrine McKeever	Melissa Girard	Beav201
Kerry Meydam	Beth Hewis	Louis
John Mutton	Manuel Jimenez	Sandra Viau
Karen Nichol	Debbie Kuehn	Tim Finnis
Dave Renaud	John MacDonald	Hugh Allison
Jim Richards	Ralph Machon	Marke Nelson
Andrew Robson	Mary Anne and Gerry Martin	Jeremy Woodcock
Yvonne Spencer	Kristin McKinnon-Rutherford	Kevin LeGrand
Nicole Young	Lorna McSwan	Doug Anderson
Lucy Wunderlich	Bretn Mersey	Elaine Gillies
Ontario Power Generation	Donna Packman	
Anthony Topley	Devon Richard	

GLOSSARY OF TERMS

EA	Environmental Assessment
EBR	Environmental Bill of Rights
EFW	Energy From Waste
EPA	Environmental Protection Act
HHERA	Human Health and Ecological Risk Assessment
IC&I Waste	Industrial, Commercial, and Institutional waste
MOE	Ontario Ministry of the Environment
MSW	Municipal Solid Waste
RFP	Request for Proposals
RFQ	Request for Qualifications
C of A	Certificate of Approval

COMMENT AND DISPOSITION SHEET

DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT Municipality of Clarington Peer Review

Document Title: Draft Environmental Assessment (EA)

Rev. May
25, 2009

Note: These comments are draft and subject to further discussion with the Region's consultants before being finalized.

REVIEW DOCUMENT DESCRIPTION			Date of comments: 03/06/2009 Disposition: 26/06/2009 Peer Reviewer: 29/06/2009
Reviewer's Name & Organization	Steven Rowe, Environmental Planner		DISPOSITION BY AUTHOR AND REVIEWER
Comment Number	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	
		The comments and responses in this table arise from three peer reviews conducted on behalf of the Municipality of Clarington during the Residual Waste Study EA process. As part of these reviews, Steven Rowe Environmental Planner assessed Environmental Assessment (EA) documentation against EA planning requirements as set out in the EA Act, the approved Terms of Reference (TOR), and Codes of Practice. The first peer review comprised a review of the "Draft Report, Thermal Facility Site Selection Process, Results of Steps 1-5, Identification of the "Short List" of Alternative Sites" and related documents, prepared by MacViro Consultants Inc. (now Genivar) and Jacques Whitford Limited and dated March, 2007 (the "Site Selection Short List Draft Report"). Clarington's peer review consultants met with the proponent's team to discuss issues arising from this document in June 2007 and Steven Rowe completed an "Interim Report: Review and Gap Analysis of Site Selection Process, Durham/York Residual Waste Study" in July 2007 ("Interim Report"). Jacques Whitford responded to Mr. Rowe's comments in "Durham-York - Comments on Steven Rowe Peer Review of Siting Process to date" dated July 25, 2007 ("Response to Interim Report"). The second comprised a review of the "Results of Step 7, Evaluation of Short-List of Sites and Identification of Consultants Recommended Preferred Site", dated September 2007 (the "Step 7 Report"). Clarington's peer review team met with the proponent's team in October received written responses to their initial comments in October and November. These comments may be found in "Comments Received from Clarington Peer Reviewers in the Step 7 Preferred Site Report" on the Step 7 documents page of the proponent's website at http://www.durhamyorkwaste.ca/consultants_prefsite.php . In November 2007 Steven Rowe completed a "Review of the Step 7 Draft Report: Durham/York Residual Waste Study: Evaluation of Short-List of Sites and Identification of Consultants Recommended Preferred Site" (Step 7 Review)". The third peer review comprised review of an Interim Environmental Assessment released on April 21, 2009 the site-specific Social/Cultural Assessment Technical Report (May 16) and a Draft Environmental Assessment released on May 25, 2009. This review took place during May and June 2009. The intent of the following table is to focus on a number of themes that have arisen during the process, and how and when these were raised and responded to. These themes are identified and discussed in generally chronological fashion below. Some peer review issues that have been resolved or are of lesser significance are omitted. The original Interim Report, Step 7 Report and Jacques Whitford comments may be consulted for further details on the content of and responses to these peer reviews. This report is draft and subject to further discussion with the Region's consultants before being finalized.	

COMMENT AND DISPOSITION SHEET

DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT Municipality of Clarington Peer Review

Document Title: Draft Environmental Assessment (EA)

Rev. May
25, 2009

Note: These comments are draft and subject to further discussion with the Region's consultants before being finalized.

REVIEW DOCUMENT DESCRIPTION		
Reviewer's Name & Organization	Steven Rowe, Environmental Planner	Date of comments: 03/06/2009 Disposition: 26/06/2009 Peer Reviewer: 29/06/2009
Comment Number	Section Number	DISPOSITION BY AUTHOR AND REVIEWER
1	Screening of the Study Area and Identification of Unconstrained Areas for Facility Siting Clarington's Interim Report found that Site Selection Short List Draft Report did not provide sufficient information to support the identification of the unconstrained areas shown in Map 3-1 of the Report (Draft EA Figure 8-4). It stated that for this step of the process to be traceable, the proponent should have provided screening maps and a description of how each of the criteria was applied. Without this, it is not possible to assess whether the information used was accurate or was applied consistently. For example, there is insufficient information to demonstrate how land was screened from consideration around federally regulated airports. The screening criteria require exclusion of "areas around federally regulated airports as per Transport Canada Guidelines". The rationale for the criterion in Appendix 2, Table 2-2 of the Step 1-5 report (Table 8.2 of the Draft EA) relates to "land uses that are hazardous to aircraft operations (i.e. organic waste at waste processing sites that may either attract birds or adversely affect flight visibility)." There are at least three federally regulated airports in the study area - Pickering (proposed but already regulated), Oshawa, and Buttonville. All of these have different federal airport zoning by-laws that regulate such matters as the height of structures and the location of waste disposal facilities in their vicinity. While the height of structures is not specifically referenced in the criterion rationale, it was apparently considered based on consultation materials (e.g. the record of the PIC at the Clarington Beach Centre in Bowmanville on April 2, 2007). The areas that could potentially be excluded by this criterion are quite large, but the by-law requirements vary and are subject to interpretation in some areas. Near the Pickering airport areas were excluded from consideration when they would permit somewhat higher structures (up to 174m) than the stack height assumed for the risk assessment (64m). The Pickering Airport federal zoning regulation prohibits "land to be used for activities or uses attracting birds that create a hazard to aviation safety..." Different uses are permitted in three different zones around the airport. The proponent team's response to a Greater Toronto Airports Authority comment on this criterion (Consultation on the TOR, Table 3) suggests that impact related to birds and organic waste would be limited because all operations at the facility would be "within a closed environment". The relationship between the exclusion zone used for the screening and the mapping used by Transport Canada is unclear. Neither the Site Selection Short List Draft Report nor the Draft EA explain how these requirements were interpreted for each airport, nor what parts of the study area were excluded based on that specific criterion. In Tables 7-2, 7-5 and 7-6 to Appendix 7 of the Site Selection Short List Draft Report, the Oshawa airport is	The inclusion of the screening maps in the June 12 draft EA is appropriate and resolves the traceability issue to some degree as it relates to the screening of the study area. At the same time, the EA still does not explain how the different airport zoning regulations were applied in a consistent way that reflects the potential effect of a federal airport on the siting of the facility. Other inconsistencies remain in relation to the Oshawa airport, however these have no actual effect on the siting process. This should be addressed in the final submission.

COMMENT AND DISPOSITION SHEET

DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT Municipality of Clarington Peer Review

Document Title: Draft Environmental Assessment (EA) Note: These comments are draft and subject to further discussion with the Region's consultants before being finalized.	Rev. May 25, 2009
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REVIEW DOCUMENT DESCRIPTION			Date of comments: 03/06/2009 Disposition: 26/06/2009 Peer Reviewer: 29/06/2009
Reviewer's Name & Organization	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION		DISPOSITION BY AUTHOR AND REVIEWER
Steven Rowe, Environmental Planner			
Comment Number	Section Number		
		identified as unregulated, and it transpired that this airport had not been considered in the screening process. At the time the Interim Review concluded that, depending on the extent of the area to be excluded, exclusion of regulated lands around the Oshawa Airport could conceivably affect the short listed sites located in Clarington. Subsequent information provided by the Region indicates that consideration of an exclusion area around the Oshawa Airport would not affect the Clarington sites, however there is still no explanation of how the requirements were interpreted. The Interim Report concluded that if all regulated airports are considered under a consistent approach this may result in the exclusion of additional lands from the study area. It should be added that unconstrained lands could have been added as well. In the Durham-York Response to the Interim Report, Jacques Whitford responded: <i>"The consideration of the Oshawa Airport as a federally regulated airport is under consideration and will be addressed in the final report. At this time to imply that this oversight could impact the Clarington sites is premature and potentially misleading without an analysis to support this statement."</i> And in responding to the conclusion: <i>"As per the commitment in the comment above, the Report under review will be modified to include a more detailed description of how each of the criteria were applied. This update will largely be based on Background Document 2-3, Section 2.2 which accompanied the approved EA Terms of Reference and clearly outlines the application of Step 2 Screening Criteria, the constraints and the rationale for considering these constraints."</i> The Interim and Draft EA (Tables 8-7, 8-10, 8-11) still show the Oshawa Airport as unregulated when it is in fact federally regulated. An "unconstrained area" lying within the Oshawa airport exclusion area identified by the Regions in the Site Selection Short List Draft Report is still shown as unconstrained on Figure 8-4 of the Draft EA. The basis for the delineation of all the airport exclusion zones by the proponent is unclear. Additional descriptive material in the Draft EA (Section 8) does not resolve these concerns. In responding to more general concerns about the way the screening process was described in the Step 1-5 Report, the proponents stated: <i>"The 'Short-list' identification report provides a screening map in Appendix 3 with all data sources used in the generation of this map. Individual maps for each of the criteria were not included in the report as it was thought that the provision of numerous maps would be difficult to understand and potentially have a negative impact to landowners. It was our opinion that a map that clearly stated what was 'constrained' and what was</i>	

COMMENT AND DISPOSITION SHEET

DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT Municipality of Clarington Peer Review

Document Title: Draft Environmental Assessment (EA)

Rev. May
25, 2009

Note: These comments are draft and subject to further discussion with the Region's consultants before being finalized.

REVIEW DOCUMENT DESCRIPTION			Date of comments: 03/06/2009 Disposition: 26/06/2009 Peer Reviewer: 29/06/2009
Reviewer's Name & Organization	Steven Rowe, Environmental Planner		DISPOSITION BY AUTHOR AND REVIEWER
Comment Number	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	
		<i>"unconstrained" was a better method of presentation. Additional detail on how each of the criteria was applied can be provided in the final report."</i> The proponent provided screening maps to the Municipality of Clarington including an updated map that showed an exclusion area around the Oshawa airport, as noted above, but has not made them available publicly or included them in the Interim or Draft EA document, or in supporting documents. Some of the types of information utilized for the screening are provided in support of the identification of alternative methods, which are not geographically specific (natural heritage information on Figure 7-17, agriculture information on Figure 7-18, settlement areas and airport lands on Figure 7-19 of the Draft EA), but not for the site selection process, where similar information was used for screening and would have been more relevant. Further information provided in the Draft EA on the application of the screening criteria does not resolve this concern. The gaps identified in the EA description Steps 1-5 of the site selection process mean that it is still not considered to be "clear, logical and traceable", in accordance with accepted EA planning practice as confirmed by the November 2008 Code of Practice on Preparing and Reviewing Environmental Assessments in Ontario (p.22). The EA should include the screening maps used in site selection process and a more comprehensive description of how they were derived and used. In response to the comment on the appropriateness of Mr. Rowe's comments on whether an issue would potentially affect the Clarington sites, the role of the peer reviewer is not to conduct analyses on behalf of the proponent but to identify gaps and deficiencies that should be addressed. Disposition: A number of refinements have been incorporated into the Draft EA Study Document (June 12, 2009) in direct response to the items identified above. These refinements are as follows: • The extent of the area associated with the federal zoning regulation for each of the three regulated airports, including the Oshawa Airport, has been mapped and presented in the June 12, 2009 Draft EA Study document. • Mapping for each of the screening criteria has been included in the June 12, 2009 Draft EA Study document to clarify the effect of each criterion in the delineation of the unconstrained areas at "Step 2".	

COMMENT AND DISPOSITION SHEET

DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT Municipality of Clarington Peer Review

Document Title: Draft Environmental Assessment (EA)

Rev. May
25, 2009

Note: These comments are draft and subject to further discussion with the Region's consultants before being finalized.

REVIEW DOCUMENT DESCRIPTION			Date of comments: 03/06/2009 Disposition: 26/06/2009 Peer Reviewer: 29/06/2009
Reviewer's Name & Organization	Steven Rowe, Environmental Planner		DISPOSITION BY AUTHOR AND REVIEWER
Comment Number	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	
2		Identification of Public Lands in the Site Selection Process The Interim Report commented on Section 5.2 of the Site Selection Short List Draft Report, which indicates that public lands were identified both through discussion with the Durham and York Region Real Estate and Economic Development Departments, and through contact with public agency representatives, as part of the identification of "willing seller" sites. Section 5.3 indicates that the November 2006 "call for willing sellers" included distribution of the "call" to area municipal contacts. This process is reported in Sections 8.5.1 and 8.5.2 of the Draft EA. The February 2007 "Request for Expressions of Interest" was identified in newspapers (local newspapers within the study area, plus the Daily Commercial News) and distributed to companies, associations and local municipalities (Appendix 5(b) of the Site Selection Short List Draft Report). There is no indication in the Site Selection Short List Draft Report or the Class EA of distribution of materials to or direct contact with other public agencies such as federal and provincial ministries and land-related agencies. Public lands identified at this step of the process are not mapped. The Site Selection Short List Draft Report does not give sufficient information to confirm that all potential siting opportunities on public land were identified and considered. If opportunities for siting on publicly owned sites other than municipal sites was not directly canvassed, there is potential for suitable sites owned by public agencies other than municipalities to have been omitted from the process. In "Durham-York – Comments on Steven Rowe Peer Review of Siting Process to Date", July 25, 2007 Jacques Whitford responded: <i>"All lands identified in the site identification process are mapped and included in the report which was reviewed. The maps of these sites can be found in Appendix 6."</i> Mr. Rowe concluded as follows in the Interim Report: <i>"The information presented in the Site Selection Short List Draft Report does not describe a comprehensive approach to the identification of public lands. There may be public lands in the study area owned by agencies that were not directly approached as part of the process."</i> And Jacques Whitford responded: <i>"Disagree – this needs to be discussed further with Clarington."</i> Appendix 6 does not provide mapping of the identified public lands, and no additional information has been	The comment does not question the reasonableness of the number of alternatives at this stage. The traceability issue raised in this comment remains.

COMMENT AND DISPOSITION SHEET

DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT Municipality of Clarington Peer Review

Document Title: Draft Environmental Assessment (EA)

Rev. May
25, 2009

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REVIEW DOCUMENT DESCRIPTION			Date of comments: 03/06/2009 Disposition: 26/06/2009 Peer Reviewer: 29/06/2009
Reviewer's Name & Organization	Steven Rowe, Environmental Planner		DISPOSITION BY AUTHOR AND REVIEWER
Comment Number	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	
		provided on this aspect of the process in the Draft EA. The EA description of the consideration of public lands is still not considered to be "clear, logical and traceable", in accordance with accepted EA planning practice as confirmed by the November 2008 Code of Practice on Preparing and Reviewing Environmental Assessments in Ontario (p.22). <u>Disposition:</u> The "Potential Site Identification" process completed at "Step 4" yielded twelve (12) alternative sites for further consideration toward the identification of the Long-list of alternative sites. This represents a reasonable number of alternative sites for the purposes of the EA Study.	
3		Tradeoffs among Public Health and Safety and Natural Environment Considerations The Step 7 Review noted that the "Public Health and Safety and Natural Environmental Considerations" category has the highest rating in the evaluation. Because of the methodology adopted by the proponent, however, public health and safety and natural heritage "advantages and disadvantages" are traded off against each other in arriving at an overall rating under this category for each site. Clarington Site 1, for example, was assigned a "disadvantage" under "local meteorological conditions". This rating, however, was discounted against an "advantage" assigned in relation to emissions from haul traffic, resulting in a "neutral" level for "Potential Air Quality Impacts". This, when traded off against natural heritage ratings, resulted in an "advantage" overall for Clarington Site 1. The public may not have intended the potential air quality effects of the facility and the haulage effects on air quality to be discounted against each other and for air quality effects overall to be discounted by natural environment considerations when it assigned a high priority to this category as a whole.	The discussion of the "alternative methods" methodology in the TOR and Background Document 2-3 does not specifically describe the type of tradeoff referred to in this comment.

COMMENT AND DISPOSITION SHEET

DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT Municipality of Clarington Peer Review

Rev. May
25, 2009

Document Title: Draft Environmental Assessment (EA)

Note: These comments are draft and subject to further discussion with the Region's consultants before being finalized.

REVIEW DOCUMENT DESCRIPTION			Date of comments: 03/06/2009 Disposition: 26/06/2009 Peer Reviewer: 29/06/2009
Reviewer's Name & Organization	Steven Rowe, Environmental Planner	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	DISPOSITION BY AUTHOR AND REVIEWER
Comment Number	Section Number	Disposition: The application of advantages and disadvantages was presented to agencies and the public as part of the development of the EA Terms of Reference and again as part of "Step 1" of the siting process. This consultation included workshops and public information sessions, as well as posting the information for comment and review. The proponent believes that all parties were given sufficient information and time to comment on the proposed evaluation process. The comments articulated above were not raised at the time as is demonstrated in the Record of Consultation. If the reviewer has specific information to support the above statement with respect public opinion, we would be pleased to receive the information and discuss this further.	
4		Level of Detail and Interpretation of Data Used for the Short List Site Comparison In the Step 7 Review it was noted that the description of the net effects analysis on page 3-6 of the Preferred Site Report states that the net effects analysis was done based only on available data, and yet it is clear from the annex documents that the work included field work in a number of instances. In the peer review consultants' initial responses it was suggested that a more accurate description be provided. The Regions' consultants responded that there was only limited field reconnaissance and the field studies were not considered to be sophisticated. They should still have been included in the description, however. Annex "C" to the Step 7 Report, "Public Health and Natural Environment", reports that "Jacques Whitford field biologists conducted site assessments for each of the four Short-Listed sites on July 18th, 19th and 20th, 2007. Tasks performed included identification of potentially impacted species and environments; evaluation of aquatic habitats of each of the receiving water bodies; an inventory of aquatic habitats on site; calculation of the distance from the site or haul route to the areas designated as Natural Heritage Features and Areas; evaluation of the amount of woodlands, and hedgerows affected or removed at the site and the degree of impact on the edge of a woodlot or hedgerow; followed by a relative comparison of the four sites." In particular, in the Step 7 Report Clarington Sites 01 and 05 and East Gwillimbury Site 01 were assigned a "disadvantage" rating under the "Species of Special Concern" indicator in Table 4.1 of the Step 7 Report. The supporting technical study notes that no Species of Special Concern were noted during fieldwork, and that for one of the two species potentially located on Clarington Sites 01 and one species on Clarington Site 05 and a species identified for East Gwillimbury Site 01 it is "unlikely this species would occur" since there is no appropriate habitat on site. A second potential Species of Special Concern on Clarington Site 01 was not identified.	The TOR states that "the comparative evaluation criteria will be applied based on sufficiently detailed data and analysis". The impacts identified were at variance with the data and analysis developed at this stage of the evaluation. It is quite possible to be consistent while considering information at a level of detail that enables the short-listed sites to be evaluated based on their actual environmental effects.

COMMENT AND DISPOSITION SHEET

DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT Municipality of Clarington Peer Review

Document Title: Draft Environmental Assessment (EA)

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25, 2009

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Reviewer's Name & Organization	Steven Rowe, Environmental Planner		DISPOSITION BY AUTHOR AND REVIEWER
Comment Number	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	
		The Regions' consultant's response to this concern was that: <i>"There is evidence to suggest that these species are known to exist in the areas and therefore, may be potentially impacted by this development.....in a relative comparison of sites, a site without this potential is advantaged over another with no potential impact".</i> It appears that the "disadvantages" assigned for two and perhaps three sites under the Species of Special Concern indicator in Tables 4.1- 4.5 of the Step 7 Report and Table 8-40 of the Draft EA were based on historical data for the area as a whole, which was at variance with the study team's more detailed knowledge of actual site conditions. <u>Disposition:</u> For the purposes of the comparative evaluation of Short-listed sites, a conservative approach was employed based on recorded information sources regardless of the results of the site visits. The key consideration with respect to the EA Study is that this criterion was applied consistently among the Sites.	
5		Consideration of Hazard Land The Step 7 Review questioned the disadvantages posed by hazard lands if the facility can be accommodated on the rest of the site. The Regions' consultants responded that the presence of hazard land presents a relative disadvantage, and consideration includes the potential need for monitoring of impact to the area during construction and operation. It is still unclear, however, what the potential environmental effects would be, other than those already addressed by other criteria (e.g. water quality impacts, aquatic and terrestrial ecology). <u>Disposition:</u> A conservative approach was followed in the application of this criterion in that the presence of hazard lands in close proximity to a potential development area would pose additional issues for site development when compared to a site with no known hazard lands located in proximity to the potential development area. Again, the key consideration for the purposes of the EA Study is that this criterion was applied consistently among the Short-listed sites.	The response does not elucidate what the "additional issues" would be, so the issue remains.
6		Economic and Financial Considerations: Discounting the Value of Region-Owned Sites The Step 7 Review noted that acquisition costs for Clarington Site 01 and East Gwillimbury Site 01 are rated at	The interpretation of site

COMMENT AND DISPOSITION SHEET

DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT Municipality of Clarington Peer Review

Document Title: Draft Environmental Assessment (EA) Note: These comments are draft and subject to further discussion with the Region's consultants before being finalized.	Rev. May 25, 2009
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Reviewer's Name & Organization		REVIEW DOCUMENT DESCRIPTION					Date of comments: 03/06/2009 Disposition: 26/06/2009 Peer Reviewer: 29/06/2009																														
Steven Rowe, Environmental Planner		REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION					DISPOSITION BY AUTHOR AND REVIEWER																														
Comment Number	Section Number	zero because they are owned by Durham and York Regions, respectively. This is inappropriate because there would be an opportunity cost to the public purse of "losing" either of these sites – they still have value that should be reflected in the site comparison. The Regions' consultants responded to this concern and the concern about including the "unusable" portion of Clarington Site 05 in the cost comparison by undertaking a sensitivity analysis that considers the opportunity costs of using the two publicly owned sites and discounts the "unusable" Clarington Site 05 land (see item 7). They found that this analysis showed that with these factors considered the overall conclusions do not change. The findings from the capital cost analysis in the Preferred Site Report and in the sensitivity analysis are compared in the following table:					development cost applied by the proponent does not lead to a consistent comparison of the short-listed sites. The exclusion of the "unusable" land from Clarington Site 05 would have assisted in optimizing the alternatives for the purpose of the comparison.																														
		<table><tr><th></th><th>Clarington 01</th><th>Clarington 04</th><th>Clarington 05</th><th>E. Gwillimbury 01</th></tr><tr><td>Capital Costs: Preferred Site Report</td><td>Site specific capital costs range from \$7.6 to \$11.3 million Neutral</td><td>Site specific capital costs range from \$8.9 to \$16.7million Disadvantage</td><td>Site specific capital costs range from \$10.6 to \$15.5 million Disadvantage</td><td>Site specific capital costs range from \$3.8 to \$11.4 million Advantage</td></tr><tr><td>Overall rating, Preferred Site Report:</td><td>Neutral</td><td>Disadvantage</td><td>Disadvantage</td><td>Advantage</td></tr><tr><td>Capital Costs: Sensitivity Analysis</td><td>Site specific capital costs range from \$7.6 to \$13.1 million Neutral</td><td>Site specific capital costs range from \$8.9 to \$16.7million Disadvantage</td><td>Site specific capital costs range from \$8.9 to \$15.5 million Disadvantage</td><td>Site specific capital costs range from \$3.8 to \$13.1 million Advantage</td></tr><tr><td>Overall rating, Sensitivity Analysis</td><td>Neutral</td><td>Disadvantage</td><td>Disadvantage</td><td>Advantage</td></tr><tr><td>Comment</td><td>Lower end of range would be \$9.4m (second highest)</td><td>No change (privately owned)</td><td>Lower end of range is reduced ("unusable" land)</td><td>Lower end of range would be \$5.5m if land cost added</td></tr></table>						Clarington 01	Clarington 04	Clarington 05	E. Gwillimbury 01	Capital Costs: Preferred Site Report	Site specific capital costs range from \$7.6 to \$11.3 million Neutral	Site specific capital costs range from \$8.9 to \$16.7million Disadvantage	Site specific capital costs range from \$10.6 to \$15.5 million Disadvantage	Site specific capital costs range from \$3.8 to \$11.4 million Advantage	Overall rating, Preferred Site Report:	Neutral	Disadvantage	Disadvantage	Advantage	Capital Costs: Sensitivity Analysis	Site specific capital costs range from \$7.6 to \$13.1 million Neutral	Site specific capital costs range from \$8.9 to \$16.7million Disadvantage	Site specific capital costs range from \$8.9 to \$15.5 million Disadvantage	Site specific capital costs range from \$3.8 to \$13.1 million Advantage	Overall rating, Sensitivity Analysis	Neutral	Disadvantage	Disadvantage	Advantage	Comment	Lower end of range would be \$9.4m (second highest)	No change (privately owned)	Lower end of range is reduced ("unusable" land)	Lower end of range would be \$5.5m if land cost added	
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Overall rating, Sensitivity Analysis	Neutral	Disadvantage	Disadvantage	Advantage																																	
Comment	Lower end of range would be \$9.4m (second highest)	No change (privately owned)	Lower end of range is reduced ("unusable" land)	Lower end of range would be \$5.5m if land cost added																																	

COMMENT AND DISPOSITION SHEET

DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT Municipality of Clarington Peer Review

Document Title: Draft Environmental Assessment (EA) Note: These comments are draft and subject to further discussion with the Region's consultants before being finalized.	Rev. May 25, 2009
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Reviewer's Name & Organization		REVIEW DOCUMENT DESCRIPTION		Date of comments: 03/06/2009 Disposition: 26/06/2009 Peer Reviewer: 29/06/2009	
Comment Number	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION		DISPOSITION BY AUTHOR AND REVIEWER	
		if land cost added	discounted) but not the higher range (would be \$13.8m)		
		It is not clear why the sensitivity analysis applied changes at only one end of each of the cost ranges affected. If the changes were applied to costs at both ends of each range Clarington Site 01 would be seen as roughly equivalent to Sites 04 and 05 from a capital cost perspective. This would, in turn, affect a present value calculation of both capital and operating costs as discussed below. While this sensitivity analysis was included in Appendix 2 to the Consultation Report for the Preferred Site, it was not included in the draft EA. Disposition: The results of the sensitivity analysis regarding 'opportunity costs' associated with Clarington 01 and East Gwillimbury 01 and reflecting the "unusable" portion of Clarington 05 was included in response to Peer Review comments in the November 9, 2007 memo. It was not the intent to include the sensitivity analysis in the application of the Capital Costs criterion in the application of the Short-list evaluation criteria in the EA document as: • The indicator related to capital costs clearly identifies it as being related to 'specific site development costs'. The 'opportunity' cost associated with using a municipally owned property is not a specific site development cost but a theoretical value associated with the properties being available for some future municipal purpose. • Notwithstanding that a portion of Clarington 05 would not be available for use in developing the facility it would not preclude the need to purchase the entire property. Therefore, the cost for property acquisition included in the estimated capital costs for Clarington 05 appropriately included the price of acquiring the entire property.			
7		Economic and Financial Considerations: Trading Off Capital versus Operating Costs The Step 7 Report also commented that the evaluation treated operational cost and capital cost "advantages and "disadvantages" as equal when there is no basis for comparing them. It was suggested that these costs be "present valued" (i.e. converted to reflect total costs over the long term, rather than capital costs versus annual			Accepted by Reviewer ☒ Yes ☐ No No further comment

COMMENT AND DISPOSITION SHEET

DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT Municipality of Clarington Peer Review

Document Title: Draft Environmental Assessment (EA) Note: These comments are draft and subject to further discussion with the Region's consultants before being finalized.	Rev. May 25, 2009
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REVIEW DOCUMENT DESCRIPTION							
Reviewer's Name & Organization		Steven Rowe, Environmental Planner			Date of comments: 03/06/2009 Disposition: 26/06/2009 Peer Reviewer: 29/06/2009		
Comment Number	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION				DISPOSITION BY AUTHOR AND REVIEWER	
		costs). The Regions' consultants responded by producing a present value calculation that shows Clarington Site 01 as preferred under their "lower" and "higher" capital cost assumptions.					
		CL 01	CL 04	CL 05	EG 01		
		Lower Site Specific Capital Costs (\$ X1000)	\$23,308	\$21,610	\$20,455		\$22,750
		Savings +ve and costs -ve)					
		Higher Site Specific Capital Costs	\$19,774	\$14,163	\$15,760	\$15,471	
This calculation appears to depend on the effects of savings in long term haulage to a remote landfill site(s) over a 20-year term, which is the "no go" condition for this EA. Consideration of actual relative haul cost figures may have resulted in a different outcome. The figures appear to generally correspond to the overall findings in the Step 7 or the draft EA Report which indicate "advantage" for CL 01, "disadvantage" for CL 04, and "neutral" for CL 05 and EG 01, although they are within a relatively narrow range. While this sensitivity analysis was provided in Appendix 2 to the Consultation Report for the Preferred Site, it was not included in the draft EA.							

COMMENT AND DISPOSITION SHEET

DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT Municipality of Clarington Peer Review

Document Title: Draft Environmental Assessment (EA) Note: These comments are draft and subject to further discussion with the Region's consultants before being finalized.	Rev. May 25, 2009
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REVIEW DOCUMENT DESCRIPTION			Date of comments: 03/06/2009 Disposition: 26/06/2009 Peer Reviewer: 29/06/2009
Reviewer's Name & Organization	Steven Rowe, Environmental Planner		DISPOSITION BY AUTHOR AND REVIEWER
Comment Number	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	
		Disposition: The results of the sensitivity analysis regarding the 'present value' of capital and operating costs, was included in response to Peer Review comments in the November 9, 2007 memo. It was not the intent to include the sensitivity analysis in the application of the Operating Costs criterion in the application of the Short-list evaluation criteria in the EA document nor as part of the overall evaluation of advantages and disadvantages as: - The method used to apply each of the criterion in the evaluation of sites, involved a consistent approach in which the rankings for each criterion would be determined, and then the overall rankings for each of the five categories of criteria would be established based on the advantages and disadvantages for the sites. Application of a 'present value' approach for economic criteria would have been inconsistent with the approach applied in the rest of the short-list evaluation process. Note however, that the results, in regards to the ranking of Clarington 01 under a 'present value' approach would have been consistent with the outcome of the approach used in the EA. - In addition, the Operating Costs criterion, included consideration of the distance from potential markets for the sale of marketable materials (i.e. heat, electricity, recovered materials) that could not be quantified and reflected in the 'present value' calculation, rendering the use of the 'present value' approach as unreasonable as it would not reflect all key indicators.	
8		Complexity of Required Approvals and Agreements The Interim Report (Appendix 2, Table 2-2) noted that one of the criteria for the evaluation of the short list sites would be "complexity of required agreements" which, according to the "indicators" in the (at that time) recently released criteria, would mean that the order of preference for sites would be a Region- owned site, willing seller sites, and expropriated sites. This is not strictly an environmental consideration, but would favour Region-owned over privately owned sites. In "Durham-York – Comments on Steven Rowe Peer Review of Siting Process to Date", July 25, 2007 Jacques Whitford responded: <i>"The complexity of required agreements includes a number of different factors including addressing the potential complexities of site acquisition either through a "willing-seller" or expropriation scenario. For the purposes of a relative comparison, a Regionally owned property presents less potential issues than a site where a property purchase must be negotiated or where expropriation is required."</i> It is questionable whether complexity of required agreements (and approvals, a second indicator) is a valid	Accepted by Reviewer ☒ Yes ☐ No Agreed that these were provided as "Preliminary Evaluation Criteria" in Appendix F of the TOR.

COMMENT AND DISPOSITION SHEET

DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT Municipality of Clarington Peer Review

Document Title: Draft Environmental Assessment (EA) Note: These comments are draft and subject to further discussion with the Region's consultants before being finalized.	Rev. May 25, 2009
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REVIEW DOCUMENT DESCRIPTION			Date of comments: 03/06/2009 Disposition: 26/06/2009 Peer Reviewer: 29/06/2009
Reviewer's Name & Organization	Reviewer's Comments/AUTHOR'S DISPOSITION	DISPOSITION BY AUTHOR AND REVIEWER	
Steven Rowe, Environmental Planner	environmental consideration under the EA Act unless it is expressed though something that falls within the definition of the environment, such as cost or increased risk of environmental effects. The proponents went on to apply these criteria in the evaluation of the short-listed sites, as reported in Section 8.8.9.5 of the Draft EA.		
	Disposition: This criterion was included in the Approved Terms of Reference and was applied in compliance with that document.		
9	Consideration of Mitigation and Net Effects The EA Act requires proponents to consider potential mitigation and enhancement for the alternatives and the proposed undertaking. The TOR states that for the short list comparison, "Each of the potential effects identified at Step 4 will be considered with respect to the availability of measures to mitigate (i.e., measures that may be applied to reduce or eliminate a negative potential effect) or enhance (measures that may be applied to improve or increase the magnitude of a benefit or positive effect) the effects, and identify the remaining or 'net effects'." The Step 7 Review noted that the description of the process on page 3-6 (Section 8.8.5, page 8-66 of the Draft EA) describes the application of mitigation measures to determine net effects, however Table 4.1 (8-17 in the Draft EA) suggests that no site specific mitigation was considered. Supplementary text – in addition to that found in the Step 7 Report - was added in Section 8.8.5 of the Draft EA to provide further information on the application of mitigation measures, as follows: <i>"The intent of considering mitigation and enhancement measures was to ensure that alternatives were compared on the basis of best practices and best available technology. Given the nature of this comparative exercise and the background associated with the identification of alternative sites, all of the sites that were considered and accordingly, all of the identified effects, were assumed to innately include all reasonably available mitigative measures.</i> <i>In particular, the screening of alternative waste management approaches for environmental suitability during development of the Approved EA Terms of Reference established that any of the alternatives that were considered in the study must be able to meet or exceed all regulatory requirements and therefore be approvable under Ontario's stringent environmental legislation and standards.</i> <i>Similarly, sufficient operational data was available for existing state-of-the-art facilities and from that information</i>	We differ on the appropriate level of detail for the short-list site comparison.	

COMMENT AND DISPOSITION SHEET

DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT Municipality of Clarington Peer Review

Document Title: Draft Environmental Assessment (EA)

Rev. May
25, 2009

Note: These comments are draft and subject to further discussion with the Region's consultants before being finalized.

REVIEW DOCUMENT DESCRIPTION			Date of comments: 03/06/2009 Disposition: 26/06/2009 Peer Reviewer: 29/06/2009
Reviewer's Name & Organization	Steven Rowe, Environmental Planner		DISPOSITION BY AUTHOR AND REVIEWER
Comment Number	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	
		this study was able to incorporate observed net or post-mitigation effects directly into the comparison; and, In considering the potential siting impacts of system facilities, appropriate buffer zones and land use preferences were incorporated into the comparative process. Because the process of applying the evaluation criteria and identifying potential effects inherently incorporated mitigation (best practices and best available technology), the presentation of net effects in this comparative process did not warrant and did not include an effect-by-effect consideration of available mitigation. Application of best practices and setbacks does not necessarily eliminate the requirement to consider mitigation at a site-specific level in an EA comparison. Also, it is mandatory to meet regulatory requirements and this also does not exempt a proponent from considering mitigation and enhancement measures. As an example of the type of mitigation that could have been considered in the comparison, Appendix E to Annex H (Technical Memorandum on Site Size) of the Step 7 Report shows that the privately owned Clarington Site 05 included "unusable" land, separated from the rest of the site by a watercourse. This land could have been omitted from the proposed site size to reduce its cost. Also, natural areas associated with the watercourse are considered to present a "disadvantage" for this site (see description on page 8-94 of the Draft EA) when it is clear from the proponents' site plans in the Technical Memorandum that these natural areas can be avoided with substantial (100m+) setbacks when siting the facility. Interestingly, this riparian area is shown as a "Designated Natural Heritage Feature" in the screening maps originally used to identify the short-listed sites and provided to Clarington, but this did not result in the splitting or elimination of this "willing seller" site. If the site had been split, this natural area would not have been evaluated as an on-site feature. Consideration of mitigation measures such as these would have resulted in a comparison that would reflect an optimal facility configuration within the site and be more reflective of actual conditions, at a more appropriate level of detail for this final comparison of alternative sites for a major public utility. Disposition: The level of detail employed in the consideration of mitigation measures in the EA Study is appropriate for the level of detail required for this planning process. Consistency of application is key and this was also undertaken in a way that would comply with the EA Act.	

COMMENT AND DISPOSITION SHEET

DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT Municipality of Clarington Peer Review

Document Title: Draft Environmental Assessment (EA) Note: These comments are draft and subject to further discussion with the Region's consultants before being finalized.	Rev. May 25, 2009
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REVIEW DOCUMENT DESCRIPTION			Date of comments: 03/06/2009 Disposition: 26/06/2009 Peer Reviewer: 29/06/2009
Reviewer's Name & Organization		Steven Rowe, Environmental Planner	DISPOSITION BY AUTHOR AND REVIEWER
Comment Number	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	
10		Interpretation of Advantages and Disadvantages In the Step 7 Report (Table 3.2) and the Draft EA (Table 8-15) - "Advantages and disadvantages" are defined differently to the definitions in the annex documents, suggesting that the technical consultants had a different understanding of this term than those who prepared the main report. The explanations are also unclear. The Regions' consultants replied that "the intent of a relative site comparison is achieved by both". The descriptions of advantages and disadvantages appear to be at variance with the meaning of these terms in the EA Act. The MOE "Code of Practice for Preparing and Reviewing Environmental Assessments in Ontario" (November 2008) which was finalized during the EA process but is referred to elsewhere the Draft EA reflects the EA Act requirement to identify advantages and disadvantages of the alternatives and the undertaking to the <u>environment</u>. An advantage cannot be a negative effect on the environment or simply an advantage to the proponent's mandate, or for one alternative over another. For example, the definitions state that alternatives with a "major advantage" or an "advantage" under a criterion can have "minimal" or "manageable" effects, respectively. The descriptions suggest that if an alternative does not require mitigation, it is preferable to one that does (i.e. where an impact is "manageable"), even though the net environmental effect is the same. In fact alternatives with the same net effect should be assessed equally – if the mitigation itself has an environmental effect (including cost) this can be taken into consideration in the comparison under the appropriate criteria. The description of the process does not make a clear distinction between environmental effects and advantages and disadvantages, whereas these are two different concepts in the EA Act. The Regions' consultants have responded that their approach did involve identifying and rating environmental effects first, followed by application of tradeoffs and interpretation of effects in terms of advantages/disadvantages. This is not clear from the report or the Draft EA, however. There is no demonstration that the "advantages" and "disadvantages" identified represent equivalent or comparable increments or magnitudes of effect. As indicated above, in the Step 7 process an "advantage" is not necessarily a positive effect but can represent a neutral effect or a lower level in a range of negative environmental effects. In the actual evaluation results are traded off against each other as if they are positive and negative effects, which they are not. In some instances a "neutral" and an "advantage" are combined to result in an "advantage", which further distorts the comparison. In addition, the evaluation uses a prioritization of criteria categories derived from public consultation as well as "professional judgement" in comparing the siting alternatives, however the application of these priorities is not	We differ on the "advantages and disadvantages" approach applied by the proponent to evaluate the short-listed sites.

COMMENT AND DISPOSITION SHEET

DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT Municipality of Clarington Peer Review

Document Title: Draft Environmental Assessment (EA) Note: These comments are draft and subject to further discussion with the Region's consultants before being finalized.	Rev. May 25, 2009
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REVIEW DOCUMENT DESCRIPTION			Date of comments: 03/06/2009 Disposition: 26/06/2009 Peer Reviewer: 29/06/2009
Reviewer's Name & Organization	Steven Rowe, Environmental Planner		DISPOSITION BY AUTHOR AND REVIEWER
Comment Number	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	
		explained. The Regional consultants' response to these concerns was to state that a more comprehensive description of the process will be provided in a draft EA document to be submitted to the Ministry of the Environment, however the Draft EA Report does not resolve the above issues. Further information is provided as indicated under item 7, however the comparison of the Short-Listed Sites is still not considered to be "rational, traceable and replicable" - a requirement that is acknowledged in Section 8.8.1 of the Draft EA, nor is the selection of the site considered to have followed "complete analysis and evaluation against all reasonable alternatives" as stated in Section 10. At the same time, the physical location of the site results in a relatively low level of impact on the natural, social and cultural environments, while the Draft EA acknowledges in Section 8.9 that the site has a "potential disadvantage with respect to the site's close proximity to Highway 401 and the vehicular emissions related to this transportation route". <u>Disposition:</u> The consideration of potential effects, reasonable mitigation measures, resulting net effects and the relative advantages and disadvantages among the Short-listed Sites was undertaken further to the Approved EA Terms of Reference and in compliance with the EA Act. Application of the EA Act to "Request for Proposals" Processes The Interim Report suggested that the proponent provide information to describe how the principles and requirements of the EA Act are to be applied in the comparison and selection of vendors and technologies. Jacques Whitford responded: <i>"The identification of the preferred technology, can be found in the report entitled 'Evaluation of Alternatives to' and Identification of the Preferred Residuals Processing System, May 30, 2006" which was approved by both Regional Councils in June 2006. The competitive process which is to be used to identify the preferred technology vendor will be documented and submitted along with all other approvals documentation at the time of the formal EA submission."</i> The report referred to identified a range of potential technologies that would be further refined through the vendor selection process. The issue of how the selection of an undertaking can conform to the EA process when	
11		This is an issue that would benefit from further guidance from MOE regarding the role of bidding processes within environmental assessment processes.	

COMMENT AND DISPOSITION SHEET

DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT Municipality of Clarington Peer Review

Document Title: Draft Environmental Assessment (EA)

Rev. May
25, 2009

Note: These comments are draft and subject to further discussion with the Region's consultants before being finalized.

REVIEW DOCUMENT DESCRIPTION			Date of comments: 03/06/2009 Disposition: 26/06/2009 Peer Reviewer: 29/06/2009
Reviewer's Name & Organization	Steven Rowe, Environmental Planner		DISPOSITION BY AUTHOR AND REVIEWER
Comment Number	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	
		the vendor selection part of the process is, to a large extent, confidential is a valid one that should have been discussed further at this stage of the process. Section 9 of the Draft EA comprises new material describing the competitive bidding process that resulted in the selection of Covanta as the preferred vendor for the design, construction and operation of a thermal waste treatment facility. The process of selecting from among the four competing bids involved an initial screening based on "Mandatory Criteria". This did not involve environmental considerations. The bids were then subjected to a scoring system based on "rated criteria". Out of a total of 100 possible points, 45 could be awarded based on "technical criteria". 25 of these points can be awarded based on "environmental" criteria, i.e. meeting or exceeding environmental standards, Maximum Achievable Control Technology (MACT), and continuous dioxin sampling. Reference is made to the existing A7 Guideline for air quality in relation to incinerators, but not to the proposed revised version of the Guideline. The proponent calls the vendor identification process part of the consideration of alternative methods, and indeed it is a subset of the EA process. At the same time it is not a public part of the process, and while other parts of the EA process are required to consider the full scope of the EA definition of the environment, the vendor identification process does not do so. The specific point scores based on the rated criteria are not made public, however the description of the Covanta submission provides some comparative information on the way it was rated. It is said to have received the highest score in each of the three categories of rated criteria including the "technical" category, but only selective information on ratings against other criteria is provided. The report does not claim that the bid had the highest score against any of the environmental criteria. While the preceding steps of the process to select "alternatives to" and "alternative methods" provided some protection from selection of inappropriate technologies or sites, it is unclear whether Covanta would have been preferred if the bids had been selected and subjected to a comparison based on the requirements of the EA Act. Disposition: The completion of the comparative evaluation of competitive bids from vendors together with the evaluations of "Alternatives to" and "Alternative methods" (read, siting alternatives) has provided a reasonable assessment of environmental effects for the purposes of the planning process completed in accordance with the EA Act.	

COMMENT AND DISPOSITION SHEET

DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT Municipality of Clarington Peer Review

Document Title: Draft Environmental Assessment (EA) Note: These comments are draft and subject to further discussion with the Region's consultants before being finalized.	Rev. May 25, 2009
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REVIEW DOCUMENT DESCRIPTION			Date of comments: 03/06/2009 Disposition: 26/06/2009 Peer Reviewer: 29/06/2009
Reviewer's Name & Organization	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION		DISPOSITION BY AUTHOR AND REVIEWER
Steven Rowe, Environmental Planner			Accepted by Reviewer ☒ Yes ☐ No The June 12 Draft EA includes stronger language in describing mitigation commitments. The changes and the proponent's response are accepted.
12	Section Number	Level of Commitment to Mitigation Measures Section 11 of the Draft EA, "Assessment of the Undertaking", includes a review of the effects of the undertaking drawn from technical studies, some of which relate to subjects such as visual and acoustic effects that were not considered explicitly as criteria in the site selection process. The discussion includes a number of statements regarding mitigation, but frames them in terms of "could", "can" and "possible", rather than firm commitments. While some of these measures would likely be implemented under the Environmental Protection Act rather than the EA Act, this distinction is neither made nor explained (although "other approvals" are dealt with elsewhere in the report). The same type of terminology is used in Table 13-1 Summary of Environmental Mitigation and Commitments to Future Work. This approach is inconsistent with the definition of "commitment" in the Glossary of the Draft EA, i.e.: <i>"Represents a guarantee from a proponent about a certain course of action, that is, 'I will do this, at this time, in this way.' Proponents acknowledge these guarantees by documenting obligations and responsibilities, which they agree to follow, in environmental assessment documentation (terms of reference and environmental assessment). Once the Minister and Cabinet approve an application, the commitments within the document are often made legally binding as a condition of approval."</i> The approach actually taken appears to be to raise possible mitigation measures and to leave it to the MOE to decide which of these to incorporate into conditions, and under which legislation. A much stronger level of commitment would have been preferred and would reflect better on the overall intent of the proponent. The description of the proposed haul route, here and elsewhere in the report, will need to be changed to correspond with the route now settled between Clarington and the proponents in the Host Community Agreement, and any resulting changes to environmental effects would have to be described.	

COMMENT AND DISPOSITION SHEET

DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT Municipality of Clarington Peer Review

Document Title: Draft Environmental Assessment (EA)

Rev. May
25, 2009

Note: These comments are draft and subject to further discussion with the Region's consultants before being finalized.

REVIEW DOCUMENT DESCRIPTION			Date of comments: 03/06/2009 Disposition: 26/06/2009 Peer Reviewer: 29/06/2009
Reviewer's Name & Organization	Steven Rowe, Environmental Planner		DISPOSITION BY AUTHOR AND REVIEWER
Comment Number	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	
		<u>Disposition:</u> The language with respect to commitments is being reviewed and where applicable, language may be revised, as required, to make commitments more "firm". These types of commitments will be further considered as part of the EPA process. Regarding the haul route, at the time these comments were received by the proponent, both parties to the Host Community Agreement had not ratified the terms, only Clarington Council has resolved to accept the conditions. Therefore, at this time, no modifications to the EA Study documentation can be completed. However, should both Councils ratify this agreement updates to any studies as a result of the content of the Host Community Agreement will be completed.	
13		Changes to the EA The proponent volunteered to continue to conduct its process as an individual EA when it had the opportunity to switch to a new and less onerous process under a Waste Management Projects Regulation under the EA Act, number 101/07. Section 12 of the Draft EA would require "major" changes to the EA - including changes in waste management capacity or service area - to be reviewed in accordance with the required process for facility changes prescribed by Regulation 101/07. While we have no objection to this approach, we believe that certain aspects of the Draft Class EA require further clarification to enable a full understanding of when and how the Regulation 101/07 process would be implemented. Since the triggers for the Reg 101/07 Environmental Screening Process comprise increases in the daily capacity and service area of the facility, we believe that this information should be clearly set out in the definition of the undertaking in Section 10 of the Draft EA. The undertaking would be a facility with a maximum capacity of 140,000 tonnes per year, as described in Section 10. It would be capable of being expanded to 400,000 tonnes, but any further expansion beyond 140,000 tonnes would be subject to the Environmental Screening Process. Similarly, the description of the undertaking in the final EA should specify that the service area would be limited to the Region of Durham and Region of York. The final EA should not defer clear commitments regarding the capacity and service area of the facility, to a future Certificate of Approval. Section 12.5 of the Draft EA refers to supporting documents that would not require updating if an expansion to 400,000 tonnes per year is to be expanded within the next five years. First, these documents and the applicable section should be clearly specified. Second, it should be clear, that these documents would be still be subject to	Accepted by Reviewer ☒ Yes ☐ No The response is accepted, except that, without information on the proposed extent of the service area within the EA, it is difficult to determine how the "service area" trigger would be applied. A service area map defining where waste is coming from should be provided.

COMMENT AND DISPOSITION SHEET

DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT Municipality of Clarington Peer Review

Document Title: Draft Environmental Assessment (EA) Note: These comments are draft and subject to further discussion with the Region's consultants before being finalized.	Rev. May 25, 2009
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REVIEW DOCUMENT DESCRIPTION			Date of comments: 03/06/2009 Disposition: 26/06/2009 Peer Reviewer: 29/06/2009
Reviewer's Name & Organization	Steven Rowe, Environmental Planner		DISPOSITION BY AUTHOR AND REVIEWER
Comment Number	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	
		review and possible amendment based on circumstances at the time of the screening process, and that there is no suggestion that the approval requested in this EA would include implied approval of these documents as they relate to an expansion. <u>Disposition:</u> Section 10 of the EA Study document has been revised to better describe the applicability of Ontario Regulation 101/07. Sections 10 and 11 have also been revised to include a discussion of the Facility at a projected maximum design capacity of 400,000 tpy as well as the potential effects of a facility operating at this design capacity. The "triggers" for Ontario Regulation 101/07 related to the Facility would be an increase in throughput or increase in service area that would require an Amendment to a future CofA for the Facility. Discussions with respect to the content of the CofA (waste) including permitted service area and throughput have not yet been initiated. For the purposes of defining this Undertaking, the Facility will have a maximum throughput capacity of 400,000 tpy and a service area of Durham Region, York Region and neighbouring non-GTA municipalities. Section 12.5 of the EA Study document has been revised to specifically identify the studies not requiring updating.	
14		Sensitivity Analysis In Section 8.8.7 of the Draft EA the Proponent states that: <i>"In order to undertake the comparative Short-list evaluation process without having specifically identified the preferred technology vendor, a number of assumptions were made with respect to the ultimate facility arrangement. The accuracy of these assumptions is confirmed in later sections of the EA Study document once a preferred vendor was identified, through the completion of a sensitivity analysis which compares the assumption to actual conditions/arrangements, whether it be a particular impact, etc."</i> Although later sections of the report discuss assumptions utilized in relation to the process and the proposed undertaking, there is no "sensitivity analysis" as such. It is possible that this will be included in the final version of the EA, however there was no opportunity to review it in the draft EA document.	This Section does not appear in the June 12 Draft EA, and so it cannot be commented on at this time.

COMMENT AND DISPOSITION SHEET

DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT Municipality of Clarington Peer Review

Document Title: Draft Environmental Assessment (EA)

Rev. May
25, 2009

Note: These comments are draft and subject to further discussion with the Region's consultants before being finalized.

REVIEW DOCUMENT DESCRIPTION		
Reviewer's Name & Organization	Steven Rowe, Environmental Planner	
Comment Number	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION
15		<u>Disposition:</u> The "Sensitivity Analysis" has been added to Section 9.3 of the Draft EA Study document titled "Confirmation of Assumptions Utilized in Siting Evaluation". <u>Consultation Summary</u> Section 16, "Consultation" of the Draft EA indicates that the consultation summary will be provided in the final EA. Much of the material that will be contained in this document has already been reviewed during the EA process, however we will not have had an opportunity to review the final document at the same time as the Draft EA. <u>Disposition:</u> No response required.
		Date of comments: 03/06/2009 Disposition: 26/06/2009 Peer Reviewer: 29/06/2009 DISPOSITION BY AUTHOR AND REVIEWER
		Accepted by Reviewer ☒ Yes ☐ No Section 16 is included in the June 12 Draft EA. Traceability should be noted as a key issue.

COMMENT AND DISPOSITION SHEET

DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT Municipality of Clarington Peer Review

Document Title: Draft Environmental Assessment (EA) Study Document – Draft for Review

Rev. May
25, 2009

Note: These comments are draft and subject to further discussion with the Region's consultants before being finalized.

REVIEW DOCUMENT DESCRIPTION			Date of comments: 03 June, 2009
Reviewer's Name & Organization	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	DISPOSITION BY REVIEWER
1	7.6.1.2	Rationale for qualitative comparison of system advantages and disadvantages is sound; however the methodology may be limiting in terms of a lack of weighting for various criterion and indicators. There is some concern that in specific instances, ratings will not reflect the true impact of a criterion and thereby offer skewed representations in the final analysis. <u>Disposition:</u> The comparative evaluation was completed in compliance with the Approved EA Terms of Reference (as refined) and is, in the proponent's considered opinion, compliant with the EA Act.	Accepted by Reviewer ☐ Yes ☒ No
2	8.6.3	As above, the weighting of factors in tables 8-7 to 8-12 might have provided more discernable outcomes. Table 8-13—Comparison of Long-list Sites Relative Advantages and Disadvantages (section 8.6.4) gives the reader little information to assess any tangible differences between long-list sites. Supplemental discussion on interpretation of table 8-13 may be appropriate. <u>Disposition:</u> A weighted, more quantitative, approach was not contemplated in the Approved EA Terms of Reference and was, therefore, not followed in the completion of the EA Study.	Accepted by Reviewer ☒ Yes ☐ No
3	8.8.5 (final paragraph)	While it is understood that an effect-by-effect consideration of available mitigation would be daunting and possibly inappropriate within the scope of the EA, some formalized consideration of mitigation within the comparative process should be made available. The paragraph in question creates a sense that mitigation has not been given due consideration in the evaluation process. A specific example from an earlier review of the Report on Potential Traffic Impacts (Annex F) lies in the comparison of traffic impacts between the Clarington 01 site and the East Gwillimbury Site, where signalization was considered as a mitigating factor for Clarington 01 and where signalization was not considered for East Gwillimbury as a mitigating factor. This may have led to differences between the two sites in the final evaluation Without more formal documentation of mitigating factors, there is no way to trace how mitigating factors have been considered within the process of applying the evaluation criteria.	Accepted by Reviewer ☐ Yes ☒ No

COMMENT AND DISPOSITION SHEET

DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT Municipality of Clarington Peer Review

Document Title: Draft Environmental Assessment (EA) Study Document – Draft for Review

Rev. May
25, 2009

Note: These comments are draft and subject to further discussion with the Region's consultants before being finalized.

REVIEW DOCUMENT DESCRIPTION			Date of comments: 03 June, 2009
Reviewer's Name & Organization	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION		DISPOSITION BY REVIEWER
Comment Number	Section Number		
4	8.8.7	Disposition: Tables 8-40 to 8-44 inclusive present net effects for the purpose of identifying a "preferred" alternative Short-listed site. The consideration of potential effects and mitigation measures, as required, is documented in the sections of the EA Study document that precede the referenced tables (i.e., Section 8.8.9). We were unable to find the sensitivity analysis referred to in this section. Further, assumptions utilized in the short-list evaluation process are potentially an important component of the EA and should deserve more discussion. As an example, our initial review of the Report on Capital Costs, Operation and Maintenance Costs (Annex G) identified one potential flaw in the evaluation process of the short-list sites that was based on the lack of an identified preferred technology vendor, and therefore an unidentified preferred technology. There was a severe cost disadvantage for the East Gwillimbury site (in the order of \$7.5 million) based on the potential preferred technology's need for sanitary sewer facilities. Choosing a technology that does not require sanitary sewer facilities may have created a more positive evaluation for the East Gwillimbury site. While assumptions utilized in the short-list evaluation process are considered to be 'conservative' as stated in this section, the impact of these assumptions may not be. Regardless, further consideration of this section is warranted. Disposition: The aspects of the "sensitivity analysis" are dealt with the Section 9 of the Draft EA Study document. The key consideration in the completion of any EA planning process is to ensure that criteria are applied consistently. This was, in the proponent's considered opinion, completed so as to be acceptable and approvable.	Accepted by Reviewer ☒ Yes ☐ No

COMMENT AND DISPOSITION SHEET

DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT Municipality of Clarington Peer Review

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25, 2009

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REVIEW DOCUMENT DESCRIPTION			Date of comments: 03 June, 2009
Reviewer's Name & Organization	Reviewer's Comments/AUTHOR'S DISPOSITION	DISPOSITION BY REVIEWER	AUTHOR AND
Comment Number 5	Section Number 8.8.9.1 (p.8-80) Under the heading <i>Distance Travelled from Main Source(s) of Waste Generation to Site</i>, it is stated that "each scenario was therefore defined in terms of a number of components, where each component is specified in terms of: the source and destination of the waste; the type of truck employed, and; the annual quantity of waste hauled in ton." Later (pp.8-80-8-81) summaries of round-trip distances for each site do not differentiate the type of truck employed. This information might be helpful within the summaries. Also, some mention of the criteria used to establish distance travelled for these sites (in terms of a statement of consistency that has been applied so that each site can be evaluated on an equal footing) would be helpful in supporting the conclusions drawn in the Conclusion/Summary paragraph on p. 8-81. Disposition: Section 8.8.9.1 of the Draft EA Study document states that "Residual waste will be transported to the Thermal Treatment Facility in packer trucks (directly hauled from the curbside) and in transfer trailer trucks (transfer hauled from transfer stations and/or Regional drop-off depots)." The Report on Capital Costs, Operation and Maintenance Costs Potential Traffic Impacts in the draft report entitled Results of Step 7: Evaluation of Short-List of Sites and Identification of Consultants Recommended Preferred Site included how the distance travelled to these sites was determined.	Accepted by Reviewer ☒ Yes ☐ No Additional detail would assist with traceability	
6	8.8.9.2 (pp. 8-106-107) The effect of the proposed Highway 407 interchange on Clarington Site 05 is stated to have a major disadvantage in terms of the loss of land area. There are potential positive effects to be considered in terms of the Highway 407's use as a haul route, which could also benefit Clarington Site 01. Disposition: The evaluation of the alternative Short-listed Sites was undertaken in compliance with the Approved EA Terms of Reference and the EA Act.	Accepted by Reviewer ☒ Yes ☐ No	
7	8.8.9.2 (p8-119) It is unclear if the road upgrades referred to in the Summary of Road Improvement Costs takes into account the fact that the Secondary Plan for the Courtice Energy Business Park requires that all roads be constructed to an urban standard.	Accepted by Reviewer	

COMMENT AND DISPOSITION SHEET

DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT Municipality of Clarington Peer Review

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Rev. May
25, 2009

Note: These comments are draft and subject to further discussion with the Region's consultants before being finalized.

REVIEW DOCUMENT DESCRIPTION			Date of comments: 03 June, 2009
Reviewer's Organization	Name & Organization	Reviewer's COMMENTS/AUTHOR'S DISPOSITION	DISPOSITION BY REVIEWER AND AUTHOR AND
Comment Number	Section Number		☒ Yes ☐ No
8	8.8.9.2 (p8-120)	Disposition: As discussed in the Traffic Assessment Technical Report, road reconstruction/pavement improvements along the haul route may be required. Pavement testing along the haul route will be completed by the Region of Durham if the Project is approved to confirm if road reconstruction/pavement improvements are required. The details with respect to how the road may be improved and to what standard are outside the scope of the EA Study. For the East Gwillimbury site, the EA states that there is a site disadvantage regarding two critical movements at minor intersections and that there are no road improvements planned or required at this site. There is some potential here for mitigation of these critical movements to positively affect this site, and while this will not create a significant overall advantage for the site, some further evaluation and discussion may be warranted. Disposition: Analysis at this level of detail, particularly in light of the fact that it would not affect the results of this part of the EA Study, would not be warranted.	Accepted by Reviewer ☒ Yes ☐ No
9	11.0 (p. 11-3)	There is no location reference for the Record of Consultation, as discussed in the final paragraph. Should refer to Section 16. Disposition: A location reference will be added as per the above comment. Location reference required for "EA components and list of studies."	Accepted by Reviewer ☒ Yes ☐ No
10	7.0 (final para.)	Disposition: A location reference will be added as per the above comment.	Accepted by Reviewer ☒ Yes ☐ No

COMMENT AND DISPOSITION SHEET

DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT Municipality of Clarington Peer Review

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Rev. May
25, 2009

Note: These comments are draft and subject to further discussion with the Region's consultants before being finalized.

REVIEW DOCUMENT DESCRIPTION			Date of comments: 03 June, 2009
Reviewer's Organization	Name & Organization	Will McCrae, AECOM	
Comment Number	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	DISPOSITION BY REVIEWER AND AUTHOR
11	13.0 Table 13.1 (pp 13-8)	A commitment is made to "Road/pavement improvements to the South Service Road and Osborne Road to accommodate construction vehicles" as a mitigating measure to compensate for anticipated construction traffic on these roads. A preferable alternate mitigation lies in the construction of a site access for truck traffic from Courtice Road, running parallel to the stormwater ditch north of the CN Rail corridor. This measure would allow for more direct site access from Highway 401, the accommodation of future operational traffic for the EFW without engaging the CEBP's newly urbanized road network, the elimination of a potential conflict with the Municipality of Clarington's 2010 reconstruction schedule for Osborne Road and the elimination of EFW facility construction traffic from a newly constructed, urbanized road. <u>Disposition:</u> The proponents are currently investigating opportunities for the provision of an alternate site access point as described above. However, the provision of this site access requires property acquisition from a current private landowner. Should the proponents be able to acquire the necessary land, an alternate access route will be constructed and utilized. Establishment of this new roadway would eliminate the potential conflict with the Municipality of Clarington's 2010 reconstruction schedule for Osborne Road.	Accepted by Reviewer ☒ Yes ☐ No
12	13.0 Table 13.1 (pp. 13-9)	With regard to the second point under the Host Community Agreement, which states that the Region will assume the cost of the construction of Energy Drive from Courtice Road to Osborne Road to serve the Energy Park, the standard of construction should be confirmed to be in accordance with the Secondary Plan. <u>Disposition:</u> The negotiation of the details with respect Host Community Agreement is outside the scope of the EA.	Accepted by Reviewer ☒ Yes ☐ No

COMMENT AND DISPOSITION SHEET

DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT Municipality of Clarington Peer Review

Document Title: Draft Report -- Air Quality Assessment Technical Study Report (No. 1009497)

Rev. May 2009

Note: These comments are draft and subject to further discussion with the Regions consultants before being finalized.

REVIEW DOCUMENT DESCRIPTION

Reviewer's Name & Organization		Barrie Lawrence, SENES Consultants Limited	Date of comments: 31/05/2009 Disposition: 23/06/2009 Reviewer: 30/06/2009
Comment Number	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	DISPOSITION BY AUTHOR AND REVIEWER
1	Appendix D Table 2D-4	CALMET input file: The location of the Trenton station is mislocated by about 480 kilometres. The problem occurs because within the UTM coordinate system, Trenton falls into another UTM zone compared to the facility location and the other data sources in general. For modelling purposes all source of data were oriented to UTM zone 17, however Trenton falls into UTM zone 18 as the cut-line between UTM zones 17 and 18 falls just east of Cobourg. To compensate for this, the Trenton location must be redefined in the UTM zone of the facility or UTM zone 17. This was not done. As such, Trenton, which in reality is approximately 95 kilometres east of the proposed site ends up being approximately 480 kilometres to the west of the site. The coordinates listed for Pearson Airport and Toronto Island Airport are identical, which clearly they cannot be in reality. It is unclear what effect these errors have on how CALMET will generate the precipitation for the proposed site.	Accepted by Reviewer ☒ Yes ☐ No

REVIEW DOCUMENT DESCRIPTION			
Reviewer's Name & Organization		Barrie Lawrence, SENES Consultants Limited	Date of comments: 31/05/2009 Disposition: 23/06/2009 Reviewer: 30/06/2009
Comment Number	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	DISPOSITION BY AUTHOR AND REVIEWER
		<u>Disposition:</u> The location of the Trenton precipitation station was defined incorrectly in the CALMET input file, however the coordinates of the Trenton surface station were entered correctly. The location of the Toronto Island Airport surface and precipitation stations were incorrectly defined in the CALMET inputs. The CALMET model was re-run to investigate what effect these miss-matches in location would have on the model results. The CALMET wind speed, wind direction, and mixing heights at the site location did not vary substantially with the change in input station locations. The predicted annual precipitation at the site location changed from 766 mm/y to 760 mm/y (a decrease of 0.8%) with the correction in the precipitation station location. This small change is due to the fact that the precipitation amounts are interpolated using an inverse distance squared formula within CALMET and the locations of the Trenton and Toronto Island stations are further away relative to stations such as Buttonville and Peterborough. Therefore these miss-located stations did not have a substantial influence on the precipitation amounts calculated by CALMET in the area in which depositions were predicted. For wind parameters, the wind fields are dominated by the prognostic "pseudo-stations" which were located within the CALMET domain. The CALPUFF model was re-run with the updated CALMET meteorological data to assess what the small changes in wind and precipitation values would have. The maximum predicted ground level concentrations and depositions over all receptors changed by less than 2% (depending on averaging period). Therefore the station miss-locations are not expected to have significantly affected the results or conclusions of the assessment. The final version of the report will however, be updated with the revised CALMET/CALPUFF runs.	
2	Appendix D 2.5.3	It is noted that two of the precipitation stations have identical coordinates (Pearson Airport and Toronto Island Airport), it is also unclear how this will affect the generation of wind fields in CALMET. <u>Disposition:</u> Please see the Response to Comment # 1 above.	Accepted by Reviewer ☒ Yes ☐ No
3	Appendix D Figure D2-9	When comparing windroses, the general rule of thumb is that a difference of 1 sector or 22.5° is excellent agreement and agreement within 2 sectors or 45° is acceptable. Given the difference in heights between the CALMET output and the tower measurements, it is expected that there would be some small added variation in the windroses. In reviewing the windroses of Figure D2-10, the patterns appear to be quite different. For example the windrose for the data measured on the tower at 47 metres indicates a strong easterly and southwest component. The CALMET generated data at 35 metres does not have the easterly component but has a strong northwest component and a weaker southwest component. As such it appears that there may be a problem with the CALMET generated windfields.	Accepted by Reviewer ☐ Yes ☐ No Items 3 thru 5 were apparently agreed upon by the MOE, and while this concurrence is

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Reviewer's Name & Organization		Barrie Lawrence, SENES Consultants Limited	Date of comments: 31/05/2009 Disposition: 23/06/2009 Reviewer: 30/06/2009
Comment Number	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	DISPOSITION BY AUTHOR AND REVIEWER
		<u>Disposition:</u> It should be noted that the comparison shown in D2-10 is for a limited time period (8 months) at a particular location in the CALMET domain. The comparison indicates that, for the limited time period considered, the CALMET model does a reasonable job of predicting the dominant flow patterns (including lake breeze phenomena from the south). The model tends to underestimate winds from the east and overestimate winds from the northwest during this period when compared to the measurements from the Zephyr North tower. As there are no reliable long-term sources of meteorological data in the vicinity of the site, the alternative to using prognostic model winds to initialize CALMET to use data from surface weather stations more than 50 km away, which would be expected to introduce greater uncertainty than the approach used. Thus, the model predictions are considered to be the best available option for this site. The discussion of model performance will be expanded in the final Air Quality Assessment Technical Study Report to incorporate the issue raised and provide further analysis of the CALMET model performance including additional comparisons of the CALMET predictions to available ambient measurements. As discussed in the Air Quality Assessment Technical Study Report, all WRF and CALMET inputs were submitted to the Ontario MOE for review, with changes being made to meet MOE requirements. The MOE has also reviewed, requested modifications to, and approved sample WRF/CALMET output wind fields.	mentioned in the supporting documentation, it doesn't necessarily mean it is correct or the best approach. Not being privy to the discussions between the MOE and the consultant we will have to take the disposition at face value and agree to disagree on the approach;
4	Appendix D-Attachment D-4	To initialize a CALMET run, the input, as presented in Attachment D-4 of Appendix D to the Air Quality Assessment was developed. Upon review of this file there are concerns with the setting of 3 parameters in this file, parameter ICOARE, IMIXH and parameter JWAT (1 & 2). ICOARE is a parameter which defines the algorithm the model will use to determine the boundary layer in the marine environment. Essentially 2 options are available, running the Coupled Ocean Atmosphere Response Experiment (COARE, circa 2000) algorithm in 1 of 5 modes, or running the Offshore & Coastal Dispersion (OCD, circa 1985) algorithm. The OCD was chosen for this assessment as opposed to the COARE option though one of the COARE options is the default. The effect using the older approach is unclear. In concert with ICOARE, the parameter IMIXH defines the method to use when calculating the convective mixing height. Effectively two options are available using either the method described by Maul and Carson circa 1980 or the method described by Batchvarova and Gryning circa 1994. The Maul-Carson method was chosen coupled with the OCD algorithm for overwater mixing heights. The effect using the older approach is unclear.	Accepted by Reviewer ☐ Yes ☐ No See Item 3

REVIEW DOCUMENT DESCRIPTION			
Reviewer's Name & Organization		Barrie Lawrence, SENES Consultants Limited	Date of comments: 31/05/2009 Disposition: 23/06/2009 Reviewer: 30/06/2009
Comment Number	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	DISPOSITION BY AUTHOR AND REVIEWER
		JWAT1 and JWAT2 are parameters to define which land use categories will have the over land temperature interpolation used and which will have the over water temperature interpolation used. In the input file, these parameters were disabled meaning all interpolation would be as if the land use was over land, which effectively removes the effect of onshore / offshore flows. Therefore, in reality data collected at the actual surface stations experience the effect of onshore / offshore flows, the generated virtual stations would have had the effects incorporated from the NAM model, however, when this data was incorporated into CALMET for interpolation between these points, the onshore / offshore effects was turned off. How the model will interpret this dichotomy is uncertain. This also could explain why the windroses of Figure D2-10 do not align well. <u>Disposition:</u> As discussed in the response to Comment #3 above, all CALMET model options were reviewed and approved by the Ontario MOE. While there are many different ways to initialize CALMET, the options selected are based on U.S. EPA regulatory values, model default values, and many years of experience with the CALMET model. As outlined in Input Group 1 of the CALMET input file, the MREG parameter can be used to ensure that the U.S. EPA regulatory defaults are used. This flag was turned on for all CALMET simulations in this study to ensure conformance with these recommended options. The U.S. EPA-recommended options include: 1. ICOARE = 0 (original delta T method (OCD)) 2. IMIXH = -1 (Maul-Carson for land cells only, OCD mixing height overwater) Therefore, both these parameters have been initialized using the U.S. EPA guidance and are considered appropriate for application in this study. The Use of JWAT1 and JWAT2 causes the model to interpolate overwater temperatures separate from overland temperatures in the model. When this option is turned on, it often causes an unrealistic (and abrupt) temperature gradient between the land and water (i.e., no smoothing is performed between the two interpolated regions). Therefore, this option is generally not considered preferable unless a sufficient amount of observed temperature data is available both on-land and overwater. Therefore, for this application, since all the observed surface temperature data came from locations outside the modelling domain, this option was not used. The methodology used for implementing overwater and surface temperatures in CALMET was discussed in detail with the MOE, who also reviewed and approved these options in the input file.	
5		<u>CALMET Summary:</u> The review of the CALMET portion of the modelling completed for the assessment indicates that the windfields generated by the model may not accurately reflect the actual windfields at the site. The effect of this windfield inaccuracy on the CALPUFF results is uncertain. Ultimately since there is only one major emission source, the net effect will be that some receptors which indicated higher concentrations may actually have lower concentrations and vice versa. The magnitude of those differences on a short-term basis may not be significant, however the effects on longer averaging periods may be substantial. For example based on Figure D2-10 in the assessment, the easterly component of the wind flow may be underestimated by at least a factor of 2, which on a long term basis, increases the concentrations to the west of the site by this factor.	Accepted by Reviewer ☐ Yes ☐ No See Item 3

REVIEW DOCUMENT DESCRIPTION			
Reviewer's Name & Organization Barrie Lawrence, SENES Consultants Limited		Date of comments: 31/05/2009 Disposition: 23/06/2009 Reviewer: 30/06/2009	
Comment Number Section Number		REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION DISPOSITION BY AUTHOR AND REVIEWER	
6		<u>Disposition:</u> Please see the response to Comment #3 above. It should be noted that a change in the frequency of winds from a particular direction cannot be linked directly to a proportional increase in annual ground-level concentrations downwind from this direction, as other important factors, such as wind speed, mixing heights, cloud cover, turbulence, and wind direction variance also influence predicted ground-level concentrations. Given the lack of long-term reliable meteorological data in this region, the use of prognostic data in combination with the much further away surface meteorological station data is expected to provide the best representation of winds in this area as possible. In the Air Quality Assessment, 391 non-property line sensitive receptors are defined and the layout of the gridded receptors in the vicinity of the proposed site, and discrete receptors along the property line are presented. In comparing this layout to the information in the CALPUFF input file presented in Appendix D to the Air Quality Assessment, it appears the property line receptors and those in a grid with a density greater than 250 metres (i.e. those at 20 metre, 50 metre, 100 metre and 200 metre) have been excluded. This exclusion may skew the predicted concentration out to 1800 metres from the emission source. <u>Disposition:</u> The sample CALPUFF input file included in Appendix D represents a specific simulation run for the modelling study (maximum concentrations due to the 140,000 tpy design capacity for the Facility at special receptor locations). Predictions over gridded receptors (following MOE Guideline A-11 and including property fence line receptors) were done in a separate simulation. The sensitive receptor simulation was included as an example in the Appendix as it is a much smaller input file and conserves space/paper (391 receptors verses 4415). Please refer to Appendix D, Section 3.2.5 for details on the sensitive receptors and receptor grid used in the assessment.	Accepted by Reviewer ☒ Yes ☐ No
7		Executive Summary (and in general) In the Air Quality Assessment, it is noted that the emissions are based on an annual throughput at the facility of 140,000 tonnes per year. However, the EA is for a facility that could be built to take up to 400,000 tonnes of waste per year. The Air Quality Assessment also identifies two independent yet equal waste streams which will feed the system. It is the opinion of SENES that modelling at 140,000 tonnes per year and hence only one waste stream may be perceived as modelling to be compliant today without regard for the future. To minimize this perception, modelling should have been done at a larger throughput and with both streams operating. <u>Disposition:</u> The Region has requested that a 400,000 tpy maximum design capacity scenario be included in the assessment and the Air Quality Assessment Technical Study Report is being updated to include this scenario in addition to the 140,000 tpy scenario.	Accepted by Reviewer ☒ Yes ☐ No

Reviewer's Name & Organization			REVIEW DOCUMENT DESCRIPTION		Date of comments: 31/05/2009 Disposition: 23/06/2009 Reviewer: 30/06/2009	
Comment Number		Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION		DISPOSITION BY AUTHOR AND REVIEWER	
8		Appendix E Section 2.4	It is noted that the Mobile 6.2 model is an US EPA model, and that a made in Canada version for the model is available (Mobile 6.2C). The different versions of the model exist owing to the different emission standards and timelines for adopting same within both countries. <u>Disposition:</u> The Mobile 6.2C model was used to estimate emissions from traffic in the Air Quality Assessment. This typo will be corrected in the final version of the Air Quality Assessment Technical Study Report.		Accepted by Reviewer ☒ Yes ☐ No	
9		Summary Notes	This review was based on the information contained in Air Quality Assessment and associated Appendices. In summary: • Generally the modelling appears to have been done in a competent and professional manner. • An apparent meteorological mismatch may cause an inaccurate representation of long-term exposure. • Emission rates and factors appear to be in order. • Choosing to use a throughput of 140,000 tonnes per year is questionable. • Emission factors from MOBILE 6.2C should have been used. <u>Disposition:</u> See responses to individual comments regarding these issues.		Accepted by Reviewer ☒ Yes ☐ No	

COMMENT AND DISPOSITION SHEET

DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT Municipality of Clarington Peer Review

Document Title: Surface Water and Groundwater Assessment – Technical Study Report

Rev. Feb.
2009

Note: These comments are draft and subject to further discussion with the Region's consultants before being finalized.

REVIEW DOCUMENT DESCRIPTION			Date of comments: 03/06/2009 Disposition: 23/06/2009 Reviewer: 30/06/2009
Reviewer's Name & Organization	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	DISPOSITION BY AUTHOR AND REVIEWER
Will McCrae, AECOM			
1	2.0 (p.4)	Report does not reference "Technical Guidelines for Stormwater Management Submissions" by Central Lake Ontario Conservation, June 2007, which lists the preferred runoff model to be used as Visual Otthymo 2. The Jacques Whitford report uses the HEC-HMS 3.2 runoff model. <u>Disposition:</u> The CLOCA document has been referenced and guidelines incorporated into report where applicable. As this water resources report represents the conceptual plan for the EA submission and not the final stormwater management plan submission to CLOCA, not all requirements noted in this document are applicable in this report. Although Visual Otthymo 2 is the preferred hydrological model, HEC-HMS 3.2 is a comparable modelling program developed by USACE specifically for use in generating catchment runoff scenarios. The use of HEC-HMS is an acceptable approach to existing condition and stormwater runoff modelling necessary in this project. Digital or hard copy of hydrologic model, including input and output files have not been included to support the analysis and conclusions discussed in the report. <u>Disposition:</u> The runoff modelling and management recommendations provided in this report provide a strictly conceptual representation of the proposed development site (necessary for the EA planning stage) and not the final stormwater management plan or detailed design submissions required by CLOCA or MOE. During the detailed design process, specifications and final model inputs/outputs will be provided. All model input parameters for the existing and post-development scenarios have been provided in Sections 3.4.3 and 4.4.1 respectively. The key model outputs necessary for this stage of the project have been provided in the stormwater runoff modelling sections listed above.	Accepted by Reviewer ☒ Yes ☐ No
2	General		Accepted by Reviewer ☒ Yes ☐ No
3	3.4.3	The hydrologic parameters for the existing conditions indicate that the site is composed of hydrologic Soil Group (HSG) B soils and hence an SCS Curve Number of 64 for the agricultural and rural land uses. The borehole logs for the site indicate that the upper strata is primarily composed of clayey silty sand, compact sandy silt, clayey silt, and compact to very dense silty sand. This indicates that the classification of the soil would fit in to a Hydrologic Soil Group 'C' and hence a higher SCS Curve Number, resulting in more runoff in the existing condition.	Accepted by Reviewer ☒ Yes ☐ No <u>Reviewer:</u> While we interpret

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Reviewer's Name & Organization	Will McCrae, AECOM	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	DISPOSITION BY AUTHOR AND REVIEWER
Comment Number	Section Number	Disposition: The geotechnical investigation conducted onsite recorded the presence of a silty sand underlying the topsoil across the entire site. The topsoil and sand dominated layer ranged from ground surface to 0.3 to 0.62m in depth. In 4 of the 17 boreholes a sandy silt was discovered at approximately 0.5 mbg and in another 3 boreholes a clayey silt was discovered at between 0.32 and 0.45 mbg. According to MTO Drainage Management Manual (MTO, 1997), sand dominant soil types are classified as HSGs A and B. According to "Urban Hydrology for Small Watersheds TR-55" (USDA, 1986) from which the SCS Curve Number method is derived, sand, loamy sand and sandy loams are classified as a HSG A and silt loams or loams are HSG Bs. USDA (1986) considers a HSG C as sandy clay loams. It is our professional judgement that the upper soil strata present at the proposed development site should be classified as a HSG B. The outcome of increasing the HSG, and subsequently the SCS curve number, would be to increase the peak discharge and total storm runoff volume for all design storms during the existing condition modelling. Since the post-development stormwater management plan is designed to ensure peak stormwater discharge rates remain below those of the existing conditions modelling, increasing the existing condition SCS curve number would lead to higher discharge rates during final detailed design. In this sense, the HSG B classification can be seen as a conservative approach.	the bore hole data differently, we agree that the assumptions made would result in a conservative result.
4	Drawing #1	Boreholes should be drilled (advanced) in the area of the proposed Stormwater Management Facility. <u>Disposition:</u> As part of the detailed design, once the precise location and configuration of the stormwater management pond has been determined, additional boreholes will be drilled, as required, to assess groundwater elevations and soil conditions. This borehole investigation is included in recommendations for further hydrogeological investigation during the detailed design phase in Sections 3.3.2, 5.5.2, and 7 of the Report.	Accepted by Reviewer ☒ Yes ☐ No
5	3.4.3	Hydrologic simulations for the 1-hour AES and the 24-hour SCS Type II storm distribution should be included for existing and proposed conditions.	

COMMENT AND DISPOSITION SHEET

DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT Municipality of Clarington Peer Review

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Reviewer's Name & Organization		REVIEW DOCUMENT DESCRIPTION	Date of comments: 03/06/2009 Disposition: 23/06/2009 Reviewer: 30/06/2009
Will McCrae, AECOM		REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	DISPOSITION BY AUTHOR AND REVIEWER
Comment Number	Section Number	<u>Disposition:</u> The storms selected for this conceptual stage stormwater assessment were based upon recommended guidelines in MOE (2003), MNR (2001), CLOCA (2007) and GGHACA (2006). The original stormwater runoff modeling used a suite of storms including the 50 and 100 year storms based on the 24-hour, SCS type II storm distributions. The storms below this magnitude (10yr and 25yr) were modelled with a shorter time period using the SCS type II distribution and the smallest events (10mm, 25mm, 2yr and 5yr) were modelled with a Chicago distribution type. The shortened storm length and Chicago distribution were used to generate higher peak flows than the use of the 24-hr, SCS type II distribution. This approach represented a more conservative approach. It is acknowledged that the 1-hr AES storm distribution and the 24-Hr SCS type II storm distribution are required as part of the CLOCA -Technical Guidelines for Stormwater Management Submissions. Modelling results for the above mentioned storm distributions have been added as an Appendix to the Surface Water and Groundwater Assessment for use during the completion of the final detailed design components and CLOCA Stormwater Management Plan submission.	Accepted by Reviewer ☒ Yes ☐ No
6	5.2.2	Given the proposed industrial use, an oil/grit separator would be a prudent addition to the stormwater management treatment train, upstream of the pond facilities. <u>Disposition:</u> According to MOE (2003), OGS are beneficial for industrial and commercial sites, and large parking areas or transit facilities. The proposed facility will have approximately 33 fulltime staff, suggesting personnel vehicular traffic will be low. Under the potential maximum design capacity of 400,000 tpy scenario, the maximum truck traffic will be approximately 77/day. There will be no waste delivery truck refuelling station onsite. This suggests that the chance for vehicular spillage is limited. OGS are only suitable for drainage areas of <2ha meaning that the proposed development site would require a minimum of 6-7 appropriately sized OGS to service the property. During detailed design the possibility of installing OGS as part of the treatment train should be considered. This has been incorporated into the Report (Section 5.2.1.1).	Accepted by Reviewer ☒ Yes ☐ No

COMMENT AND DISPOSITION SHEET

DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT Municipality of Clarington Peer Review

Document Title: Surface Water and Groundwater Assessment – Technical Study Report

Rev. Feb.
2009

Note: These comments are draft and subject to further discussion with the Region's consultants before being finalized.

REVIEW DOCUMENT DESCRIPTION			Date of comments: 03/06/2009 Disposition: 23/06/2009 Reviewer: 30/06/2009
Reviewer's Name & Organization		REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	DISPOSITION BY AUTHOR AND REVIEWER
7	General (Series)	Will McCrae, AECOM The report lacks some basic and essential groundwater information such as : • existing groundwater units and their descriptions, • groundwater elevations (for different groundwater units), • groundwater gradient both horizontally and vertically, • groundwater flow direction, • hydraulic conductivity test and estimations, • quantitative groundwater flow assessment • relationship between groundwater (horizontal flow from upgradient) and surface water (water bodies and surface infiltration).	Accepted by Reviewer ☒ Yes ☐ No The Author's Disposition agrees the lack of hydrogeological investigation as it stated "No hydraulic conductivity testing was completed on the proposed development site" and "No hydrogeological assessment was

COMMENT AND DISPOSITION SHEET

DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT Municipality of Clarington Peer Review

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REVIEW DOCUMENT DESCRIPTION			Date of comments: 03/06/2009 Disposition: 23/06/2009 Reviewer: 30/06/2009
Reviewer's Name & Organization	Will McCrae, AECOM	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	DISPOSITION BY AUTHOR AND REVIEWER
Comment Number	Section Number	<u>Disposition:</u> -existing groundwater units and their descriptions: The site is located on a Newmarket till unit to bedrock discussed in Section 3.3.1. It does not appear that there is any other substantive hydrogeological units present onsite. - groundwater elevations (for different groundwater units): As it mentions in Section 3.3.1, only one hydrogeological unit was discovered underlying the site and the adjacent Courtois WPCP. Groundwater elevations for 49 water wells and 23 piezometers located within 1 km of the site were noted in Section 3.3.2. - groundwater gradient both horizontally and vertically: Section 3.3.2 states that groundwater flow is generally from east to west. Considering there is one hydrogeologic unit underlying the site and no evidence of artesian conditions, the horizontal gradient is anticipated to slope from east to west. This has been clarified in Section 3.3.2. - groundwater flow direction: Both the regional groundwater flow direction (Section 3.3.1) and the local groundwater flow direction (Section 3.3.2) are stated in the Report. - hydraulic conductivity test and estimations: No hydraulic conductivity testing was completed on either the Courtois WPCP or the proposed development site. A general estimation based on the Newmarket Till unit underlying the site has been added to Section 3.3.2. We provide recommendations in Section 3.3.2 of the Report regarding further hydrogeological investigation to be conducted during the detailed design phase. - quantitative groundwater flow assessment: No hydrogeological assessment was completed as part of the geotechnical investigation conducted onsite. Results from the desktop hydrogeological assessment do not suggest any large scale concern with the project with regards to groundwater. The Report has integrated recommendations in Sections 3.3.2 and 5.5.2 for further field hydrogeological investigation in support of anticipated dewatering, foundation and stormwater management pond design requirements. (See comment #4). -relationship between groundwater (horizontal flow from upgradient) and surface water (water bodies and surface infiltration): There is no evidence of artesian conditions onsite (See comment #9) and no defined watercourse located onsite. In addition, the water balance generated for the site (Section 3.2) suggested that a low to moderate level of infiltration occurs and therefore groundwater inputs to surface water features in the area are limited. As groundwater baseflow contribution is low and groundwater flow direction is towards Tooley Creek approximately 1000m west of the Site, there are no notable groundwater-surface water interactions to discuss. Further hydrogeological investigation is recommended during the detailed design phase (Sections 3.3.2, and 7). It is our professional opinion that adequate groundwater characterization has been completed to support the level of detail required by the EA and that no reason for concern has been identified. As a potentially elevated water table has been identified on the Site, a type II PTTW may be necessary for construction of the Facility.	completed as part of the geotechnical investigation conducted onsite". As it is stated by the Author's Disposition, a hydrogeological assessment will be conducted onsite as part of the detailed design to support dewatering, etc.

COMMENT AND DISPOSITION SHEET

DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT Municipality of Clarington Peer Review

Document Title: Surface Water and Groundwater Assessment – Technical Study Report

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2009

Note: These comments are draft and subject to further discussion with the Region's consultants before being finalized.

REVIEW DOCUMENT DESCRIPTION				
Reviewer's Name & Organization		Will McCrae, AECOM		Date of comments: 03/06/2009 Disposition: 23/06/2009 Reviewer: 30/06/2009
Comment Number	Section Number (Series)	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION		
8		There are no monitoring wells available on site for hydrogeological investigations. It appears that the boreholes shown on Drawing No 1, were drilled for geotechnical purposes only and even the water elevations shown on the borehole logs do not represent the long-term static water levels. <u>Disposition:</u> No long term static water levels are available for the site as the boreholes were used as a geotechnical investigation only. However, 49 MOE water wells and 23 piezometers (installed on the Courtoise Water Pollution Control Plant property) were identified within 1km of the proposed Development site. These values were used to describe the water level onsite. See comment #7.		
9	5.4 Groundwater Management (Series)	Although long-term static water levels are not available, the water elevations recorded on the borehole logs (presented on Appendix A) may suggest the presence of confined or semi-confined layers, under artesian pressure, at the deeper zone. <u>Disposition:</u> There is no evidence of a confined or semi-confined aquifer underlying the site. Of the 17 boreholes advanced onsite, 7 contained no groundwater at the completion of drilling, 6 boreholes suggested water levels of below 3m and only 3 showed water within 1m of grade. No artesian conditions were witnessed onsite nor reported in the geotechnical investigation report. The geotechnical and hydrogeological investigation conducted for the immediately adjacent Courtoise Water Pollution Control Plant included 37 boreholes (drilled to bedrock) and 24 test pits. No artesian conditions were witnessed onsite during this study. Water levels taken from a piezometer installed north of the CN Rail corridor at the southern end of the Proposed Development Site showed water levels of approximately 0.3 mbg. This suggests that groundwater levels onsite may be shallow and this should be taken into account during the detailed design phase. The proposed facility is to reach a maximum of 7.4 mbg suggesting that the infrastructure foundations will extend below the water table onsite. A hydrogeological assessment should be conducted onsite as part of the detailed design to support permitting, construction dewatering, foundation and stormwater management design requirements. The recommendation for further hydrogeological investigation is provided in Sections 3.3.2, and 7 of the Report.		
		Accepted by Reviewer ☒ Yes ☐ No See item 7		
		Accepted by Reviewer ☒ Yes ☐ No The presented water levels may suggest the presence of confined or semi confined layers, with high static water levels (or potentiometric surface), at the deeper zone which should be fully understood during the design for dewatering and groundwater management purposes.		

COMMENT AND DISPOSITION SHEET

DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT Municipality of Clarington Peer Review

Document Title: Surface Water and Groundwater Assessment – Technical Study Report

Rev. Feb.
2009

Note: These comments are draft and subject to further discussion with the Region's consultants before being finalized.

REVIEW DOCUMENT DESCRIPTION		
Reviewer's Name & Organization	Will McCrae, AECOM	Date of comments: 03/06/2009 Disposition: 23/06/2009 Reviewer: 30/06/2009
Comment Number	Section Number	DISPOSITION BY AUTHOR AND REVIEWER
10	3.3.2 Groundwater Levels (Series)	Accepted by Reviewer ☒ Yes ☐ No
The report suggests subsurface heterogeneity based on water level variations recorded on the borehole logs. However, the strata descriptions presented on the borehole logs show the presence of a consistent "compact brown silty sand with gravel" layer underlying the topsoil. This should be clarified. Disposition: There is a fairly consistent layer of silty sand underlying the topsoil onsite yet there is additional compositional and density variation present beneath this layer. Several of the borehole logs note the presence of sand, silt, clay and gravel, and variations in compaction at varying levels below grade. These factors will have an effect on water levels. The text has been adjusted to suggest that the subsurface conditions may have an effect on water levels onsite (Section 3.3.2).		

COMMENT AND DISPOSITION SHEET

DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT Municipality of Clarington Peer Review

Document Title: Draft Report – Facility Energy and Life Cycle Assessment (No. MA-06-512-30-MA)

Note: These comments are draft and subject to further discussion with the Regions consultants before being finalized.

Rev. May 2009

REVIEW DOCUMENT DESCRIPTION			DISPOSITION BY AUTHOR AND REVIEWER
Reviewer's Name & Organization	Murali Ganapathy / Talar Sahsuvaroglu, SENES Consultants Limited		Date of comments: 29/05/2009 Disposition: 23/06/2009 Reviewer: 30/06/2009
Comment Number	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	
1	General	References must be used as citations in-text. Otherwise it is unclear as to what references are used to justify which data. We refer, for example, to Table 4-3 (custom energy grid) or Table 4-4 (Input Waste Composition), both of which are important inputs and accuracy needs to be justified. Otherwise, the report is not technically supported. <u>Disposition:</u> References will be provided where assumptions in the text are based on other published reports. In many cases, such as the allocation of the input waste composition, this was derived through analysis of the waste stream generated in Durham and York as determined through curbside audits and as adjusted for reasonable recovery rates for the municipal diversion programs.	Accepted by Reviewer ☒ Yes ☐ No
2	General	Appropriateness of references is also important. References to websites by organizations that may not have sufficiently accurate information and that have not been peer reviewed are questionable. <u>Disposition:</u> References to websites by organizations that may not have sufficiently accurate information will be supplemented with additional references to collaborate the originally cited information. We believe the Ontario Energy Board and Enbridge provide credible information on typical Ontario household energy consumption.	Accepted by Reviewer ☒ Yes ☐ No
3	2.2	a) Why was the MSW-DST model chosen to conduct the Life Cycle Analysis (LCA)? More justification is needed. b) Were other models tested/considered for applicability or sensitivity?	Accepted by Reviewer

REVIEW DOCUMENT DESCRIPTION			
Reviewer's Name & Organization		Murali Ganapathy / Talar Sahuvaroglu, SENES Consultants Limited	Date of comments: 29/05/2009 Disposition: 23/06/2009 Reviewer: 30/06/2009
Comment Number	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	DISPOSITION BY AUTHOR AND REVIEWER
		<u>Disposition:</u> Additional information will be included in the Final Report that discusses the choice of the MSW-DST. Essentially, this model is the most extensively used model in North America, it reflects North American conditions, and it has undergone extensive stakeholder input and peer review (including a separate review by the U.S. EPA). Other models had been used previously to complete LCA during the evaluation of "Alternatives to" including the IWM model developed by EPIC and the University of Waterloo and the ICF model for GHG emissions developed for Environment Canada. Neither model was capable of providing a full analysis of the LCA impacts for all aspects of the thermal treatment system for Durham/York and neither had been subject to the same rigor in regards to peer review.	☒ Yes ☐ No
4	4.1	It is not clear whether the proposed Clarington Energy Business Park has been designed to accommodate district cooling and/or heating. Further, the time frame of establishment of buildings and facilities to use the district heating and cooling is not mentioned. This is an important assumption, as the conclusions of the report highlight that only Scenarios 2 and 3 will result in Greenhouse Gas (GHG) credits (i.e. due to offsetting the natural gas otherwise used for heating), and these Scenarios depend on the presence of district cooling and heating. Otherwise, Scenario 1 results in an increase of GHG emissions into the atmosphere. Thus if the Clarington Energy Business Park will not include the correct infrastructure to accommodate district cooling or heating, these conclusions are invalid/inapplicable. The brief comment in Section 5 alluding to building the infrastructure at the same time as other facility services is insufficient, as there are currently no commitments for the infrastructure.	Accepted by Reviewer ☒ Yes ☐ No
		<u>Disposition:</u> The Final Report has been revised to reflect the LCA GHG direct and indirect emissions including the avoided GHG emissions that would otherwise result if the residual waste sent to thermal treatment was instead landfilled in a modern landfill with landfill gas collection. All scenarios result in GHG emission credits, although more credits accrue to Scenarios 2 and 3. Provisions for District Heating (and potentially cooling) have been addressed to an extent in the Facility design and are discussed in the Covanta proposal. A decision to develop the district heating system, and development of the detailed design, would be undertaken when the timing for the build-out of the CIEBP is understood. The development of the Clarington Energy Business Park and decision to construct district energy infrastructure will be made (a) by the Municipality of Clarington (b) in consultation between the Region of Durham and Municipality of Clarington.	

REVIEW DOCUMENT DESCRIPTION				Date of comments: 29/05/2009 Disposition: 23/06/2009 Reviewer: 30/06/2009																					
Reviewer's Name & Organization		REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION		DISPOSITION BY AUTHOR AND REVIEWER																					
5	4.2.1.1	Murali Ganapathy / Talar Sahsuvaroglu, SENES Consultants Limited Table 4.3 refers to a custom energy grid in the future. However, The Ontario Power Authority and the Ministry of Energy and Infrastructure indicate that the 2025 Supply Mix is planned as indicated below. These values are different from what is in the report text. Since these values are an input to the LCA model, it is important to ensure the correct ones are used. <table><thead><tr><th>Energy source</th><th>Projected quantity (MW)</th><th>% of total</th></tr></thead><tbody><tr><td>Gas & Cogeneration</td><td>9,400</td><td>20.6%</td></tr><tr><td>Gasification</td><td>250</td><td>0.5%</td></tr><tr><td>Renewables</td><td>15,700</td><td>34.4%</td></tr><tr><td>Conservation</td><td>6,300</td><td>13.8%</td></tr><tr><td>Nuclear</td><td>14,000</td><td>30.7%</td></tr><tr><td>Total</td><td>45,650</td><td></td></tr></tbody></table> References: OPA's IPSP Scope and Overview link: http://www.powerauthority.on.ca/Storage/24/1922_OPA_-_IPSP_Scope_and_Overview.pdf as well as Ministry of Energy and Infrastructure website link: http://www.mei.gov.on.ca/wsd6.korax.net/english/energy/electricity/index.cfm?page=nuclear-electricity-supply. <u>Disposition:</u> Further rationale for the proposed future grid used in the LCA analysis will be provided. . We have reviewed the selection of our grid and believe it is a reasonable estimate. Regarding the residue (bottom and bypass waste), will testing be conducted to determine whether hazardous characteristics still remain in the leachate following the encapsulating process? The specific Schedules regarding R.R. O, 1990, Reg.347 that are relevant to this process should be clearly documented, referred to within the text, and a monitoring plan committed to. <u>Disposition:</u> The purpose of the Energy and LCA report is not to discuss residue management, but to account for the proposed residue quantities in the analysis. Information regarding the testing as required under O. Reg. 347 and the monitoring commitments related to the bottom ash and fly ash will be addressed in the supporting documentation for the EPA approvals for the Facility. Has an analysis been done to assess the assumptions of landfills in Ontario, before using the default US values? (especially since a comparative analysis has been done previously between landfill disposal and thermal treatment in Supplement to Annex E-5 of the 'Durham/York Residual Waste Study Alternatives to 'report)		Energy source	Projected quantity (MW)	% of total	Gas & Cogeneration	9,400	20.6%	Gasification	250	0.5%	Renewables	15,700	34.4%	Conservation	6,300	13.8%	Nuclear	14,000	30.7%	Total	45,650		Accepted by Reviewer ☐ Yes ☒ No The grid referenced by us is the official grid as referred to by OPA and Ministry of Energy. There appears to be no justification for the consultants to select their own as the estimation of emission reductions have to be made with official baselines.
Energy source	Projected quantity (MW)	% of total																							
Gas & Cogeneration	9,400	20.6%																							
Gasification	250	0.5%																							
Renewables	15,700	34.4%																							
Conservation	6,300	13.8%																							
Nuclear	14,000	30.7%																							
Total	45,650																								
6	4.2.2.1			Accepted by Reviewer ☒ Yes ☐ No																					
7	4.2.6			Accepted by Reviewer																					

REVIEW DOCUMENT DESCRIPTION			Date of comments: 29/05/2009 Disposition: 23/06/2009 Reviewer: 30/06/2009
Reviewer's Name & Organization	Murali Ganapathy / Talar Sahasvaroglu, SENES Consultants Limited		
Comment Number	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	DISPOSITION BY AUTHOR AND REVIEWER
		<u>Disposition:</u> Default U.S. values were assumed for the ash landfill that would receive the ash from the Facility, as the Covanta proposal includes disposal of the ash in U. S. sites. In regards to the assumptions for the landfill in Ontario that would have otherwise received waste, the same assumptions were used as the Base Case – Remote Landfill Scenario, as documented in the Supplement to Annex E-5 of the 'Durham/York Residual Waste Study Alternatives to' report, with the exception being that the efficiency of landfill gas recovery was increased to 75%. Additional information regarding the landfill assumptions will be included in the Final Report.	☒ Yes ☐ No
8	4.3	Three summary tables are included (4-7 to 4-9) with details present in Appendix B. However, Appendix B contains only two tables. It is unclear what calculations or assumptions are used to separate the two scenarios combined in the 2nd table in Appendix B, into two separate tables (4-8/4-9). This needs to be described/clarified in detail. <u>Disposition:</u> Appendix B of the Draft Report only contained two tables. The only difference between the data provided in the summary table for Scenario 2, Table 4-8 and that for Scenario 3, Table 4-9 was that in Table 4-8 the column in Appendix B regarding the offset for district cooling was not included and for Table 4-9 it was included. Clarification will be provided in the text of the Final Report and the corresponding three tables will be provided in Appendix B.	Accepted by Reviewer ☒ Yes ☐ No
9	6.0	Summary and conclusions need to be more consistent in terms of referring to each Scenario # for each bullet point in the summary. <u>Disposition:</u> Reference to the Scenarios will be included to provide clarity in Section 7.0 Summary and Conclusion section of the Final Report.	Accepted by Reviewer ☒ Yes ☐ No
10	General	The MSW-DST model also has the capability to do full-cost accounting that can assist municipalities in making solid waste management decisions. Was this application considered for developing this project? <u>Disposition:</u> No, as this Project was the subject of a rigorous RFP process and as the preferred Proposal and Vendor (Covanta) have provided detailed construction and operating costs for the Facility, the use of the accounting module of the MSW-DST was unnecessary.	Accepted by Reviewer ☒ Yes ☐ No
11	General	If GHG emissions, credits and offsets are being considered, then an assessment should be conducted for the applicability of issuing carbon credits/offsets from this project. There are many avenues that can be considered including the Western Climate Initiative and the Voluntary credit market. At the time of completion of the proposed project, the government will likely have a trading scheme in place, and thus these considerations should be made in advance. <u>Disposition:</u> The analysis presented in the Energy and Life Cycle Assessment report is intended to precede/support the determination of the GHG credits that would be associated with this Project. Financial analysis undertaken for the Project to-date has not included valuation of potential credits, and thus should be regarded as conservative. Further work would be required outside of this EA to support the process to identify and qualify for GHG credits.	Accepted by Reviewer ☒ Yes ☐ No
12	General	The assessment considers only 140,000 tpy. However, the report indicates that up to 400,000 tpy may be processed. If this is the case, then this assessment MUST be conducted at the maximum capacity, not the initial capacity.	

REVIEW DOCUMENT DESCRIPTION		
Reviewer's Name & Organization	Murali Ganapathy / Talar Sahsuvaroglu, SENES Consultants Limited	Date of comments: 29/05/2009 Disposition: 23/06/2009 Reviewer: 30/06/2009
Comment Number	Reviewer's COMMENTS/AUTHOR'S DISPOSITION	DISPOSITION BY AUTHOR AND REVIEWER
	<u>Disposition:</u> An energy and life cycle assessment of the 400,000 tpy scenario will be included in the Final Report.	Accepted by Reviewer ☒ Yes ☐ No
13	The report contains no consideration of the monitoring requirements necessary to ensure and assess that emission estimates are correct. If accurate offset calculations are to be made, monitoring must be considered, referred to and documented. <u>Disposition:</u> As noted in Section 4.2.4.2. in regards to Facility emissions, the values guaranteed by the Vendor were used for the "Thermal Treatment Facility Stack Emission Limits", as well as other Ontario regulatory limits, with the MSW-DST default values assumed for contaminants not specified by Ontario regulations and not guaranteed by the Vendor. Monitoring would be undertaken as broadly described in the Covanta Proposal and will be discussed in detail in the supporting documentation for the EPA approvals for the Facility.	Accepted by Reviewer ☐ Yes ☒ No For GHG reduction assessment and CER calculations, site specific monitoring plan will be required. In our opinion, this should be included as the CoFA may not require this.

COMMENT AND DISPOSITION SHEET

DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT Municipality of Clarington Peer Review

Document Title: Geotechnical Investigation

Rev. Feb.
2009

Note: These comments are draft and subject to further discussion with the Region's consultants before being finalized.

REVIEW DOCUMENT DESCRIPTION			Date of comments: 03/06/2009 Disposition: 23/06/2009 Reviewer: 26/06/2009
Reviewer's Name & Organization	Will McCrae, AECOM	DISPOSITION BY AUTHOR AND REVIEWER	
Comment Number	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	
1	1.2	The Geotechnical Investigation provides a general overview only. As noted in the report, further geotechnical investigation will need to be done to satisfy specific requirements of the proposed development. <u>Disposition:</u> No response required	
2	4.1.3	The standing water elevation measured in the boreholes varies across the site from less than 1 m to over 7 m below existing grade. There are no comments of the effect that this may have on the storm water management pond or other site features. <u>Disposition:</u> Please refer to Appendix C-2 entitled "Surface Water and Groundwater Assessment Technical Study Report, June 2009" for a full description of potential effects on groundwater. Provision should be made to ensure that no leachate from the development is allowed to escape and enter into the groundwater. <u>Disposition:</u> Please refer to Appendix C-2 entitled "Surface Water and Groundwater Assessment Technical Study Report, June 2009" for a full description of the proposed on-site surface water and storm water management plans. Additional boreholes may be required in the southwest corner of the site should the storm water management pond or other site features be proposed for this location. It may be important to know the groundwater elevation and soil conditions at this location. <u>Disposition:</u> As part of the detailed design, once the precise location and configuration of the storm water management pond has been determined, additional boreholes will be drilled, as required, to assess groundwater elevations and soil conditions.	
3	General	Accepted by Reviewer ☒ Yes ☐ No	
4	Drawing #1	Accepted by Reviewer ☒ Yes ☐ No	

COMMENT AND DISPOSITION SHEET

DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT Municipality of Clarington Peer Review

Document Title: Draft Report – Acoustic Assessment Technical Study Report (No. 1009497)

Rev. May 2009

Note: These comments are draft and subject to further discussion with the Regions consultants before being finalized.

REVIEW DOCUMENT DESCRIPTION			Date of comments: 02/06/2009 Disposition: 23/06/2009 Reviewer: 30/06/2009
Reviewer's Name & Organization	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	DISPOSITION BY AUTHOR AND REVIEWER
	2.3	First paragraph states that "receptors that are further removed from the noise source would experience less effect". While this statement is generally true, it is not always the case. The wording should be changed to "... are more likely to experience..." <u>Disposition:</u> This will be considered and incorporated in the final report.	Accepted by Reviewer ☒ Yes ☐ No
	2.6.2	What adjustments were made to the STAMSON modelling to ensure that the model speed and distance limits were met? A sample calculation should be included to demonstrate the accuracy of such adjustments. <u>Disposition:</u> There were no model speed adjustments made, but rather minimum number of vehicles per hour (40 v/h), and maximum source receiver distance (500 m) parameters were used. This adjustment is very conservative and generally acceptable. Sample calculation of the STAMSON model is included in Appendix H. The results are consistent with the experience of the team in monitoring in similar situations.	Accepted by Reviewer ☒ Yes ☐ No
	3.2, Table 3-1	Note 4 is unclear, requires further clarification.	

REVIEW DOCUMENT DESCRIPTION		
Reviewer's Name & Organization		Fred Bernard, SENES Consultants Limited.
Date of comments: 02/06/2009 Disposition: 23/06/2009 Reviewer: 30/06/2009		
DISPOSITION BY AUTHOR AND REVIEWER		
Accepted by Reviewer ☒ Yes ☐ No		
Accepted by Reviewer ☒ Yes ☐ No		
Accepted by Reviewer ☒ Yes ☐ No		
Accepted by Reviewer ☐ Yes ☒ No		SENES Response: Worst-case situation refers to more than just the number of pieces of equipment, but is also dependent on the location of the equipment. It is understood that the locations of the equipment have not been confirmed at this point, but some assumption had to be made regarding the locations of the equipment as part of any worst case scenario. Where were the equipment located?

Comment Number	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION
		<u>Disposition:</u> The sound power level for this source was adopted from supplier-published data (Appendix C). However, these levels represent engine exhaust without a muffler. Generally, engines are supplied with a standard muffler that provides a noise reduction in noise levels of at least 15-20 dB. It was assumed that a standard muffler would be supplied with each unit, and this scenario was modeled accordingly.
4	3.7	If the number and nature of the "smaller noise sources are not yet known," how then can they be considered "acoustically insignificant"? <u>Disposition:</u> The noise sources described in this section are relatively insignificant when compared to major noise sources, and in consideration of the separation distances between these sources and points of reception. This section will be re-structured in the final report to clarify the text.
5	4.4, Table 4.1	Instead of simply showing the measurement period, the table would be more helpful if it showed the date and time when the minimum ambient sound level was measured at each receptor. This would provide an easier link to the information contained in Appendix E. <u>Disposition:</u> This will be incorporated in the final report.
6	6.1.1	This section should also outline the scenario and assumptions used for predicting site preparation noise. Further, rather than distributing the construction equipment in an "arbitrary pattern", the equipment should have been distributed to represent a worst-case scenario, based on available information. <u>Disposition:</u> This scenario was modeled to represent the worst-case scenario, but there is no information on the equipment location at this stage of the Facility design. In general, many pieces of construction equipment are similar in sound power, therefore it is not necessary to differentiate very much in the distribution of equipment. In practice, often the equipment alternates in the duty cycle, for example trucks are loaded by an active loader, then drive off while the loader idles; in this study we have assumed a reasonable worst-case by treating all sources as concurrently active.

REVIEW DOCUMENT DESCRIPTION			Date of comments: 02/06/2009 Disposition: 23/06/2009 Reviewer: 30/06/2009
Reviewer's Name & Organization		Fred Bernard, SENES Consultants Limited.	
Comment Number	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	DISPOSITION BY AUTHOR AND REVIEWER
7	5.1.3	Why is the night time sound level limit at POR02 47 dBA and not 45 dBA? <u>Disposition:</u> The ambient noise monitoring Location 1 (Section 4.3) was assumed to be representative of both POR1 and POR2 because of the same proximity to Highway 401 which is considered to be the main ambient noise contributor. Therefore, the same ambient noise monitoring level was applied for both receptors. Also, MOE NPC-205 guideline stipulates that the applicable criterion is the higher of the existing ambient or 45 dBA in the lowest hour during the nighttime period. It is most difficult to determine the site preparation scenario modelled from the data presented in Appendix G. There should be a clear link between the text, figures in Appendix F and the data in Appendix G. There needs to be a delineation of the data in Appendix G by the distinct scenarios.	Accepted by Reviewer ☒ Yes ☐ No
8	6.1.1	<u>Disposition:</u> Appendix G contains detailed output information for the operations case only. Site preparation calculation and reference will be included in the final report. As per Table 6.2, it is not clear how the % highly annoyed was calculated. Please show sample calculation. <u>Disposition:</u> The calculation and assessment is based on <i>Health Canada Draft Guidance on Noise Assessment for CEAA Projects</i>. The formula used is $HA=100/[1+ \exp (10.4 - 01.132 D_{NL})]$%	Accepted by Reviewer ☒ Yes ☐ No SENES Response: Yes, but the formula should be included, as well a sample calculation, in this section of the report.
10	6.1.2	This section should also outline the scenario and assumptions used for structural and assembly noise. Same as with site preparation. <u>Disposition:</u> The structural and assembly scenario is described in Section 3.5 and Table 3.2.	Accepted by Reviewer ☐ Yes ☒ No
11	6.1.2	Since pile driving is likely to be the most significant construction noise source, there is a need to verify whether or not pile driving would be necessary.	Accepted by Reviewer

REVIEW DOCUMENT DESCRIPTION		
Date of comments: 02/06/2009 Disposition: 23/06/2009 Reviewer: 30/06/2009		
DISPOSITION BY AUTHOR AND REVIEWER ☒ Yes ☐ No		
Fred Bernard, SENES Consultants Limited.		
REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION		
<u>Disposition:</u> The need to utilize pile driving will be confirmed as part of the detailed design, as further geotechnical studies are required to make this determination. Should pile driving be required, appropriate mitigation and monitoring programs will be identified and implemented as per Section 7 of the Appendix C-5 "Acoustic Assessment Technical Study Report".		
12	6.1.3	Was the worst case/peak daytime and night time construction traffic modelled? <u>Disposition:</u> The worst-case daytime construction traffic scenario was modeled, and there are no proposed night time construction activities as described in Section 6.1. Traffic would have left the site before commencement of the night time period. The report uses data from a standard paper which is acceptable. Pile driving is an impulsive process and hence the report should use MOE's draft document NPC-207 to assess the impact of Pile driving vibrations. The report should also include the value of the Crest Factor used in the analysis. The vibration dB scale should include the reference value used for determining the dB value. <u>Disposition:</u> The MOE NPC-207 provides a method for assessment of impulse vibration measured inside occupied residential buildings. Generally, vibration impact is confined to a couple of hundred metres. In this case, all critical receptors surrounding the Facility are greater than 200 m from construction, including pile driving activities within the Facility (if required). Therefore, vibration emissions from these activities should not be perceptible, based on the information presented in Section 6.1.4. The value of the Crest Factor used for construction is 4 (Section 6.1.4) More clarification on vibration dB scale and reference may be included in the final report.
13	6.1.4	Are there no closer receptors, based on zoning, than the receptors identified in Table 6.8. <u>Disposition:</u> Based on site visits, zoning schedules, and site views, there are no closer receptors surrounding the Facility. The claim regarding future no build ambient sound levels in the third paragraph on p.40 should be substantiated.
14	6.2	
15	6.4	
Accepted by Reviewer ☒ Yes ☐ No		
Accepted by Reviewer ☐ Yes ☐ No SENES Response: MOE's procedure is to use NPC207, that is a set of impulse limits, evaluate the pile vibration levels at the site and predict the impulse level at the receptor locations. The blanket statement above is vague and the information in Section 6.1.4 does not support the vague statements.		
Accepted by Reviewer ☒ Yes ☐ No		

REVIEW DOCUMENT DESCRIPTION			
Reviewer's Name & Organization		Fred Bernard, SENES Consultants Limited.	Date of comments: 02/06/2009 Disposition: 23/06/2009 Reviewer: 30/06/2009
Comment Number	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	DISPOSITION BY AUTHOR AND REVIEWER
		Disposition: The ambient noise monitoring indicated that current noise levels are in order of 50 dBA, therefore future no-build ambient sound levels at the receptors will stay the same or gradually increase with traffic volumes increase regardless of the Facility operation.	Accepted by Reviewer ☒ Yes ☐ No
16	6.5.4	With reference to the third paragraph under this section, it should be noted that wildlife may be located much closer to the noise sources than the residential receptors, therefore, the criterion of 45 dBA at the receptor location is not an appropriate comparison. In fact, it is unlikely that wildlife of concern are at the receptor location. <u>Disposition:</u> The noise criteria discussed in this Report are applicable to humans only. No standards have been developed for wildlife. However, based on reviewed literature the sound levels above 60 dBA at a distance of several hundred meters from the source would be necessary to affect wildlife. The wildlife of concern is assumed to be located at the Darlington Provincial Park which is far beyond the closest receptors (> 1400 m) so meeting 45 dBA criterion, applicable to humans at the shorter distance (~700 m), will almost certainly meet 60 dBA at the greater distance.	Accepted by Reviewer ☒ Yes ☐ No SENES Response: Yes, but the wording in this section of the report should be improved to reflect the response given above.
17	General	The modelling for the Acoustic Assessment was done using the CADNA-A model. Without access to the model file, or even sample calculations, it is not possible to verify the accuracy of the results in the report. <u>Disposition:</u> The CADNA/A modelling (Section 2.6) was based on ISO-9613-2 Acoustics – Attenuation of Sound During Propagation Outdoors – Part 2: General Method of Calculation algorithm using input data presented in Appendix C. Sample calculation at each of the representative points of reception (POR) for operation scenario are presented in Appendix G.	☐ Yes ☒ No SENES Response: SENES is familiar with the CADNA/A model and uses it for similar applications. Appendix G shows model outputs. These are not sample calculations that allow a reviewer to verify results.
18	General	Further justification is necessary for the use of 0.5 ground adsorption coefficient used in the CADNA-A modelling. <u>Disposition:</u> The ground absorption coefficient of 0.5 was used within the Facility boundary with conservative approach that 50 % of the Site will be covered by asphalt/concrete. The ground absorption coefficient of 0.8 to 0.95 was assumed in the receptors in proximity. Therefore the overall ground absorption was conservatively estimated to be between 0.65 and 0.75.	Accepted by Reviewer ☐ Yes ☒ No SENES Response: Absorption for concrete and asphalt is usually less than 0.1 and the use of a value of 0.5 is not justifiable. The Cadna model should be modified properly.

REVIEW DOCUMENT DESCRIPTION		
Reviewer's Name & Organization Fred Bernard, SENES Consultants Limited.		Date of comments: 02/06/2009 Disposition: 23/06/2009 Reviewer: 30/06/2009
Comment Number 19	Section Number General	DISPOSITION BY AUTHOR AND REVIEWER Accepted by Reviewer ☒ Yes ☐ No
REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION The assessment considers only 140,000 tpy. However, the report indicates that up to 400,000 tpy may be processed. <u>Disposition:</u> Appendix C-5 "Acoustic Assessment Technical Study Report" will be updated to include a complete discussion of the potential effects associated with expansion up to a projected maximum design capacity of 400,000 tpy.		

COMMENT AND DISPOSITION SHEET

DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT Municipality of Clarington Peer Review

Rev. May 2009

Document Title: Draft Report – Acoustic Assessment Technical Study Report (No. 1009497)

Note: These comments are draft and subject to further discussion with the Regions consultants before being finalized.

REVIEW DOCUMENT DESCRIPTION			Date of comments: 02/06/2009 Disposition: 23/06/2009 Reviewer: 30/06/2009
Reviewer's Name & Organization	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	DISPOSITION BY AUTHOR AND REVIEWER
Fred Bernard, SENES Consultants Limited.			
1	2.3	First paragraph states that "receptors that are further removed from the noise source would experience less effect". While this statement is generally true, it is not always the case. The wording should be changed to "... are more likely to experience..." <u>Disposition:</u> This will be considered and incorporated in the final report.	Accepted by Reviewer ☒ Yes ☐ No
2	2.6.2	What adjustments were made to the STAMSON modelling to ensure that the model speed and distance limits were met? A sample calculation should be included to demonstrate the accuracy of such adjustments. <u>Disposition:</u> There were no model speed adjustments made, but rather minimum number of vehicles per hour (40 v/h), and maximum source receiver distance (500 m) parameters were used. This adjustment is very conservative and generally acceptable. Sample calculation of the STAMSON model is included in Appendix H. The results are consistent with the experience of the team in monitoring in similar situations.	Accepted by Reviewer ☒ Yes ☐ No
3	3.2, Table 3-1	Note 4 is unclear, requires further clarification.	

REVIEW DOCUMENT DESCRIPTION

Date of comments: 02/06/2009
Disposition: 23/06/2009
Reviewer: 30/06/2009

DISPOSITION BY AUTHOR AND REVIEWER

Accepted by Reviewer

☒ Yes ☐ No

Accepted by Reviewer

☒ Yes ☐ No

Accepted by Reviewer

☒ Yes ☐ No

Accepted by Reviewer

☐ Yes ☒ No

SENES Response: Worst-case situation refers to more than just the number of pieces of equipment, but is also dependent on the location of the equipment. It is understood that the locations of the equipment have not been confirmed at this point, but some assumption had to be made regarding the locations of the equipment as part of any worst case scenario. Where were the equipment located?

Reviewer's Name & Organization

Fred Bernard, SENES Consultants Limited.

REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION

Comment Number	Section Number	Reviewer's Comments/Author's Disposition	Disposition by Reviewer
		<u>Disposition:</u> The sound power level for this source was adopted from supplier-published data (Appendix C). However, these levels represent engine exhaust without a muffler. Generally, engines are supplied with a standard muffler that provides a noise reduction in noise levels of at least 15-20 dB. It was assumed that a standard muffler would be supplied with each unit, and this scenario was modeled accordingly.	☒ Yes ☐ No
4	3.7	If the number and nature of the "smaller noise sources are not yet known," how then can they be considered "acoustically insignificant"? <u>Disposition:</u> The noise sources described in this section are relatively insignificant when compared to major noise sources, and in consideration of the separation distances between these sources and points of reception. This section will be re-structured in the final report to clarify the text.	☒ Yes ☐ No
5	4.4, Table 4.1	Instead of simply showing the measurement period, the table would be more helpful if it showed the date and time when the minimum ambient sound level was measured at each receptor. This would provide an easier link to the information contained in Appendix E. <u>Disposition:</u> This will be incorporated in the final report.	☒ Yes ☐ No
6	6.1.1	This section should also outline the scenario and assumptions used for predicting site preparation noise. Further, rather than distributing the construction equipment in an "arbitrary pattern", the equipment should have been distributed to represent a worst-case scenario, based on available information. <u>Disposition:</u> This scenario was modeled to represent the worst-case scenario, but there is no information on the equipment location at this stage of the Facility design. In general, many pieces of construction equipment are similar in sound power, therefore it is not necessary to differentiate very much in the distribution of equipment. In practice, often the equipment alternates in the duty cycle, for example trucks are loaded by an active loader, then drive off while the loader idles; in this study we have assumed a reasonable worst-case by treating all sources as concurrently active.	☐ Yes ☒ No SENES Response: Worst-case situation refers to more than just the number of pieces of equipment, but is also dependent on the location of the equipment. It is understood that the locations of the equipment have not been confirmed at this point, but some assumption had to be made regarding the locations of the equipment as part of any worst case scenario. Where were the equipment located?

REVIEW DOCUMENT DESCRIPTION			Date of comments: 02/06/2009 Disposition: 23/06/2009 Reviewer: 30/06/2009
Reviewer's Name & Organization	Fred Bernard, SENES Consultants Limited.		DISPOSITION BY AUTHOR AND REVIEWER
Comment Number	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	
7	5.1.3	Why is the night time sound level limit at POR02 47 dBA and not 45 dBA? <u>Disposition:</u> The ambient noise monitoring Location 1 (Section 4.3) was assumed to be representative of both POR1 and POR2 because of the same proximity to Highway 401 which is considered to be the main ambient noise contributor. Therefore, the same ambient noise monitoring level was applied for both receptors. Also, MOE NPC-205 guideline stipulates that the applicable criterion is the higher of the existing ambient or 45 dBA in the lowest hour during the nighttime period.	Accepted by Reviewer ☒ Yes ☐ No
8	6.1.1	It is most difficult to determine the site preparation scenario modelled from the data presented in Appendix G. There should be a clear link between the text, figures in Appendix F and the data in Appendix G. There needs to be a delineation of the data in Appendix G by the distinct scenarios. <u>Disposition:</u> Appendix G contains detailed output information for the operations case only. Site preparation calculation and reference will be included in the final report.	Accepted by Reviewer ☒ Yes ☐ No
9	6.1.1	As per Table 6.2, it is not clear how the % highly annoyed was calculated. Please show sample calculation. <u>Disposition:</u> The calculation and assessment is based on <i>Health Canada Draft Guidance on Noise Assessment for CEAA Projects</i>. The formula used is $HA=100/[1+ \exp (10.4 - 01.132 D_{NL})]\%$	Accepted by Reviewer ☒ Yes ☐ No SENES Response: Yes, but the formula should be included, as well a sample calculation, in this section of the report.
10	6.1.2	This section should also outline the scenario and assumptions used for structural and assembly noise. Same as with site preparation. <u>Disposition:</u> The structural and assembly scenario is described in Section 3.5 and Table 3.2.	Accepted by Reviewer ☐ Yes ☒ No
11	6.1.2	Since pile driving is likely to be the most significant construction noise source, there is a need to verify whether or not pile driving would be necessary.	Accepted by Reviewer

REVIEW DOCUMENT DESCRIPTION

Date of comments: 02/06/2009
Disposition: 23/06/2009
Reviewer: 30/06/2009

DISPOSITION BY AUTHOR
AND REVIEWER

☒ Yes ☐ No

Accepted by Reviewer
☒ Yes ☐ No

Accepted by Reviewer
☐ Yes ☐ No

SENES Response: MOE's procedure is to use NPC207, that is a set of impulse limits, evaluate the pile vibration levels at the site and predict the impulse level at the receptor locations. The blanket statement above is vague and the information in Section 6.1.4 does not support the vague statements.

Accepted by Reviewer
☒ Yes ☐ No

Reviewer's Name
& Organization

Fred Bernard, SENES Consultants Limited.

Comment
Number

Section
Number

REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION

Disposition:

The need to utilize pile driving will be confirmed as part of the detailed design, as further geotechnical studies are required to make this determination. Should pile driving be required, appropriate mitigation and monitoring programs will be identified and implemented as per Section 7 of the Appendix C-5 "Acoustic Assessment Technical Study Report".

Was the worst case/peak daytime and night time construction traffic modelled?

Disposition:

The worst-case daytime construction traffic scenario was modeled, and there are no proposed night time construction activities as described in Section 6.1. Traffic would have left the site before commencement of the night time period.

The report uses data from a standard paper which is acceptable. Pile driving is an impulsive process and hence the report should use MOE's draft document NPC-207 to assess the impact of Pile driving vibrations. The report should also include the value of the Crest Factor used in the analysis. The vibration dB scale should include the reference value used for determining the dB value.

Disposition:

The MOE NPC-207 provides a method for assessment of impulse vibration measured inside occupied residential buildings. Generally, vibration impact is confined to a couple of hundred metres. In this case, all critical receptors surrounding the Facility are greater than 200 m from construction, including pile driving activities within the Facility (if required). Therefore, vibration emissions from these activities should not be perceptible, based on the information presented in Section 6.1.4.

The value of the Crest Factor used for construction is 4 (Section 6.1.4)

More clarification on vibration dB scale and reference may be included in the final report.

Are there no closer receptors, based on zoning, than the receptors identified in Table 6.8.

Disposition:

Based on site visits, zoning schedules, and site views, there are no closer receptors surrounding the Facility.

The claim regarding future no build ambient sound levels in the third paragraph on p.40 should be substantiated.

REVIEW DOCUMENT DESCRIPTION

Reviewer's Name & Organization		Fred Bernard, SENES Consultants Limited.		Date of comments: 02/06/2009 Disposition: 23/06/2009 Reviewer: 30/06/2009	
		REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION		DISPOSITION BY AUTHOR AND REVIEWER	
Comment Number	Section Number			Accepted by Reviewer ☒ Yes ☐ No	
16	6.5.4	<u>Disposition:</u> The ambient noise monitoring indicated that current noise levels are in order of 50 dBA, therefore future no-build ambient sound levels at the receptors will stay the same or gradually increase with traffic volumes increase regardless of the Facility operation. With reference to the third paragraph under this section, it should be noted that wildlife may be located much closer to the noise sources than the residential receptors, therefore, the criterion of 45 dBA at the receptor location is not an appropriate comparison. In fact, it is unlikely that wildlife of concern are at the receptor location. <u>Disposition:</u> The noise criteria discussed in this Report are applicable to humans only. No standards have been developed for wildlife. However, based on reviewed literature the sound levels above 60 dBA at a distance of several hundred meters from the source would be necessary to affect wildlife. The wildlife of concern is assumed to be located at the Darlington Provincial Park which is far beyond the closest receptors (> 1400 m) so meeting 45 dBA criterion, applicable to humans at the shorter distance (~700 m), will almost certainly meet 60 dBA at the greater distance. The modelling for the Acoustic Assessment was done using the CADNA-A model. Without access to the model file, or even sample calculations, it is not possible to verify the accuracy of the results in the report. <u>Disposition:</u> The CADNAVA modelling (Section 2.6) was based on ISO-9613-2 Acoustics – Attenuation of Sound During Propagation Outdoors – Part 2: General Method of Calculation algorithm using input data presented in Appendix C. Sample calculation at each of the representative points of reception (POR) for operation scenario are presented in Appendix G.		Accepted by Reviewer ☒ Yes ☐ No SENES Response: Yes, but the wording in this section of the report should be improved to reflect the response given above.	
17	General			☐ Yes ☒ No SENES Response: SENES is familiar with the CADNA/A model and uses it for similar applications. Appendix G shows model outputs. These are not sample calculations that allow a reviewer to verify results.	
18	General	Further justification is necessary for the use of 0.5 ground adsorption coefficient used in the CADNA-A modelling. <u>Disposition:</u> The ground absorption coefficient of 0.5 was used within the Facility boundary with conservative approach that 50 % of the Site will be covered by asphalt/concrete. The ground absorption coefficient of 0.8 to 0.95 was assumed in the receptors in proximity. Therefore the overall ground absorption was conservatively estimated to be between 0.65 and 0.75.		Accepted by Reviewer ☐ Yes ☒ No SENES Response: Absorption for concrete and asphalt is usually less than 0.1 and the use of a value of 0.5 is not justifiable. The Cadna model should be modelled properly.	

REVIEW DOCUMENT DESCRIPTION		
Reviewer's Name & Organization Fred Bernard, SENES Consultants Limited.		Date of comments: 02/06/2009 Disposition: 23/06/2009 Reviewer: 30/06/2009
Comment Number 19	Section Number General	DISPOSITION BY AUTHOR AND REVIEWER Accepted by Reviewer ☒ Yes ☐ No
REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION The assessment considers only 140,000 tpy. However, the report indicates that up to 400,000 tpy may be processed. Disposition: Appendix C-5 "Acoustic Assessment Technical Study Report" will be updated to include a complete discussion of the potential effects associated with expansion up to a projected maximum design capacity of 400,000 tpy.		

COMMENT AND DISPOSITION SHEET

DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT Municipality of Clarington Peer Review

Document Title: Draft Visual Assessment

Rev.
May,
2009

Note: These comments are draft and subject to further discussion with the Region's consultants before being finalized.

REVIEW DOCUMENT DESCRIPTION			Date of comments: 04/06/2009 Disposition: 26/06/2009 Reviewer: 29/06/2009
Reviewer's Name & Organization		REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	DISPOSITION BY AUTHOR AND REVIEWER
1	Executive Summary	Ruth Porras, Municipality of Clarington The scope of The Visual Assessment Technical Study Report as outlined in the Executive Summary is clearly stated; however, the scope of the undertaking is not clearly stated within this report. It should be clarified that the visualizations use massing not the actual design. In addition, it should be clearly stated that the visualizations are for the 140,000 tonne scenario not the ultimate build out. There should be a better description of the Facility and its component (either in the Executive Summary or in 2.3.2.1), particularly those which have visual impacts; such as the transmission yard, storage and handling areas, height of buildings and stack, height of receiving area above Energy Drive. The report has been completed for the use in the Environmental Assessment (EA) for the Proposed Thermal Treatment Facility. The study includes consideration and assessment of the potential change in the existing visual aesthetics that could result from the development of the facility within the study area. However, a number of the comments used to characterize the existing landscape are subjective and not qualified. The project was promoted on the basis of high quality landmark design and should provide a less-utilitarian look as a key mitigation for its bulk. The Clarington Energy Business Park is envisioned as prestige commercial and industrial business park not a heavy industry area. <u>Disposition:</u> Additional text regarding the technical limitations associated with the modelling will be added to the Report (i.e., visualizations use massing based on conceptual design and do not use actual design). In addition to the assessment of the initial design capacity of 140,000 tpy, the Report has been revised to include the assessment of the projected maximum design capacity of 400,000 tpy. A description of the Facility components will be added to the report. The visual characteristics of a landscape are subjective and cannot necessarily be quantified. This visual impact assessment focused on the worst-case scenario where the basic design specifications and dimensions were used. The actual facility, as illustrated by the artistic renderings, would employ high quality design and architectural principles to ensure that the facility would be consistent with the intent for the Clarington Energy Business Park to be a prestige commercial and industrial business park, as envisioned. In addition, as described in the Host Community Agreement, Durham has incorporated a cash allowance of up to nine million dollars in the RFP for the provision of architectural treatments and upgrades to the Facility.	Accepted by Reviewer ☒ Yes ☐ No Accepted subject to review of the Final Report.

COMMENT AND DISPOSITION SHEET

DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT Municipality of Clarington Peer Review

Document Title: Draft Visual Assessment

Rev.
May,
2009

Note: These comments are draft and subject to further discussion with the Region's consultants before being finalized.

REVIEW DOCUMENT DESCRIPTION			Date of comments: 04/06/2009 Disposition: 26/06/2009 Reviewer: 29/06/2009	DISPOSITION BY AUTHOR AND REVIEWER
Reviewer's Name & Organization	Ruth Porras, Municipality of Clarington			
Comment Number	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION		
2	2.1	Need to review Visual Sensibility section since when the 401/407 interchange ramps are built passing motorists will view the Energy from Waste Facility from higher level making this location a very prominent landmark with higher sensitivity than expressed. The initial and critical vista for the motorist public travelling along the 401, it is the impression that they will be left with for all of Clarington. <u>Disposition:</u> The Report will be revised to include additional photo montages depicting the conceptual Facility as potentially seen from a) passing motorists driving on the proposed Highway 401/407 interchange; and b) various vantage points from the proposed OPG building and Energy Park Drive based on the information provided by the Municipality. References for the studies mentioned should be included. Studies for similar facilities often consider 20 km for the study area. <u>Disposition:</u> Other studies that have been directly referenced within this report have been included within the Section on references located at the end of the Report. The 1 km and 5 km study area radii were based on study areas used through the EA and in other technical study reports. References will be reviewed and updated accordingly. Based on the results of the photo montages and the viewshed analyses depicted in Figures 4-18 and 4-19 for the 140,000 tpy scenario and the recently added Figures 4-20 and 4-21 for the 400,000 tpy scenario, a 20 km study area was considered not to be necessary because the anticipated potential visual effects beyond the 5 km radius are expected to be minimal. There are a number of projects planned for the study area that are at comparable or further advanced approval stages and should be identified. This would assist with the consideration of potential visual effects. These are: a. Proposed OPG Office Building and Visitor Centre b. 401/407 interchange ramps The Secondary Plan and Official Plan policies are in force, there are conceptual plans for the Clarington Energy Business Park, these should have been used to provide for an understanding of the overall visual impacts. The OP policies and Zoning By-law require a minimum of 4 storey buildings south of the 401 near the Courtyce Road interchange.	Accepted by Reviewer ☒ Yes ☐ No Accepted subject to review of the Final Report.	
3	2.2		Accepted by Reviewer ☒ Yes ☐ No	
4	2.3.1		Accepted by Reviewer ☒ Yes ☐ No Accepted subject to review of the photo montages.	

COMMENT AND DISPOSITION SHEET

DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT Municipality of Clarington Peer Review

Document Title: Draft Visual Assessment

Rev.
May,
2009

Note: These comments are draft and subject to further discussion with the Region's consultants before being finalized.

REVIEW DOCUMENT DESCRIPTION			Date of comments: 04/06/2009 Disposition: 26/06/2009 Reviewer: 29/06/2009
Reviewer's Name & Organization	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	DISPOSITION BY AUTHOR AND REVIEWER
Ruth Porras, Municipality of Clarington		<u>Disposition:</u> The Report was based on existing conditions using relatively recent photo montages of the area to conceptualize what the proposed Facility would look like within the existing landscape demonstrating the worst case potential visual effects. In addition, the visual assessment primarily focussed on the potential visual effects of the Facility on the area outside of the proposed Clarington Energy Business Park. The Report will be revised to include additional photo montages depicting the conceptual Facility as potentially seen from a) passing motorists driving on the proposed Highway 401/407 interchange; and b) various vantage points from the proposed OPG building and Energy Park Drive based on the information provided by the Municipality.	
5	2.3.2.2	- Additional photo montage and 3D renderings should be prepared to include views with the 401/407 interchange ramps and proposed OPG Office Building - Visual Simulations for Site 10, 11, 14 and 15 should include the 401/407 interchange ramps and proposed OPG Office Building. <u>Disposition:</u> The Report was based on existing conditions using relatively recent photo montages of the area to conceptualize what the proposed Facility would look like within the existing landscape demonstrating the worst case potential visual effects. In addition, the visual assessment primarily focussed on the potential visual effects of the Facility on the area outside of the proposed Clarington Energy Business Park. The Report will be revised to include additional photo montages depicting the conceptual Facility as potentially seen from a) passing motorists driving on the proposed Highway 401/407 interchange; and b) various vantage points from the proposed OPG building and Energy Park Drive based on the information provided by the Municipality.	Accepted by Reviewer ☒ Yes ☐ No Accepted subject to review of the photo montages.
6	3.1.1.1	The OPG Office Building and OPG Visitor Centre should be identified as a receptor.	Accepted by Reviewer ☐ Yes ☒ No

COMMENT AND DISPOSITION SHEET

DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT Municipality of Clarington Peer Review

Document Title: Draft Visual Assessment Note: These comments are draft and subject to further discussion with the Region's consultants before being finalized.	Rev. May, 2009
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REVIEW DOCUMENT DESCRIPTION			Date of comments: 04/06/2009 Disposition: 26/06/2009 Reviewer: 29/06/2009
Reviewer's Name & Organization	Ruth Porras, Municipality of Clarington		DISPOSITION BY AUTHOR AND REVIEWER The OPG Office Building and Visitor Centre are further along in their approvals process that the EFW and therefore should be listed as "receptors".
Comment Number	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	
		<u>Disposition:</u> The Report was based on existing conditions using relatively recent photo montages of the area to conceptualize what the proposed Facility would look like within the existing landscape demonstrating the worst case potential visual effects. In addition, the visual assessment primarily focussed on the potential visual effects of the Facility on the area outside of the proposed Clarington Energy Business Park. The Report will be revised to include additional photo montages depicting the conceptual Facility as potentially seen from a) passing motorists driving on the proposed Highway 401/407 interchange; and b) various vantage points from the proposed OPG building and Energy Park Drive based on the information provided by the Municipality.	
7	4.3	Regarding the Identification and Analysis of Potential Effects, landscape features such as trees and hedgerows located within the study area will change over time. Therefore the view of the structure and its immediate landscape features must be carefully considered and within the site. Table 4-1 which indicates the level of impact expected (future tense) at each receptor does not reflect the high sensitivity that the visual impact of this 13 plus storey project will have on the Clarington Energy Business Park, Highway 401, Waterfront Trail and CN Rail. All of which have been rated as "medium" when "high" would be more appropriate.	Accepted by Reviewer ☒ Yes ☐ No The final report should include the reasoning provided in this response.

COMMENT AND DISPOSITION SHEET

DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT Municipality of Clarington Peer Review

Document Title: Draft Visual Assessment		Rev. May, 2009
Note: These comments are draft and subject to further discussion with the Region's consultants before being finalized.		

REVIEW DOCUMENT DESCRIPTION			Date of comments: 04/06/2009 Disposition: 26/06/2009 Reviewer: 29/06/2009
Reviewer's Name & Organization	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION		DISPOSITION BY AUTHOR AND REVIEWER
Ruth Porras, Municipality of Clarington			
Comment Number	Section Number	<u>Disposition:</u> The assessment is based on current visual characteristics and conditions at the site. While the presence of trees and hedgerows may change over time, these alterations cannot be predicted, and the various scenarios of tree removal, growth or future plantings cannot be included or accounted for in the assessment at this time. According to the definitions provided in Table 2-1, Highway 401, CN Rail and users of the Waterfront Trail may bring a higher number of viewers to the area increasing the level of the magnitude of the effect, these viewers would continue to consist primarily of individuals with a passing interest in their visual surroundings, thus continuing to warrant a medium sensitivity rating. For receptors within the Clarington Energy Business Park, these individuals will be employees or visitors to the site and will be considered to have a medium sensitivity (i.e., not as proprietary as a resident, but more interest than a passing motorist). The Report will be revised to include additional photo montages depicting the conceptual Facility as potentially seen from a) passing motorists driving on the proposed Highway 401/407 interchange; and b) various vantage points from the proposed OPG building and Park Drive based on the information provided by the Municipality. In addition, as described in the Host Community Agreement, Durham has incorporated a cash allowance of up to nine million dollars in the RFP for the provision of architectural treatments and upgrades to the Facility. This will also ensure appropriate and effective visual mitigation measures are used.	

COMMENT AND DISPOSITION SHEET

DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT Municipality of Clarington Peer Review

Rev.
May,
2009

Document Title: Draft Visual Assessment

Note: These comments are draft and subject to further discussion with the Region's consultants before being finalized.

REVIEW DOCUMENT DESCRIPTION			Date of comments: 04/06/2009 Disposition: 26/06/2009 Reviewer: 29/06/2009
Reviewer's Name & Organization	Ruth Porras, Municipality of Clarington		DISPOSITION BY AUTHOR AND REVIEWER
Comment Number	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	Accepted by Reviewer ☒ Yes ☐ No Subject to inclusion in the final report and Section 13 of the EA document under mitigation.
8	5.1	There are a number of measures that can be implemented to mitigate the visual effect of the facility. For instance: - The massing of the proposed EFW building can be reduced by locating a portion of the facility partially below ground to reduce its visual impact on the surrounding landscape. - Special treatment should be given to the facade facing Highway 401 - Minimize the visual impact by reducing the mass, angles and scale of the building. - The width of the building's north elevation (proposed Energy Drive) should be at least 40% of the lot width (Clarington Energy Business Park Secondary Plan). - To establish a consistent streetscape edge along proposed roads and landscaping within the site. - Curved sloping green roofs should be incorporated to soften the outline of the building. - The exterior colouring of the building should also assist in blending the facility in with its surrounding. - Minimize the height of the stack by using visual allusion techniques This project will be required to meet the guidelines expressed in the Official Plan, Zoning By-law and will be subject to site plan approval. The facility has many aspects including operation and service areas which can be mitigated through site design. <u>Disposition:</u> As described in the Host Community Agreement, Durham has incorporated a cash allowance of up to nine million dollars in the RFP for the provision of architectural treatments and upgrades to the Facility. This will also ensure appropriate and effective visual mitigation measures are used. Details regarding the proposed measures used to mitigate the visual effect of the Facility will be made available once the preferred design concept is selected and detailed design work is undertaken, with this work being undertaken post-submission of the EA.	

COMMENT AND DISPOSITION SHEET

DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT Municipality of Clarington Peer Review

Document Title: Draft Visual Assessment		Rev. May, 2009
Note: These comments are draft and subject to further discussion with the Region's consultants before being finalized.		

REVIEW DOCUMENT DESCRIPTION			Date of comments: 04/06/2009 Disposition: 26/06/2009 Reviewer: 29/06/2009
Reviewer's Name & Organization	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	DISPOSITION BY AUTHOR AND REVIEWER
Ruth Porras, Municipality of Clarington			
9	6.0	The fact that other industrial facilities are or will be visible, should be only taken into account for the analysis as a background reference. The proposed development is within the Clarington Energy Business Park and should be developed in conformity with the Principles established for Design Excellence. • The physical and business environment of the park should make it a showcase for Clarington, Durham Region and Ontario. • Celebrate its presence with an innovative design representing the modern day technology. • The design should reflect the community's vision for the future of the area. <u>Disposition:</u> The reference to the fact that other industrial facilities are or will be as visible at the EFW Facility is used only to place this project into context with its surroundings. The mitigation measures will be revised to include consideration of the above principles for design excellence. In addition, as described in the Host Community Agreement, Durham has incorporated a cash allowance of up to nine million dollars in the RFP for the provision of architectural treatments and upgrades to the Facility. This will also ensure appropriate and effective visual mitigation measures are used.	Accepted by Reviewer ☒ Yes ☐ No Accepted, subject to review of the final report.
10	6.1	Reference to the Clarington Energy Business Park being in the planning stages is inaccurate. The Secondary Plan and zoning was completed in 2006, it is in the process of being implemented. OPG draft plan of subdivision approved in 2009. Capital works are being designed. <u>Disposition:</u> This reference regarding the planning and design status of the Clarington Energy Business Park will be updated to reflect the above noted status of the CEBP.	Accepted by Reviewer ☒ Yes ☐ No
11	7.0	"If visual concerns are raised by receptors in the vicinity" then mitigation will be undertaken. Mitigation is the responsibility of the proponent and should be proposed and committed to as part of the EA. "The presence of the facility...could result in change to the existing local landscape". The facility will result in changes to the local landscape, therefore mitigation is necessary.	Accepted by Reviewer

COMMENT AND DISPOSITION SHEET

DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT Municipality of Clarington Peer Review

Document Title: Draft Visual Assessment		Rev. May, 2009
Note: These comments are draft and subject to further discussion with the Region's consultants before being finalized.		

REVIEW DOCUMENT DESCRIPTION		
Reviewer's Name & Organization		Date of comments: 04/06/2009 Disposition: 26/06/2009 Reviewer: 29/06/2009
Comment Number	Section Number	DISPOSITION BY AUTHOR AND REVIEWER
		☒ Yes ☐ No Subject to inclusion in the monitoring section of the final document.
		Reviewer's Comments/Author's Disposition <u>Disposition:</u> Mitigation measures will be employed at the site. Should visual concerns be raised at specific receptor locations, after such mitigation has been employed, each complaint would be addressed on a case-by-case basis. The mitigation measures will be revised to include consideration of the factors noted in comment #9 above. In addition, as described in the Host Community Agreement, Durham has incorporated a cash allowance of up to nine million dollars in the RFP for the provision of architectural treatments and upgrades to the Facility. This will also ensure appropriate and effective visual mitigation measures are used

COMMENT AND DISPOSITION SHEET

DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT Municipality of Clarington Peer Review

Document Title: Draft Report – Natural Environment Impact Assessment (No. 1009497)

Note: These comments are draft and subject to further discussion with the Regions consultants before being finalized.

Rev. May 2009

REVIEW DOCUMENT DESCRIPTION		
Reviewer's Name & Organization	Paul Patrick, SENES Consultants Limited	Date of comments: 03/06/2009 Disposition: 23/06/2009 Reviewer: 30/06/2009
Comment Number	Section Number	DISPOSITION BY AUTHOR AND REVIEWER
1	Executive Summary	Reference to 2007 and 2008 surveys. However, study methodology (Section 2.0) refers to only July 18-20, 2007 field studies. More details required on subsequent studies which targeted seasonal-sensitive species and features. Need to review these results. <u>Disposition:</u> Initial surveys were completed in 2007. References to 2008 surveys have been removed from the revised report. Methodologies related to the May 7, 2009 field work are included in the revised report. Accepted by Reviewer ☒ Yes ☐ No
2	1.1	What about considering interactions such as from air emissions? Is there any air/liquid release from this facility? Is there a storm water facility? If so, where is the discharge? Lake Ontario is only 400m south of the site. More detail required within this study report to support the claim of net effects. <u>Disposition:</u> Emissions to air and water are not discussed in this report. Rather, liquid releases and stormwater discharges are discussed in Surface Water and Groundwater Assessment, while air emissions are discussed in the Air Quality Assessment and the Human Health and Ecological Risk Assessment reports. Accepted by Reviewer ☒ Yes ☐ No
3	1.1	There are no federal environmental triggers. However, additional studies were proposed in 2009 to investigate the ditch which likely may include fish habitat (possibility of a HADD). The results of this study should be addressed in the report. Accepted by Reviewer ☒ Yes ☐ No

REVIEW DOCUMENT DESCRIPTION			
Reviewer's Name & Organization		Paul Patrick, SENES Consultants Limited	Date of comments: 03/06/2009 Disposition: 23/06/2009 Reviewer: 30/06/2009
Comment Number	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	DISPOSITION BY AUTHOR AND REVIEWER
4	3.1.1	<u>Disposition:</u> Results of the May 7 2009 field work documenting confirmed lack of fish habitat are included in the revised version of the report. Although hedgerows are isolated from larger forested area, they do provide habitat especially for transient species, and are important as a corridor for wildlife.	Accepted by Reviewer ☒ Yes ☐ No
5	3.1.2	<u>Disposition:</u> The value of the hedgerows as movement corridors is discussed on Page 5 of the report. When were these bird surveys conducted in 2007 (mid-summer only?) and in 2008. This area is an important migratory route for birds. A wider variety of species was anticipated.	Accepted by Reviewer ☒ Yes ☐ No
6	3.1.2	<u>Disposition:</u> As stated in the methodology, the bird species list was compiled from field visits on July 18th, 19th and 20th, 2007. Surveys were not targeted on breeding bird or migratory counts but rather, they focused on incidental species occurrences. Given the limited natural cover on site and the industrial nature of the area, this general approach to avian surveys was considered appropriate. References to 2008 surveys have been removed. Why is the data on bird surveys not given in an Appendix. The only data available is the OBBA record. How many species were recorded in your surveys? Data from field work in 2007 and in 2008 should be an Appendix.	Accepted by Reviewer ☒ Yes ☐ No
7	3.1.4	<u>Disposition:</u> Common and scientific names for 17 species of birds were documented during the 2007 field surveys, including breeding evidence of 5 species and is provided in Section 3.1.2 of the revised version of the report.. This documents bird species encountered during fieldwork that were present on Site. The OBBA data documents information gathered from other sources and as such is separated from the study-specific data in an appendix to the technical report. References to 2008 survey have been removed. Summary of vegetation species should be given rather than general statements. Data should be in an Appendix.	Accepted by Reviewer ☒ Yes ☐ No
8	3.1.5	<u>Disposition:</u> Section 3.1.5 provides a summary of all vegetation species documented during the site visits. Additional survey of the drainage ditch is required during the freshet period. If water present, fisheries studies should be conducted and a commitment for addressing the HADD provided.	Accepted by Reviewer ☒ Yes ☐ No
		<u>Disposition:</u> The information gathered from the spring freshet survey for the drainage ditch is included in the revised report.	

REVIEW DOCUMENT DESCRIPTION			Date of comments: 03/06/2009 Disposition: 23/06/2009 Reviewer: 30/06/2009
Reviewer's Name & Organization		Paul Patrick, SENES Consultants Limited	
Comment Number	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	DISPOSITION BY AUTHOR AND REVIEWER
9	Table 4.1	The hedgerow is an important feature which mammals tend to use as part of the corridor. Similarly for avian species. How will these native shrubs be placed? I would expect a loss of bird diversity- therefore an impact occurs, how is it going to be investigated? <u>Disposition:</u> Functional hedgerow habitat is being compensated via the creation of an east-west wildlife corridor south of the Facility. Planting plans and species selection will be determined during detailed design phases and illustrated in a landscaping plan for the Facility. Net Effects- Removal of up to 515 m of hedgerow is being offset with some shrubs/tree plantings. However, some diversity loss would be expected. Recommend follow-up studies to confirm that there is no loss of diversity. However, the baseline data must be detailed in order to make the comparison and claim 'no significant net effects would be anticipated' - commitment.	Accepted by Reviewer ☒ Yes ☐ No
10	Table 4.1	<u>Disposition:</u> Diversity on site is currently limited due to historical agricultural practices and industrial land uses surrounding the site. Overall, species richness of the hedgerow was low, and no significant tree or shrub species were noted. In fact, many of the species present were invasive. It is anticipated that species diversity is likely to increase through the landscaping plan, which incorporates native species. No net effect results have to be established; without fisheries info for drainage ditch cannot be completed. <u>Disposition:</u> The information gathered from the spring freshet survey for the drainage ditch is included in the revised report. Should indicate the date of NHIC record for Milkshake and Bushy Cinquefoil. <u>Disposition:</u> Dates have been added to the report for these two species occurrences [i.e., Milkshake (1989), Bushy Cinquefoil (1980)]. Technical data from 2007, 2008 and 2009 (recent survey) not just summary paragraphs should be available. Avian studies should be documented in spring, summer and fall. Recommend follow-up studies if hedgerow removed since only significant habitat in area and loss may result in reduction in species diversity (even after mitigation). <u>Disposition:</u> Avian studies were conducted in summer of 2007 and spring of 2009. They showed little variation from year to year or season to season. Fall studies are, therefore, not anticipated to add any data of real value to the existing known avifauna. References to 2008 removed.	Accepted by Reviewer ☒ Yes ☐ No
11	Table 4.1		Accepted by Reviewer ☒ Yes ☐ No
12	3.1.3-3.1.4		Accepted by Reviewer ☒ Yes ☐ No
13	General		Accepted by Reviewer ☒ Yes ☐ No

REVIEW DOCUMENT DESCRIPTION		
Reviewer's Name & Organization		Date of comments: 03/06/2009 Disposition: 23/06/2009 Reviewer: 30/06/2009
Paul Patrick, SENES Consultants Limited		
REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION		
Comment Number 14	Section Number General	Impacts are not specified. Impacts only seem to relate to site preparation and construction – physical disposition. What about impacts of the operation and maintenance of the facility (e.g. Air/liquid emissions to the environment)? Do not seem to be addressed but should be. <u>Disposition:</u> The potential effects on the natural environment "off-site" have been assessed in other technical study documents including potential effects on air, water, vegetation, wildlife, etc. Please refer to Appendix C-1 - Air Quality Assessment Technical Study Report; Appendix C-2 - Surface Water and Groundwater Assessment Technical Study Report; Appendix C-5 - Acoustic Assessment Technical Study Report; and, Appendix C-12 - Site Specific Human Health and Ecological Risk Assessment (HHERA) Technical Study Report. Construction of stormwater management facility. How will this interact with existing environment? Where is discharge? Needs to be detailed in report. <u>Disposition:</u> All information related to the stormwater management facility can be found in Appendix C-2 - Surface Water and Groundwater Assessment Technical Study Report, including discharge-related information.
Disposition by Reviewer ☒ Yes ☐ No	DISPOSITION BY AUTHOR AND REVIEWER	
Comment Number 15	Section Number General	Accepted by Reviewer ☒ Yes ☐ No

COMMENT AND DISPOSITION SHEET

DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT Municipality of Clarington Peer Review

Document Title: Draft Report – Social/Cultural Assessment Technical Study Report (No. 1009497)

Rev. May 2009

Note: These comments are draft and subject to further discussion with the Regions consultants before being finalized.

REVIEW DOCUMENT DESCRIPTION			Date of comments: 01/06/2009 Disposition: 25/06/2009 Reviewer: 30/06/2009
Reviewer's Name & Organization		Reviewer's Comments/AUTHOR'S DISPOSITION	DISPOSITION BY AUTHOR AND REVIEWER
Gwen Brice, SENES Consultants Limited with comments from Steve Rowe and Will McCrae			
1	Exec Summary, page ii, 2 nd paragraph	"This Social/Cultural was Assessment..." should read "This Social/Cultural Assessment..." <u>Disposition:</u> Agreed, will be addressed in Final Report	Accepted by Reviewer ☒ Yes ☐ No
2	2.2, page 10, 6 th bullet	Please provide clarification of when the two phases of expansion are estimated to occur within the 30 year operation phase. <u>Disposition:</u> The timing of the expansion phases during the 30 year operation phase is currently unknown, as the requirement for expansion depends on a number of factors that cannot reasonably be predicted at this time.	Accepted by Reviewer ☒ Yes ☐ No
3	2.3, page 10-11	The study areas as defined do not include near shore Lake Ontario, which may be of interest from a recreational perspective. – see comment number 9 below. <u>Disposition:</u> While the LSSA and CSSA were portrayed as ending at the shoreline, the Final Report will include consideration of the effects of the Undertaking on recreational activities that may occur on Lake Ontario within 1 and 5 km from the Site.	Accepted by Reviewer ☒ Yes ☐ No
4	2.1.2, page 8, last paragraph	"Generally, the results of the consultation process undertaken during the EA, particularly in regards to community attitudes toward the Project, were considered during the assessment of the potential effects on the broader community." Clarification required as to how community attitudes were considered and to what degree these attitudes influenced the assessment.	Accepted by Reviewer ☒ Yes ☐ No

REVIEW DOCUMENT DESCRIPTION			Date of comments: 01/06/2009 Disposition: 25/06/2009 Reviewer: 30/06/2009
Reviewer's Name & Organization		Gwen Brice, SENES Consultants Limited with comments from Steve Rowe and Will McCrae	
Comment Number	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	DISPOSITION BY AUTHOR AND REVIEWER
		<u>Disposition:</u> The Final Report will integrate results of the consultation regarding the assessment of the Undertaking. Additional clarification will be provided in regards to consideration of community attitudes.	
5	Figure 2-1	As it is mentioned in previous report sections that the site is located within the Clarington Energy Business Park, an outline of this area would be useful for the reader on this figure to enhance understanding of the location of the planned land use. The existing baseline photo used for Figure 2-1 shows a predominantly rural agricultural area.	Accepted by Reviewer ☒ Yes ☐ No
6	3.5.1 & 3.5.3	<u>Disposition:</u> Secondary Plan information regarding the intended land use in the CEBP was provided in the Report. Figure 2-1 provides an overview of current conditions. Information provided (re LOS) in 3.5.1 is repeated in 3.5.3 unnecessarily, either combine sections or edit material out of 3.5.3.	Accepted by Reviewer ☒ Yes ☐ No
7	3.2.1, page 18	<u>Disposition:</u> Agreed. Illustration reference not provided, as per error message.	Accepted by Reviewer ☒ Yes ☐ No
8	3.3, page 2, 6 th bullet point	<u>Disposition:</u> Will be addressed in the Final Report. Typo- "One residences.." should read "One residence..."	Accepted by Reviewer ☒ Yes ☐ No
9	3.3.2, page 3	<u>Disposition:</u> Will be addressed in the Final Report. Parks and Recreational Areas discusses land-based recreation, but omits any reference to use of the lake within the LSSA, or CSSA for boating (canoeing, kayaking, motor boats), wind surfing or other water-based use. The definition of both the LSSA and CSSA ends at the shoreline, are any other recreational uses overlooked as a result?	Accepted by Reviewer ☒ Yes ☐ No
10	Table 4-1, Dust page 17, Dust	<u>Disposition:</u> While the LSSA and CSSA were portrayed as ending at the shoreline, the Final Report will include consideration of the effects of the Undertaking on recreational activities that may occur on Lake Ontario within 1 and 5 km from the Site. Dust emissions from construction are described as a temporary effect on local air quality; however, under "Net Effects" only a minimal long term net effect is identified. Although a number of mitigation measures are identified to address this nuisance during construction, a temporary short term effect is probable, and as such the net effect column should reflect this.	Accepted by Reviewer ☒ Yes ☐ No

REVIEW DOCUMENT DESCRIPTION				Date of comments: 01/06/2009 Disposition: 25/06/2009 Reviewer: 30/06/2009	
Reviewer's Name & Organization		Gwen Brice, SENES Consultants Limited with comments from Steve Rowe and Will McCrae		DISPOSITION BY AUTHOR AND REVIEWER	
Comment Number	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION			
11		<u>Disposition:</u> The Final Report will note that in regards to dust emissions, that there could be 'short-term construction related net effects'. Inconsistent representation of net effect. "Net effect" stated; however, not qualified, i.e. minimal, short or long term.		Accepted by Reviewer ☒ Yes ☐ No	
12	Table 4-1, page 19, Visual	<u>Disposition:</u> If an effect over the longer term (operational period) was likely, it was simply identified as a "Net effect". Further information will be provided in the Final Report to qualify the net effects. The analysis considers the effect on the public using the facility, but does not seem to include employees at these facilities. Did the analysis include the effect of nuisance odour, noise, traffic on employees at the identified Facilities?		Accepted by Reviewer ☒ Yes ☐ No	
13	Table 4-3, page 23, Noise	<u>Disposition:</u> Final report will clarify that the assessment of net effects did include employees. "No long term Net Effects" implies that a short term net effect is anticipated as identified under "Potential Effect". If a short term effect is anticipated, it should be stated, if not, statement should be revised to "No net effects". <u>Disposition:</u> The Final Report will note that in regards to noise emissions, that there could be 'short-term construction related net effects'.		Accepted by Reviewer ☒ Yes ☐ No	
14	Table 4-3, page 25, Visual Net Effects	As per comment number 11 above, net effect not qualified <u>Disposition:</u> If an effect over the longer term (operational period) was likely, it was simply identified as a "Net effect". Further information will be provided in the Final Report to qualify the net effects. See comment above with regard to "No long term Net Effects".		Accepted by Reviewer ☒ Yes ☐ No	
15	Table 4-6, page 30, Noise	<u>Disposition:</u> The Final Report will note that in regards to noise emissions, that there could be 'short-term construction related net effects'.		Accepted by Reviewer ☒ Yes ☐ No	
16	Table 2-2, page 13	The Indicators for the social/cultural assessment includes the "Potential for Changes in community character/cohesion"; however, cohesion is not described in the baseline characterization (Section 3.1), nor is it discussed as part of the assessment. It may be that it is not applicable to this study given the location of the project site in proximity to the nearest community. If this is the case, the indicator should be revised accordingly.		Accepted by Reviewer ☒ Yes ☐ No	

REVIEW DOCUMENT DESCRIPTION			
Reviewer's Name & Organization		Gwen Brice, SENES Consultants Limited with comments from Steve Rowe and Will McCrae	Date of comments: 01/06/2009 Disposition: 25/06/2009 Reviewer: 30/06/2009
Comment Number	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	DISPOSITION BY AUTHOR AND REVIEWER
17	General	<u>Disposition:</u> This indicator will be revised in the Final Report to reflect that the indicator as applied reflected the potential for 'Changes in Community Character'. It is not applicable to this Study to consider effects on Community Cohesion, considering that the Site is located over 3 km away from the closes community. Page numbering is not sequential, resets to page 1 in section 3.2.3. <u>Disposition:</u> Agreed, pagination will be corrected in the Final Report.	Accepted by Reviewer ☒ Yes ☐ No
18	Section 2.3.1	the report notes that: <i>"Consultation regarding the selection of the Preferred Site, Clarington 01, undertaken through the issuance of the Technical Study Reports for review, public information sessions and peer review on behalf of Clarington, identified opportunities to enhance the detail, readability and traceability of the EA final document but did not identify any considerations that affected the selection of Clarington 01 as the recommended preferred site."</i> The EA planning process peer reviews conducted for the Municipality of Clarington identified number of instances where the proponents did not provide sufficient information or a sufficiently traceable process to show that the short list of sites represented a complete list of sites that met the selection criteria at that time, or to demonstrate that Clarington Site 01 is the preferred site among the short-listed sites. These concerns generally remain with respect to the Draft Class EA and are described in the peer review of the Draft EA, provided separately. <u>Disposition:</u> The Final EA document will include additional information and some sections will be reorganized to address comments noted above and as provided on the Draft EA documents.	Accepted by Reviewer ☒ Yes ☐ No
19	Section 2.3.1	It is stated in Section 2.3.1 that <i>"The results of community polling undertaken after the announcement of the recommended Preferred Site indicated that the majority of the public (approximately 74%) agreed or somewhat agreed with the development of a thermal treatment facility although some (less than 10%) would prefer it to be located outside of Clarington"</i> This discussion should describe the scope of the "community" that was surveyed. If all of York and Durham Regions were surveyed, these results would be interpreted differently to a survey of Clarington residents, or residents of the locality of the proposed thermal treatment plant.	Accepted by Reviewer ☒ Yes ☐ No

REVIEW DOCUMENT DESCRIPTION				Date of comments: 01/06/2009 Disposition: 25/06/2009 Reviewer: 30/06/2009
Reviewer's Name & Organization		Gwen Brice, SENES Consultants Limited with comments from Steve Rowe and Will McCrae		DISPOSITION BY AUTHOR AND REVIEWER
Comment Number	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION		
		<u>Disposition:</u> Additional information regarding the polling and subsequent consultation with Clarington residents will be included in the Final Report.		
20	Map 2-1	Map 2-1 and other maps illustrate the location of land uses near the Clarington 01 Site and the haul route. Section 3.3.1 notes that there are two residences within one kilometre of the site whereas Section 4.8.1 notes that there are three residences within one kilometre, one of which is abandoned (and is apparently not shown on Map 2-1). Further details on these residences would have been helpful, e.g. distance from the site, tenure, whether they are active farmhouses, length of occupation, and potential for an abandoned residence to be re-occupied.		Accepted by Reviewer ☒ Yes ☐ No
		<u>Disposition:</u> Some further information will be provided in the Final Report regarding the two occupied residences within the LSSA, including the distance from the site to the occupied residences.		
21	Map 2-1	Apparently the residence shown on Map 2-1 located to the east of Courtice Road near the CN Rail line is now abandoned. This is relevant to the consideration of potential environmental effects, especially now that the Regions and the Municipality of Clarington have agreed on a change to the haul route involving an access laneway from Courtice Road along the CN line to the proposed site as part of the Host Community Agreement. The report should be modified to reflect these recent changes.		Accepted by Reviewer ☒ Yes ☐ No
		<u>Disposition:</u> The potential for refinements to the haul route for the site, involving an access laneway from Courtice Road, are contingent upon the outcome of an expropriation process that is regarded as a commitment made by the Region of Durham to Clarington within the Host Community Agreement, outside of the EA. Refinements to the haul route would be confirmed subsequent to the EA submission, and would be addressed in the permitting documentation reflected in the conditions of approval for design and operation of the Facility.		
22	Section 4.2.1	The terminology used to express the level of commitment to mitigation and impact management measures varies throughout Sections 4 and 5. In Section 4.2.1 there is a list of noise mitigation measures that "may include...", whereas in Section 4.3.1, "Dust During Construction", there is a list of measures that "will" be employed. There is similar variation in descriptions of other effects. The descriptions should either make a clear commitment to implementing mitigation measures, or state the triggers that would require such measures if the need for them is uncertain at the present time.		Accepted by Reviewer ☒ Yes ☐ No

REVIEW DOCUMENT DESCRIPTION			
Reviewer's Name & Organization		Gwen Brice, SENES Consultants Limited with comments from Steve Rowe and Will McCrae	Date of comments: 01/06/2009 Disposition: 25/06/2009 Reviewer: 30/06/2009
Comment Number	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	DISPOSITION BY AUTHOR AND REVIEWER
		<u>Disposition:</u> The Final Report will make a clear commitment to implementing certain mitigation measures as appropriate in this stage of the approvals process. For those measures that would be contingent upon other decisions (such as agreement on a final design for the Facility) the Final Report and EA Study document will identify the appropriate timeframe and/or trigger for making a decision that such measures are required. Subsequent commitments to implement those measures would be included in the permitting documentation reflected in the conditions of approval for design and operation of the Facility.	
23	General	This document provides a summary of the results of other technical reports. Conclusions from these reports are discussed in relation to the potential impacts, however little detail is provided in this report with respect to how these conclusions were reached. <u>Disposition:</u> The Social/Cultural Assessment provides a summary of the relevant results of other Technical Reports, as necessary, to provide an overview of the potential physical effects of the Facility on various receptors. For details regarding the other technical studies including the methodology used for the assessments, those other reports should be reviewed.	Accepted by Reviewer ☒ Yes ☐ No
24	Section 4.2.3	The section on 'noise during decommissioning' in section 4.2.3 does not mention the use of blasting or hammer type equipment to demolish the proposed buildings. Is there another method of demolition that will be used? There would be substantial noise produced through the use of blasting or hoe-ram type equipment. <u>Disposition:</u> Details regarding decommissioning equipment/methods are not available at this time, and as such it was considered reasonable to assume that the effects would be no greater than the noise effects during the construction period which reflects the potential for elevated sound levels due to pile driving and traffic.	Accepted by Reviewer ☐ Yes ☒ No Commitment to consider surrounding land use at the time of decommissioning would be more appropriate.

REVIEW DOCUMENT DESCRIPTION				Date of comments: 01/06/2009 Disposition: 25/06/2009 Reviewer: 30/06/2009
Reviewer's Name & Organization		Gwen Brice, SENES Consultants Limited with comments from Steve Rowe and Will McCrae		
Comment Number	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION		DISPOSITION BY AUTHOR AND REVIEWER
25	General	There are a number of measures that have been noted to reduce the social/cultural impacts which would have to be included in the detailed design or enforced during the operation of the facility in order to be effective. - In section 4.2.2 it is noted that mitigation measures may be required to meet the predicted noise criteria such as enclosures, local or property line barriers, mufflers and silencers, and acoustic baffles or insulation. - In section 4.3.1, it is noted that emissions from construction equipment will meet Ontario Drive Clean standards. - In section 4.4.2 it is noted that a control program will be contracted to spray and place traps at least twice per week to mitigate the potential effect of vermin. - In section 4.5.2 it is noted that litter control will be conducted on a daily basis These measures must be carried through or the conclusions that there would be little or no net effects from the proposed project may not be valid. <u>Disposition:</u> Mitigation measures as noted to address the potential effects of noise, air emissions, litter and vermin/vectors, are included in Section 5 of the Report (Impact Management) and are included in the Commitments as set out in Section 13 of the Draft EA Study Document.		Accepted by Reviewer ☒ Yes ☐ No
26	Section 4.6.2	Section 4.6.2 notes that the site will generate up to 77 trucks per day. No mention is made of traffic from employees at the site. <u>Disposition:</u> Information on passenger vehicle trips will be provided in the Final Report.		Accepted by Reviewer ☒ Yes ☐ No
27	Section 4.8	Tables 4-1 to 4-4 in section 4.8 note that no mitigation measures are required to reduce the impact of increased traffic. Table 4-6 notes that the full build-out of the CEBP will require road network improvements. The traffic from the proposed EFW facility will contribute to the need for road network improvements as it will be part of the build-out of the CEBP (8-10% of future traffic, as noted in the summary and conclusion). <u>Disposition:</u> The Final Report will clarify that traffic from the Facility will account for 2 to 3% of the total trips generated in the fully built-out CEBP, and that therefore the requirement for road network improvements will not be specific to the Facility. Section 4.8.2 states that comments from the community will be documented and addressed in the EA and will be considered as the Social/Cultural Assessment is completed. This would imply that the Social/Cultural Assessment will be updated to reflect input from the community.		Accepted by Reviewer ☐ Yes ☒ No Construction of Energy Drive through Host Community Agreement could be considered as adequate compensation for future traffic impacts.
28	Section 4.8.2			Accepted by Reviewer ☒ Yes ☐ No

REVIEW DOCUMENT DESCRIPTION			
Reviewer's Name & Organization		Gwen Brice, SENES Consultants Limited with comments from Steve Rowe and Will McCrae	Date of comments: 01/06/2009 Disposition: 25/06/2009 Reviewer: 30/06/2009
Comment Number	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	DISPOSITION BY AUTHOR AND REVIEWER
		<u>Disposition:</u> The Final Report will integrate results of the consultation regarding the assessment of the Undertaking. Additional clarification will be provided in regards to consideration of community attitudes.	Subject to review of the final document

COMMENT AND DISPOSITION SHEET

DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT

Municipality of Clarington Peer Review

Document Title: Draft Stage 2 Archaeological Assessment and Built Environment REPORT NO. 1009497

Note: These comments are draft and subject to further discussion with the Region's consultants before being finalized.

Rev. Feb
2009

REVIEW DOCUMENT DESCRIPTION				
Reviewer's Name & Organization		Faye Langmaid, Municipality of Clarington	Date of comments: 26/05/2009 Disposition: 23/06/2009 Reviewer: 26/06/2009	DISPOSITION BY AUTHOR AND REVIEWER
Comment Number	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION		
1	3.2, page 9	Built Heritage Resources have been limited to the specific site. The previous report addressed the built heritage resources within the immediate surrounding area, this information should be carried forward and discussed in this report to ensure its completeness. <u>Disposition:</u> The built heritage discussion for the Clarington 01 Site indicated that the nearest built heritage resource was approximately 3 km away from the Site and the Stage 1 assessment did not indicate that further work with regard to built heritage resources was necessary. The Stage 2 report is only concerned with the results of the potential impacts to possible archaeological or heritage resources within the limits of the project development area.	Accepted by Reviewer ☒ Yes ☐ No	
2	3.2, page 9	It is common to discuss the impact that the project will have on the built heritage resources within the surrounding area as, on the context of those existing built heritage resources. The potential mitigation measures would be to screen the views or provide complementary architecture and context for adjacent built heritage resources. <u>Disposition:</u> Based on the fact that the nearest registered built heritage site is 3 km away the heritage landscape and view shed impacts of the project are considered to be minimal. The closest approximation of the view from the Samuel McClellan house is the Visual Simulation Point 14 from the View Shed analysis. From that point the facility is obscured by vegetation (tree lines) and impaired over the distance from the Site.	Accepted by Reviewer ☒ Yes ☐ No	
3	5.0, page 12	Shovel test pits to be completed in Spring of 2009 and results should be added to the Assessment. <u>Disposition:</u> Appendix C-9 "Stage 2 Archaeological Assessment and Built Heritage Assessment Technical Study Report, June 2009" has been updated to include the shovel test pit results from the fieldwork completed in the spring of 2009.	Accepted by Reviewer ☒ Yes ☐ No	
4	General	Clarington Site 01 has a "Disadvantage" under this criterion in Step 7, further study has indicated no negative impacts; how has this been addressed by the sensitivity analysis that was to be carried out?		

COMMENT AND DISPOSITION SHEET

DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT Municipality of Clarington Peer Review

Rev. Feb
2009

Document Title: Draft Stage 2 Archaeological Assessment and Built Environment REPORT NO. 1009497

Note: These comments are draft and subject to further discussion with the Region's consultants before being finalized.

REVIEW DOCUMENT DESCRIPTION		
Reviewer's Name & Organization	Faye Langmaid, Municipality of Clarington	Date of comments: 26/05/2009 Disposition: 23/06/2009 Reviewer: 26/06/2009
Comment Number	Section Number	DISPOSITION BY AUTHOR AND REVIEWER
		Accepted by Reviewer ☒ Yes ☐ No
	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION Disposition: In Step 7 (Evaluation of Short-list of Sites and Identification of Consultants Recommended Preferred Site), Clarington Site 01 was found to have a "disadvantage" as the results of the Stage 1 Archaeological Assessment found that the Site had a high potential for both prehistoric and historic resources. As a result, the requirement for a Stage 2 Archaeological Assessment was identified and was undertaken during the assessment of the Undertaking. The results of the Stage 1 Archaeological Assessment were valid and therefore the potential disadvantage resulting from Step 7 of the siting process remains the same, as documented in Section 8 of the EA document. It should not be adjusted based on the results of the further assessment undertaken later in the Study process. Results from the Stage 2 Archaeological Assessment will continue to be reported as part of the overall assessment of the Undertaking.	

COMMENT AND DISPOSITION SHEET

DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT Municipality of Clarington Peer Review

Document Title: Traffic Assessment, Technical Study Report

Rev. May
8, 2009

Note: These comments are draft and subject to further discussion with the Region's consultants before being finalized.

REVIEW DOCUMENT DESCRIPTION			Date of comments: June 3, 2009 Disposition: 23/06/2009 Reviewer: 26/06/2009
Reviewer's Name & Organization	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	DISPOSITION BY AUTHOR AND REVIEWER
Will McCrae, AECOM			
1	2.0	The study methodology used for traffic forecasting and the assessment of traffic operations is acceptable, and the identified improvements to the local area road network are reasonable. It is understood that other initiatives in this area may result in additional road network improvements as related to the OPG development, Highway 401 mainline and interchange improvements, and the freeway link between Highways 401 and 407. <u>Disposition:</u> No response required	Accepted by Reviewer ☒ Yes ☐ No
2	General	The Site would generate very low peak-hour traffic volumes and, as such, the Site's contribution to the need to improve the local area road network would be limited from a traffic volume perspective. Improvements are triggered by the characteristics of the traffic generated by the proposed facility. <u>Disposition:</u> No response required	Accepted by Reviewer ☒ Yes ☐ No
3	General	It is clear that the development of the remainder of the CEBP as well as the future OPG development will trigger the need for local area road network improvements. <u>Disposition:</u> No response required	Accepted by Reviewer ☒ Yes ☐ No
4	General	While not discussed in the report, it is understood that an alternative site access route is being considered to divert waste truck traffic from Osbourne Road route. The intent would be to minimize the volume of truck traffic circulating through the CEBP, especially since the waste truck traffic may be considered incompatible with the other land uses and amenities of the CEBP. <u>Disposition:</u> No response required	Accepted by Reviewer ☒ Yes ☐ No
5	3.1 (p. 4)	Second paragraph: reference is made to the "Town of Clarington." Any such references in the document should be changed to the "Municipality of Clarington."	

COMMENT AND DISPOSITION SHEET

DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT Municipality of Clarington Peer Review

Document Title: Traffic Assessment, Technical Study Report

Rev. May
8, 2009

Note: These comments are draft and subject to further discussion with the Region's consultants before being finalized.

REVIEW DOCUMENT DESCRIPTION			Date of comments: June 3, 2009 Disposition: 23/06/2009 Reviewer: 26/06/2009
Reviewer's Name & Organization	Will McCrae, AECOM		DISPOSITION BY AUTHOR AND REVIEWER Accepted by Reviewer ☒ Yes ☐ No
Comment Number	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	
6	4.0 (p.7)	<u>Disposition:</u> All references to the "Town of Clarington" will be revised to read "Municipality of Clarington" There is a potential for conflict regarding the Municipality of Clarington's construction schedule for Osbourne Road and the proposed construction activities for the EFW Facility. Reconstruction of Osbourne Road is scheduled for the 2010 construction season. <u>Disposition:</u> The proponents are currently investigating opportunities for the provision of an alternate site access point as described above. However, the provision of this site access requires property acquisition from a current private landowner. Should the proponents be able to acquire the necessary land, an alternate access route will be constructed and utilized. Establishment of this new roadway would eliminate the potential conflict with the Municipality of Clarington's 2010 reconstruction schedule for Osbourne Road	Accepted by Reviewer ☒ Yes ☐ No
7	4.0 (p.12)	Final paragraph: to accommodate construction truck traffic and site-generated truck traffic once the site is operational, it is suggested that "Road reconstruction /pavement improvements <u>may</u> be required for the section of South Service Road between the interchange and Osbourne Road, as well as the section of Osbourne Road between South Service Road and the future site access." The language is weak in this statement. Either the road will need to be reconstructed or have the pavement improved or it will not. This should be firmly established prior to construction of the facility. Responsibility for mitigation of the impact that construction traffic will generate needs to be firmly established as well. <u>Disposition:</u> The following sentence will be added to the report: "Pavement testing along the haul route will be completed by the Region of Durham if the Project is approved."	Accepted by Reviewer ☒ Yes ☐ No

COMMENT AND DISPOSITION SHEET

DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT Municipality of Clarington Peer Review

Document Title: Traffic Assessment, Technical Study Report

Rev. May
8, 2009

Note: These comments are draft and subject to further discussion with the Region's consultants before being finalized.

REVIEW DOCUMENT DESCRIPTION			Date of comments: June 3, 2009 Disposition: 23/06/2009 Reviewer: 26/06/2009
Reviewer's Name & Organization	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	DISPOSITION BY AUTHOR AND REVIEWER
Will McCrae, AECOM			
8	5.1 (p.13—figure 5.1)	The site plan for the Thermal Treatment Facility, as depicted in figure 5.1, appears not to have made allowances for accommodating the future Energy Drive or a proposed stormwater ditch running parallel to the CN corridor required by the SWM plan developed for the CEBP. Allowances for Energy Drive would require a 30-metre strip of land running within the length of northern extent of the property. The stormwater ditch would require a 15-metre strip of land running within the length of the southern extent of the property. Further, to offset a mitigation measure outlined in the EA regarding the need for road/pavement improvements to South Service and Osbourne Roads due to construction traffic, an alternate access road from Courtoise Road to the site, following the ditch on the north side of the CN tracks has been proposed. Construction of this road would appropriately divert construction traffic as well as future operational traffic away from the prestige employment corridor that has been proposed for the CEBP. <u>Disposition:</u> The initial site plans have been developed to a conceptual level of detail. Factors such as the Energy Drive road allowance requirements and stormwater ditch requirements will be incorporated into the detailed design. The potential for refinements to the haul route for the site, involving an access laneway from Courtoise Road, are contingent upon the outcome of an expropriation process that is regarded as a commitment made by the Region of Durham to Clarington within the Host Community Agreement, outside of the EA. Refinements to the haul route would be confirmed subsequent to the EA submission, and would be addressed in the permitting documentation reflected in the conditions of approval for design and operation of the Facility.	Accepted by Reviewer ☒ Yes ☐ No
9	6.1 (p.21—figure 6.1)	Energy Drive is incorrectly labelled as "Park Drive" in figure 6.1. <u>Disposition:</u> The label in Figure 6.1 will be revised to read "Energy Drive"	Accepted by Reviewer ☒ Yes ☐ No
10	Figures 6.2~6.7 & 6.9~6.12	These figures need to be revised regarding the labelling of South Service Road and Energy Drive. Figure 6.8 is correctly labelled. Any references to Park Drive within the body of the reports need to be changed to Energy Drive.	Accepted by Reviewer

COMMENT AND DISPOSITION SHEET

DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT Municipality of Clarington Peer Review

Document Title: Traffic Assessment, Technical Study Report

Rev. May
8, 2009

Note: These comments are draft and subject to further discussion with the Region's consultants before being finalized.

REVIEW DOCUMENT DESCRIPTION			Date of comments: June 3, 2009 Disposition: 23/06/2009 Reviewer: 26/06/2009
Reviewer's Name & Organization	Will McCrae, AECOM		
Comment Number	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	DISPOSITION BY AUTHOR AND REVIEWER ☒ Yes ☐ No
11	6.2 (p.24)	<u>Disposition:</u> All references to "Park Drive" will be revised to read "Energy Drive". All references to "Energy Drive" will be revised to read "South Service Road". Statements regarding future improvements at the Holt Road/401 interchange, and potential EFW site access from this point may not be appropriate in terms of the desire to keep increased truck traffic under the 400,000 tpy scenario focussed through the Courtice Road interchange. Also, if access to the EFW site does shift from Osbourne Road to Courtice Road, traffic entering the site via the Holt Road interchange would be directed through the Prestige Employment Node. <u>Disposition:</u> Even if the interchange at Holt Road is developed, truck traffic to the Facility will not enter the site via that interchange. The following sentences will be added to the report: "No truck traffic associated with the Project will travel to and from the site via the potential future Holt Road interchange. Therefore, no truck traffic associated with the Project was modelled to travel to and from the site via the potential future Holt Road interchange."	Accepted by Reviewer ☒ Yes ☐ No
12	6.6	Mention of a potential sensitivity analysis here may be warranted in terms of the possibility that diversion goals may not be reached, the 400,000 tpy scenario may be reached before the 2023 horizon year with expected traffic impacts growing beyond current estimates. <u>Disposition:</u> The report will make a commitment to conduct a new traffic assessment should the 400,000 tpy scenario be reached before 2023.	Accepted by Reviewer ☒ Yes ☐ No
13	Appendix B Section 2.1	In relation to the sensitivity analysis discussed above, some comment regarding an interim condition where truck trips are higher due to the possibility that the Regions' may not be able to achieve predicted diversion rates would be appropriate here. Is there any chance that packer trucks rather than trailers would be used to haul garbage to the facility from south Oshawa? Would this have any impact in the conclusions of the traffic assessment?	Accepted by Reviewer ☒ Yes ☐ No Reviewer: Should a revised

COMMENT AND DISPOSITION SHEET

DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT Municipality of Clarington Peer Review

Document Title: Traffic Assessment, Technical Study Report

Rev. May
8, 2009

Note: These comments are draft and subject to further discussion with the Region's consultants before being finalized.

REVIEW DOCUMENT DESCRIPTION			Date of comments: June 3, 2009 Disposition: 23/06/2009 Reviewer: 26/06/2009
Reviewer's Name & Organization		Will McCrae, AECOM	DISPOSITION BY AUTHOR AND REVIEWER
Comment Number	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	
		<u>Disposition:</u> The report will make a commitment to conduct a new traffic assessment should the 400,000 tpy scenario be reached before 2023. All material coming from Oshawa was assessed using transfer trailers. Collection routing scenarios, for efficient routing of material to the Facility, will be developed should the Project be approved. At that time, a decision will be made whether packer trucks will be used rather than transfer trailers from nearby communities such as Oshawa.	method of haulage be chosen after the project is approved, an addendum to the report should be prepared to identify potential impacts and mitigation.

COMMENT AND DISPOSITION SHEET

DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT Municipality of Clarington Peer Review

Rev. May 2009

Document Title: Draft Report – Economic Assessment Technical Study Report (No. 1009497)

Note: These comments are draft and subject to further discussion with the Regions consultants before being finalized.

REVIEW DOCUMENT DESCRIPTION			Date of comments: 29/05/2009 Martini Review of Disposition 24/06/2009	DISPOSITION BY AUTHOR AND REVIEWER
Reviewer's Name & Organization	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION		
Malcolm Martini, SENES Consultants Limited.				
1	General	The report is difficult to follow. There is no summary project description and details, such as costs and scope of the project are scattered throughout the report making it difficult for the reader to know what the project really is or indeed, even where it is. <u>Disposition:</u> A brief description of the Project (costs, scope etc.) will be added to Section 2 of the Report.	Accepted by Reviewer ☒ Yes ☐ No	
2	General	The report adds little to the material provided in the Deloitte report. The same multipliers are employed and, not surprisingly the same results are obtained. Beyond the quantification provided in the Deloitte study, there is no quantification of any impact. Overall, the description of economic impact, the multiplier effect and direct, indirect and induced effects could be better explained. <u>Disposition:</u> Additional analysis and discussion quantifying the economic impacts will be included in the Final version of this report, based on the updated Business Case prepared for the Region of Durham. Additional information regarding methodologies, economic impact, the multiplier effect and direct, indirect and induced effects will be provided.	Accepted by Reviewer ☒ Yes ☐ No	
3	General	The multiplier of 10 jobs per million invested for indirect employment, the major employment benefit is ascribed to an Ontario Ministry of Finance figure. I was not able to track down the source for this figure and cannot vouch for its applicability to this situation. It appears that this a general figure. Normally economic impact studies use models based on expected inputs to determine impacts. Such an approach was recently used by OPG in their EA for the expansion of the Darlington Nuclear Power Station.	Accepted by Reviewer ☒ Yes ☐ No	

REVIEW DOCUMENT DESCRIPTION			Date of comments: 29/05/2009 Martini Review of Disposition 24/06/2009
Reviewer's Name & Organization	Malcolm Martini, SENES Consultants Limited.	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	DISPOSITION BY AUTHOR AND REVIEWER
Comment Number	Section Number		
4	General	<u>Disposition:</u> This multiplier was used in the Deloitte report. Additional analysis regarding the potential for indirect employment will be included in the Final report. The report concludes that there will be net benefits to Durham's tax base. In fact the Deloitte report, while recommending the project largely through an examination of risks notes that York Durham will have to apply the federal gas tax revenues to speed the payback period. These are monies which could have been applied elsewhere. Note that this comment is not to gainsay Deloitte's conclusion that this is a desirable project given the alternatives, but rather to say, that the project probably won't improve the York Durham tax base. <u>Disposition:</u> The Final report will clarify that there will be net benefits to the tax base for the Municipality of Clarington. Additional information regarding the impacts to the tax base in Durham and York Regions will be included.	Accepted by Reviewer ☒ Yes ☐ No Tax (assessment base) is likely to improve for both municipalities. Financial situation i.e. reference to gas tax and debentures should be eliminated from this report. It's not a financial review or report..
5	General	There is very little said about the impact on Clarington except to say that the presence of the facility will increase the tax base. In fact there are more benefits to Clarington and although this study focuses on the two regions, quite a few things have been negotiated and have yet to be ratified by the Regions. In some cases, these may be costs to the regions; however, it would be appropriate to have a separate section entitled effects on Clarington. <u>Disposition:</u> At the time the Draft Economic Assessment Report was prepared, information regarding the results of negotiations between Durham Region and the Municipality of Clarington was only preliminary. The Final Report will reflect the outcome of the negotiations as agreed to by Durham and Clarington Councils. Overall, the report will be restructured to discuss the economic effects within Clarington and the Region as a whole.	Accepted by Reviewer ☒ Yes ☐ No
6	General	In summary, I expect that the basic conclusion of the report that economic benefits are positive is most likely correct. Employment impact levels may well be high but it is difficult to say given the lack of a rigorous methodology. <u>Disposition:</u> Further rigor will be applied to finalize the determination of potential effects on employment in the Final Report.	Accepted by Reviewer ☒ Yes ☐ No
7	Glossary	One could also include a modified definition of an economic impact study. "An economic impact study is the identification of economic activity resulting from a project. Economic activity (for this project) could be defined separately as, employment (direct, indirect and induced – the last of which is not defined in the glossary though later defined and quantified), wages and salaries, the effects on the municipal finances, effects on existing business and new business opportunities. These are mostly covered in the text but need to be brought forward <u>No definition of an economic impact study is supplied in the glossary</u> Although it is usual for economic studies to include financial aspects such as the tax base and revenues, strictly speaking, that aspect should not be included unless one is prepared to re-analyse the Deloitte report. It is legitimate to comment on whether new industries might be attracted as a result of the project thereby expanding the tax base.	Accepted by Reviewer ☒ Yes ☐ No

Reviewer's Name & Organization			REVIEW DOCUMENT DESCRIPTION		Date of comments: 29/05/2009 Martini Review of Disposition 24/06/2009
Comment Number	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION		DISPOSITION BY AUTHOR AND REVIEWER	
8	1.1	<u>Disposition:</u> Additional definitions will be included as suggested. Additional text will be included to supplement the discussion regarding the potential for new industries to be attracted to the CEBP as a result of the project, thus expanding the tax base. The purpose of the undertaking is not the outcome of the EA Study but rather the project itself. <u>Disposition:</u> The purpose of the undertaking is as described in the approved EA Terms of Reference and is "what the outcome of the EA Study (the Undertaking) is intended to do". The 'Undertaking' is the Project itself. New section needed here to describe the project that is being evaluated. This should include the key project components, specifically, the EFW facility, its capacity and output, (metals, power, district heating potential etc). It should also include elements of the commitments for Clarington (land transfers etc.) An implementation schedule should be included and a map should show where the site is. <u>Disposition:</u> A subsection will be added to Section 2 of the Final Report that will describe the Project, key components and aspects of the project as it pertains to the economic assessment and an implementation schedule and map. Information will also be included in the Final Report regarding the elements of the agreement between Durham and Clarington, as approved by both Councils.		Accepted by Reviewer ☒ Yes ☐ No Accepted by Reviewer ☒ Yes ☐ No Provide Map	
9	Page 2	<u>Disposition:</u> Economic related impacts should be defined...it is an unusual phrase. See glossary <u>Disposition:</u> Economic related impacts were referring to the potential effects considering the criteria and indicators outlined in Section 2.2. There is no map showing where the site is or of the Local study area (LESA). <u>Disposition:</u> A map indicating the location of the site and the Local Economic Study Area will be included in the Final Report. Normally the analysis would include job losses from the existing method. On the assumption that the current method is not an alternative, this is not necessary. <u>Disposition:</u> Normally the analysis would include job losses however, as the development of this Project would not result in any displacement of businesses or other commercial activities, job losses were not addressed.		Accepted by Reviewer ☒ Yes ☐ No Accepted by Reviewer ☒ Yes ☐ No If map provided Accepted by Reviewer ☒ Yes ☐ No	
10	1.2	<u>Disposition:</u> Economic related impacts should be defined...it is an unusual phrase. See glossary <u>Disposition:</u> Economic related impacts were referring to the potential effects considering the criteria and indicators outlined in Section 2.2. There is no map showing where the site is or of the Local study area (LESA). <u>Disposition:</u> A map indicating the location of the site and the Local Economic Study Area will be included in the Final Report. Normally the analysis would include job losses from the existing method. On the assumption that the current method is not an alternative, this is not necessary. <u>Disposition:</u> Normally the analysis would include job losses however, as the development of this Project would not result in any displacement of businesses or other commercial activities, job losses were not addressed.		Accepted by Reviewer ☒ Yes ☐ No Accepted by Reviewer ☒ Yes ☐ No If map provided Accepted by Reviewer ☒ Yes ☐ No	
11	2.1	<u>Disposition:</u> Economic related impacts should be defined...it is an unusual phrase. See glossary <u>Disposition:</u> Economic related impacts were referring to the potential effects considering the criteria and indicators outlined in Section 2.2. There is no map showing where the site is or of the Local study area (LESA). <u>Disposition:</u> A map indicating the location of the site and the Local Economic Study Area will be included in the Final Report. Normally the analysis would include job losses from the existing method. On the assumption that the current method is not an alternative, this is not necessary. <u>Disposition:</u> Normally the analysis would include job losses however, as the development of this Project would not result in any displacement of businesses or other commercial activities, job losses were not addressed.		Accepted by Reviewer ☒ Yes ☐ No Accepted by Reviewer ☒ Yes ☐ No If map provided Accepted by Reviewer ☒ Yes ☐ No	
12	2.2	<u>Disposition:</u> Economic related impacts should be defined...it is an unusual phrase. See glossary <u>Disposition:</u> Economic related impacts were referring to the potential effects considering the criteria and indicators outlined in Section 2.2. There is no map showing where the site is or of the Local study area (LESA). <u>Disposition:</u> A map indicating the location of the site and the Local Economic Study Area will be included in the Final Report. Normally the analysis would include job losses from the existing method. On the assumption that the current method is not an alternative, this is not necessary. <u>Disposition:</u> Normally the analysis would include job losses however, as the development of this Project would not result in any displacement of businesses or other commercial activities, job losses were not addressed.		Accepted by Reviewer ☒ Yes ☐ No Accepted by Reviewer ☒ Yes ☐ No If map provided Accepted by Reviewer ☒ Yes ☐ No	

REVIEW DOCUMENT DESCRIPTION			Date of comments: 29/05/2009 Martini Review of Disposition 24/06/2009
Reviewer's Name & Organization	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	DISPOSITION BY AUTHOR AND REVIEWER
Malcolm Martini, SENES Consultants Limited.			
13	2.4	The major impact of the project is in the creation of indirect employment. There are two problems with the material as presented: a. The methodology for determining the indirect and induced multiplier was not provided. There is merely a reference to the Business Case undertaken by Deloitte and Touche. Reference to Deloitte's work only mentions an Ontario Ministry of Finance Investment multiplier. There is no explanation of the relevance of this multiplier to this project, how this multiplier was developed or the limitations and caveats that should be associated with its use. For example, is this a provincial multiplier or a regional one? What size of an economy is required to produce a multiplier where 10 jobs would be created for a \$1 million investment? What industry or sets of industry does this apply to? It should be for an industry similar to the project. None of this is explained in the Report so the validity of the Report's findings are not transparent and traceable. b. The statement "for every \$1 million in capital invest(ed) locally, 10 indirect jobs are anticipated to be created" may not be correct. Usually the multiplier relates to all jobs created including construction. While the report indicates that approximately half of the indirect jobs can be sourced from within the region, there is no back-up for this statement. <u>Disposition:</u> Additional information will be provided in regards to the methodology used to determine indirect employment figures in the Final Report.	Accepted by Reviewer ☒ Yes ☐ No
14	2.5	The assumption section could fit nicely into the project description...see comment 9. <u>Disposition:</u> Additional information, including the information provided in Section 2.5 will be provided as part of the project description in Section 2 in order that the reader will have a good understanding of the scope and nature of the Project.	Accepted by Reviewer ☒ Yes ☐ No
15	3.1	Table 3.1 describes the employment in York Durham. These figures are at a highly aggregated level and provide little to the analysis. They do not provide sufficient evidence to make the case that 50% of the indirect jobs could be sourced in York-Durham. It is likely that any new project in York Durham will draw upon the growing unemployed labour force occasioned by the current recession generally and the decline in the automotive sector specifically. It would be helpful to have some current unemployment levels and rates. <u>Disposition:</u> Additional information regarding current unemployment rates in Durham/York and the availability of applicable trades in the local labour force, will be included in the Final Report.	Accepted by Reviewer ☒ Yes ☐ No No new data is provided as of yet.
16	3.3	The businesses in the LESA should be identified and their products and employment defined. A map would help (see comment 11).	Accepted by Reviewer

REVIEW DOCUMENT DESCRIPTION			
Reviewer's Name & Organization		Malcolm Martini, SENES Consultants Limited.	Date of comments: 29/05/2009 Martini Review of Disposition 24/06/2009
Comment Number	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	DISPOSITION BY AUTHOR AND REVIEWER ☒ Yes ☐ No
17	4.1.1.1	<u>Disposition:</u> Additional information will be provided regarding the businesses located within the LESA in the Final Report, including a map indicating the LESA and the location of these businesses. Section 4.1.1.1 provides an overview of employment during the Construction period. While peak labour demands are identified in the Report, the important figure is the total identified as in the total number of person years of construction employment by year for the duration of the construction period. <u>Disposition:</u> Additional information regarding the total number of person years of construction employment by year for the duration of the construction period will be provided in the Final Report. There should be a summary table which would show by year for each of the three phases, construction, operation and decommissioning, estimates of: a) employment, b) capital expenditures. This table can then be further developed to show direct, indirect and induced employment.	Accepted by Reviewer ☒ Yes ☐ No
18	4.1.1.1	<u>Disposition:</u> Summary tables as appropriate will be included in the Final Report. Note however, that at this time determination of employment during the decommissioning period can only be generally inferred. The analysis is difficult to follow. For example: a) There is no total construction cost figure given. The summary says that "up to half of the total construction cost of the facility or up to of \$118 million will be spent on locally/regionally sourced goods and services." That suggests a cost of \$236 million. That figure does not appear until late in the report and then as a footnote. The Ontario government reference suggests 10 jobs annually per million invested. At the very least the source of the figure should be identified and it's logic explained. That is, a justification for the application of this figure is needed. Similarly a justification saying that half of this expenditure (\$100 million) can be sourced locally is required. There needs to be some evidence of what the products demanded might be to ensure that these jobs which could be generated anywhere in Ontario or indeed Canada can actually be created in the RESA. The Deloitte report from which these figures were secured provides no justification for these figures. b) Note that \$100 million is over the construction period. The report says that this would generate 1000 jobs annually. Should not this figure be 1000/2.5 (30 months) or 400 jobs annually? This conclusion is consistent with the Business case study which states that "It is estimated that the \$200 million capital investment would create approximately 1,000 direct and indirect jobs during construction..."	Accepted by Reviewer ☒ Yes ☐ No
19	4.1.1.1	<u>Disposition:</u> Clarification regarding construction costs and indirect employment figures will be provided in the Final Report.	Accepted by Reviewer ☒ Yes ☐ No

REVIEW DOCUMENT DESCRIPTION				Date of comments: 29/05/2009 Martini Review of Disposition 24/06/2009
Reviewer's Name & Organization		REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION		DISPOSITION BY AUTHOR AND REVIEWER
Malcolm Martini, SENES Consultants Limited.				
20	4.1.1.1	The estimate of induced jobs based on construction labour force expenditure seems reasonable. It ignores the inducements at the indirect level although it defines inducements as including indirect employment. Note, increasingly, economists (see also the socio-economic study for Darlington II expansion) are ignoring induced impact. See also comment on Section 2.2 on the impact of employment associated with landfill – on site, transportation to the site etc. <u>Disposition:</u> The Draft Report only identified induced employment as related to the labour force directly employed during construction. Estimates regarding induced employment as related to the indirect employees that could result from use of local services during the construction period will also be included in the Final Report.	Accepted by Reviewer ☒ Yes ☐ No	
21	4.1.1.2	The Report states that "Local hiring will be maximized during the construction period providing work for existing tradespersons and labourers in the region". It would be useful if the Report would identify "how" this is to be maximized. <u>Disposition:</u> The proposal by Covanta states that local employment during construction will be maximized. Details regarding hiring practices are not available at this time.	Accepted by Reviewer ☒ Yes ☐ No	
22	4.1.1.2	It appears that the report uses the same multiplier for capital investment as for local sourcing. This may not be the case and the use of that figure should be justified. <u>Disposition:</u> The Final Report will provide justification for the multiplier used for indirect employment during the operational period.	Accepted by Reviewer ☒ Yes ☐ No	
23	4.1.1.2	A summary table of employment and investment effects is required. It appears that the writers are saying that the project will generate in the RESA: a) During Construction 1. An average of direct 133 jobs at peak per year, say 300 to 400 person years of work 2. Direct employment of 400 per year (see comment 11c) for a total of 1000 person years 3. Induced employment (but see comment 12) of 60 to 80 person years. (300 to 400)/5. 4. Total employment during construction would therefore = 1500 person years, or 600 per year. b) During Operations 1. Direct – 33 per year 2. Indirect – 100-114 (based on 10 to 14 million spent locally) 3. Induced – 16 4. Total 149- 163 annually. c) Closure...nothing estimated; that is reasonable d) The above figures as modified seem reasonable subject to the recalculations made for indirect construction employment and a review of the Deloitte work. <u>Disposition:</u> Summary tables as appropriate, including the direct, indirect and induced employment figures for the construction and operational periods will be included in the Final Report. The figures provided will be adjusted as necessary pending review of the indirect multipliers applied in the construction and operational periods.	Accepted by Reviewer ☒ Yes ☐ No	

REVIEW DOCUMENT DESCRIPTION				Date of comments: 29/05/2009 Martini Review of Disposition 24/06/2009
Reviewer's Name & Organization		REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION		DISPOSITION BY AUTHOR AND REVIEWER
Malcolm Martini, SENES Consultants Limited.				
24	4.2	The figures for wages should be included in the above table to ensure consistency and as an internal check to avoid double counting. <u>Disposition:</u> As the information regarding salaries, wages and benefits pertains to only the direct employees for the Facility, they will continue to be presented separately from the summary table. The possibility of a district heating facility is mentioned for the first time on page 13. Will there be such a facility. Are the costs for it included? What financial assumptions are made? <u>Disposition:</u> The potential for district heating and cooling will be included in the summary description of the project in Section 2. Provisions for a portion of the system are included in the Facility design and capital pricing. At this time as decision to implement District Heating has not yet been made and the full costs of the district heating system have not been developed. There is nothing in the analysis to suggest any change in property values – up or down. The brief mention of lack of deposition on crops begs the question of any other environmental effects. At the very least the report should say that no environmental effects were identified in the site Specific Risk Assessment Technical study report...if that indeed is the case. Alternatively reference should be made to section 4.8 which generally addresses these issues. Also see comment 30. <u>Disposition:</u> A discussion regarding the potential for change in property values will be included in the Final Report. While it is logical to say that an improvement in the tax base is likely the report provides no quantification. Note that the Deloitte report indicates that the Region will have to tap into the federal gas tax subsidy. That suggests that the revenue base will be weakened. This reviewer thinks that is beyond the scope of the economic impact study to review the Deloitte report and that there is no need to say anything more than that it is likely (or not) that new industries may be attracted to the area strengthening the tax base. <u>Disposition:</u> As noted in the comment above, it is logical, based on the investment in infrastructure associated with the CEBP that new industries may be attracted to the area thus strengthening the local and regional tax base. As noted, it is beyond the scope of this study to review the Deloitte report or to predict/quantify the level of improvement. The report notes that there will be an improvement to the tax base of Clarington. There are other things that Clarington will get and these should be mentioned. It is legitimate to define the benefits to Clarington as a subset of the economic study even though in some cases, e.g. the grant in lieu of taxes may in fact be a cost to the region.		Accepted by Reviewer ☒ Yes ☐ No
25	4.3			Accepted by Reviewer ☒ Yes ☐ No
26	4.3			Accepted by Reviewer ☒ Yes ☐ No
27	4.4			Accepted by Reviewer ☒ Yes ☐ No
28	4.4			Accepted by Reviewer

REVIEW DOCUMENT DESCRIPTION				Date of comments: 29/05/2009 Martini Review of Disposition 24/06/2009
Reviewer's Name & Organization		Reviewer's Comments/AUTHOR'S DISPOSITION		DISPOSITION BY AUTHOR AND REVIEWER
Malcolm Martini, SENES Consultants Limited.				☒ Yes ☐ No
29	4.6	<u>Disposition:</u> The Final report will clarify that there will be net benefits to the tax base for the Municipality of Clarington. At the time the Draft Economic Assessment Report was prepared, information regarding the results of negotiations between Durham Region and the Municipality of Clarington was only preliminary. The Final Report will reflect the outcome of the negotiations as agreed to by Durham and Clarington Councils. Overall, the report will be restructured to discuss the economic effects within Clarington and the Region as a whole. The conclusion that there will be minimal effect on the demand for municipal services seems reasonable, although the opening sentence of the section "The most significant portion of municipal servicing costs...is the requirement to provide services for increased population growth in the community from the employees working on the project" prepares the reader for a more dire conclusion. In that regard it would have been helpful if an estimate of the increased population at each phase were provided and a comparison of the growth that has been planned for and that has occurred be given. This along with the likelihood that workers would come from many communities in the region would better justify the conclusion. The conclusion would be further reinforced by the likely slower growth rates as a result of the recession. <u>Disposition:</u> Further rationale regarding the conclusion that there will be minimal effect on the demand for municipal services will be included in the Final Report.	Accepted by Reviewer ☒ Yes ☐ No	
30	4.8	These conclusions are based on other sections of the EA and have not been reviewed here. If the other reviewers validate these sections, the conclusions of this section are reasonable. <u>Disposition:</u> No response required.	Accepted by Reviewer ☒ Yes ☐ No	
31	General	The assessment considers only 140,000 tpy. However, the report indicates that up to 400,000 tpy may be processed. <u>Disposition:</u> The Final Report will include discussion regarding the potential economic effects of the 400,000 tpy expansion scenario.	Accepted by Reviewer ☒ Yes ☐ No	

Note: The disposition is acceptable provided the consultants revise the report based on the comments, provide appropriate maps/ data as required to clarify the issues raised in the original peer review.

COMMENT AND DISPOSITION SHEET

DURHAM/YORK RESIDUAL WASTE ENVIRONMENTAL ASSESSMENT Municipality of Clarington Peer Review

Document Title: Draft Report – Site Specific Human and Ecological Risk Assessment Technical Study Report (No. 1009497)

Rev. May 2009

Note: These comments are draft and subject to further discussion with the Regions consultants before being finalized.

REVIEW DOCUMENT DESCRIPTION		
Reviewer's Name & Organization	Harriet Phillips and Mehran Monabbati, SENES Consultants Limited	
Comment Number	Section Number	Reviewer's Comments/AUTHOR'S DISPOSITION
1	General	The comments provided in this assessment are only for the 140,000 tonne scenario as this scenario was the only one provided at the time of the review. Based on discussions with Jacques Whitford at the June 5th Peer Review Meeting, they are currently in the process of modelling the 400,000 tonne scenario and that will be available sometime around June 15th. The methodology for carrying out the Air Quality modelling and calculations for the HH-ERA will be the same as what has been provided in this document therefore the review of the 400,000 tonne scenario will only involve a review of the results and discussion. <u>Disposition:</u> The 400,000 tpy scenario has been incorporated into the report.
2	General	Based on discussions with Jacques Whitford at the June 5th Peer Review Meeting, it is our understanding that a number of changes have been made to the document since it was sent out for comment. These changes were made as a result of comments by the peer reviewers for the Durham Region as well as the peer reviewers for the Durham Medical Officer of Health. However, the comments presented here are based on the May 2009 report that was sent out for review. <u>Disposition:</u> Major updates have been incorporated into the report and are summarized after the Executive Summary of the June 12th draft.
3	General	The Air Quality peer reviewer noted that generally the air quality assessment appears to have been done in a professional manner and the documentation is comprehensive and complete, save minor textual inconsistencies. There is however a fundamental concern with the generation of the CALMET meteorological wind fields, which if inappropriately represented will introduce bias in the results and potentially over or underestimate impacts at various locations. The review of the HH-ERA document is based on the fact that the predicted concentrations will not change substantially from those presented in the HH-ERA document.

Date of comments: 09/06/2009
Disposition: 29/06/2009
Reviewer: 06/07/2009

DISPOSITION BY AUTHOR AND REVIEWER

Accepted by Reviewer
☒ Yes ☐ No

Accepted by Reviewer
☒ Yes ☐ No
It should be noted that a number of sections have been changed in the updated risk assessment which makes the review of the changes very difficult.

Accepted by Reviewer
☒ Yes ☐ No

REVIEW DOCUMENT DESCRIPTION

Reviewer's Name & Organization		Harriet Phillips and Mehran Monabbati, SENES Consultants Limited		Date of comments: 09/06/2009 Disposition: 29/06/2009 Reviewer: 06/07/2009	
Comment Number	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION		DISPOSITION BY AUTHOR AND REVIEWER	
		<u>Disposition:</u> Since receipt of these comments the Air Quality team has rerun their models, updated with comments from Senes and the MOE. Overall, this led to minor or insignificant changes in the ground level concentrations or the deposition values used in the risk assessment. These findings will be provided in the final draft but in no way affect the conclusions or findings of the risk assessment.			
4	Section 1.2	<u>Disposition:</u> The purpose of the report is very weak and does not indicate that the focus of the risk assessment is only related to air emissions.		Accepted by Reviewer ☒ Yes ☐ No	
		<u>Disposition:</u> This Section of the Technical Report has been updated to reflect that the risk assessment was only related to air emissions from the Thermal Treatment Facility.			
5	Section 3.1	Figure 3.4 was missing from the document and was subsequently sent by email, this figure needs to be incorporated in the document.		Accepted by Reviewer ☒ Yes ☐ No	
		<u>Disposition:</u> The figure has been included in the updated Technical Report.			
6	Section 3.1.1	Minor typographical error – on page 11 Last paragraph in this section is missing a period at the end of the sentence.		Accepted by Reviewer ☒ Yes ☐ No	
		<u>Disposition:</u> Text has been updated.			
7	Section 3.1.1.3	There is no description of the form of ammonia that would be used in the Selective Non Catalytic Reduction System of the facility as well as how it would be shipped to the facility.		Accepted by Reviewer ☒ Yes ☐ No	
		<u>Disposition:</u> Aqueous ammonia would be used in the SNCR system. The method of shipment has not been specified by Covanta. The text has been updated to reflect the form of ammonia used and to provide further comment on how details would be expected to be part of the EPA approval process.			
8	Section 3.1.1.6	Minor typographical error with the spelling of "would" in the first paragraph.		Accepted by Reviewer ☒ Yes ☐ No	
		<u>Disposition:</u> Text has been updated.			

REVIEW DOCUMENT DESCRIPTION			
Reviewer's Name & Organization		Harriet Phillips and Mehran Monabbati, SENES Consultants Limited	Date of comments: 09/06/2009 Disposition: 29/06/2009 Reviewer: 06/07/2009
Comment Number	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	DISPOSITION BY AUTHOR AND REVIEWER
9	Section 3.2.1	More clarification is needed on the selection of the receptor locations as it is not clear as to how the final group of receptors were selected based on the original Inhalation Receptor groupings provided in Table 3-1. <u>Disposition:</u> The Inhalation Receptor Groupings provided Table 3-1 are the final receptor groupings characterized in the risk assessment. Further clarification has been added to the text as follows: "Risk characterization was then performed on the resulting 15 receptor groupings (Table 3-1), which represent the originally selected 309 receptor locations." The text will be further updated to include a discussion of how these receptor locations were selected within the 10 km radius of the Facility in the updated Technical Report.	Accepted by Reviewer ☒ Yes ☐ No
10	Section 3.2.2	No adequate rationale has been provided for the selection of the receptor locations for the multi-pathways assessment. <u>Disposition:</u> This Section of the Technical report has been updated to include additional rationale for the selection of the receptor locations for the multi-pathway assessment. The text will be further updated to include a discussion of how these receptor locations were selected within the 10 km radius of the Facility in the final report.	Accepted by Reviewer ☒ Yes ☐ No
11	Section 3.2.3	No adequate rationale has been provided for the selection of the ecological receptor locations. <u>Disposition:</u> Section 8.3.4 provides a full description and rationale for each ecological receptor location. A reference to Section 8.3.4 has been added to this section.	Accepted by Reviewer ☒ Yes ☐ No
12	Section 3.3	In Table 3.6 it indicates that the cumulative case was only evaluated qualitatively in the <i>Air Quality Assessment Technical Study Report</i>. Provide a rationale as to why the cumulative case was not evaluated within the HHERA. <u>Disposition:</u> The cumulative effects case was not quantitatively assessed during the risk assessment as sufficient details on "other" future projects and emissions rates were not available to the team at the time of the preparation of the Technical Report. This will be investigated further prior to release of the EA to the MOE, however, it is unlikely that this information will be available in a quantitative manner. It should also be noted that the completion of a cumulative effects assessment was not contemplated within the context of the Approved EA TOR.	Accepted by Reviewer ☒ Yes ☐ No As long as a clear statement relating to this disposition is put in the report.

REVIEW DOCUMENT DESCRIPTION			Date of comments: 09/06/2009 Disposition: 29/06/2009 Reviewer: 06/07/2009
Reviewer's Name & Organization		Harriet Phillips and Mehran Monabbati, SENES Consultants Limited	
Comment Number	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	DISPOSITION BY AUTHOR AND REVIEWER
13	Section 3.3.1.2	This section indicates that the traffic estimates from URS Canada Inc were combined with baseline ambient conditions to produce the baseline traffic case. It is not apparent in the report or appendices as to where these concentrations are presented. <u>Disposition:</u> Traffic Data used in the assessment of the Baseline Traffic Case and Traffic Case will be provided in Appendix E of the updated Technical Report and was provided by the Air Quality Modeling Team.	Accepted by Reviewer ☒ Yes ☐ No
14	Section 3.3.3.3	Not enough information is provided for The Process Upset Case and therefore it is difficult to understand this Scenario. No rationale is provided for why it was assumed that the facility would run at the Upset Conditions 5% of the year for CACs and metals and 20% of the year for other COPC. Why would Upset Conditions not be the same regardless of the COPC? In addition no rationale has been provided for the use of a factor of 10 for the emission rates of the short term ground level COPC concentrations. As discussed in the June 5th meeting, the Upset Case needs to be clearly defined as it is Upset Conditions and not normal operating conditions that are of most concern for this type of facility. <u>Disposition:</u> Section 3.4.3.3. of the Report has been updated to include a better discussion of the Process Upset Cases evaluated in the risk assessment.	Accepted by Reviewer ☒ Yes ☐ No
15	Section 3.3.3.4	It is unclear how this Case is different from what was presented in Section 3.3.3.3 as no description of this case is provided. <u>Disposition:</u> This Section has been updated in the Report to differentiate it from Section 3.3.3.3.	Accepted by Reviewer ☒ Yes ☐ No
16	Section 3.3.3.5	This section describes the Traffic Case. Why was PM₁₀ not evaluated as this constituent is associated with vehicular emissions? <u>Disposition:</u> PM₁₀ has been added to the Traffic Case Assessment.	Accepted by Reviewer ☒ Yes ☐ No As long as it is added to the evaluation as it is not present in the June 11 updated document.
17	Section 3.3.3.6	It is unclear how this Section and the Subsections were used in the assessment as in Table 3.6 it indicated that the Future and Existing Conditions Case was evaluated qualitatively in the Air Quality TSD. There are typographical issues with the Subsection numbering. In Section 3.3.3.6.3, no rationale is provided as to why the aggregate transfer station and the GO transit line/station are expected to have little effect on the regional air quality. In addition, no discussion was provided on the St. Mary's, Darlington NGS and 401-407 Eastlink. <u>Disposition:</u> Typographical errors with the subsection numbering have been resolved. Additional discussion and clarification has been added throughout this section.	Accepted by Reviewer ☒ Yes ☐ No As long as the typographical errors are corrected and additional statements are added as it is not present in the June 11 updated document.

REVIEW DOCUMENT DESCRIPTION				Date of comments: 09/06/2009 Disposition: 29/06/2009 Reviewer: 06/07/2009
Reviewer's Name & Organization		Harriet Phillips and Mehnan Monabbati, SENES Consultants Limited		
Comment Number	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION		DISPOSITION BY AUTHOR AND REVIEWER
18	Section 4.2	Table 4.2 presents the list of COPC that were evaluated in the assessment. Why were acrolein and 1,3-butadiene not evaluated as they are known to be associated with the incineration of garbage? <u>Disposition:</u> Section 4.2.2 has been updated to include a discussion on acrolein and 1,3-butadiene. During the peer review process, a question was posed about the exclusion of acrolein and 1,3-butadiene from the COPC list. Acrolein is released to the environment through the incomplete combustion of organic matter. The main combustion source of acrolein is from gas and diesel motor vehicle emissions (CEPA, 1999). It is likely that acrolein would be emitted from a Thermal Treatment Facility, but the Air Quality Team was unable to locate any emission factors for acrolein for incineration facilities during their review of Canadian, US EPA or CalEPA data sources. Given that motor vehicle emissions to the environment far exceed those that would be expected from a Thermal Treatment Facility (CEPA, 1999), it is not anticipated that its exclusion from the HHRA would alter the overall conclusions of the report. Although 1,3-butadiene was identified as a COPC in the <i>Air Quality Assessment Technical Study Report</i> (Jacques Whitford, 2009e), no credible sources of emissions data for this contaminant were found during the extensive literature review performed for the assessment. Therefore, 1,3-butadiene was considered, but not modelled by the Air Quality Team."		Accepted by Reviewer ☐ Yes ☒ No Only acrolein was addressed in the update. A statement needs to be added for 1,3-butadiene.
19	Section 5.1	It seems like a very small sample of forage samples (i.e. 5) were collected in the study area. No rationale was presented to indicate that this small sample was adequate enough to describe baseline conditions in the area. Similarly only 11 browse samples were collected. Provide a rationale in this section to indicate whether the number of samples collected adequately represents baseline conditions. <u>Disposition:</u> The text regarding forage samples was incorrect. Text was updated to reflect that 11 forage samples were collected from the 17 sampling locations within the baseline assessment area. Regardless for the purpose of the HHRA the MOE has requested that maximum concentrations be used with the exception of the soil data. This will be updated in the Report. Although it may slightly alter the baseline risk assessment, it will not impact the conclusions or the results of the HHRA.		Accepted by Reviewer ☒ Yes ☐ No As long as it is added to the text as it is not present in the June 11 updated document.
20	Section 5.1.2	Provide a rationale as to why a small sample size (i.e. 5 samples) is adequate enough to evaluate a 95th UCLM. <u>Disposition:</u> See response to Comment 19.		Accepted by Reviewer ☒ Yes ☐ No
21	Section 6.1	Counter plots have been provided for the ambient exposure point concentrations; however, a table summarizing the air concentrations used in the assessment has not been provided. <u>Disposition:</u> A summary table is now provided in Appendix E to the Report.		Accepted by Reviewer ☒ Yes ☐ No

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Reviewer's Name & Organization	Harriet Phillips and Mehran Monabbati, SENES Consultants Limited		
Comment Number	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	DISPOSITION BY AUTHOR AND REVIEWER
22	Section 6.2	It is unclear why the COPC list in Table 6-1 is different from the original list provided in Table 4-2. Provide a rationale for this difference. <u>Disposition:</u> Not all COPC presented in Table 4-2 were considered relevant to the Baseline Loading tables due to the physical-chemical properties of the COPC. Specifically not all COPC released from the Thermal Treatment Facility will persist or accumulate in the environment. Chemicals that have the potential to persist and accumulate in the environment were carried forward into the multi-pathway assessment and subsequently included in the Baseline Loading Tables. O-terphenyl was added to the Baseline Loading Tables. Provide a rationale for why the COPC list in Tables 6.2 to 6.15 differs from the original list provided in Table 4-2. <u>Disposition:</u> See response to comment 22. While the increased emissions during upset conditions (a factor of 2.8 or 1.45) are reflected in environmental media concentrations (soil, water, etc), the concentrations of majority of chlorinated aromatics in surface water , sediments, small mammals, and fish remained essentially the same for both scenarios despite a sharp increase in emissions during upset conditions. This could not be explained using available information from the HHRA document. <u>Disposition:</u> Loading calculations will be reviewed to ensure that the calculation of chlorinated aromatics is appropriate and if so, a rationale for the lack of increase will be provided. This Section indicates that only dioxins and furans and PCBs were evaluated in breast milk yet in Table 7-18, hazard quotients have been provided for a larger list of COPC. This discrepancy needs to be resolved. <u>Disposition:</u> The Report has been updated to reflect that all organic COPC (except metals) have been evaluated for farmer and resident infants. The metals risk assessment results were provided for dust ingestion. Sensitive receptors have not been discussed nor characterized. This section should include some discussion of the potentially sensitive subgroups of the population as they will be potentially most affected by the emissions from the facility. Only a daycare/school was discussed what about retirement homes are there any in the area? <u>Disposition:</u> A large number of receptors, including retirement homes, were assessed and discussed in the inhalation assessment. The receptors chosen for the multi-pathway assessment were deemed those most sensitive to multi-pathway exposure. This is further described in Section 7.4 (Receptor Characterization). Text in the Report has been updated to clearly reflect this.	Accepted by Reviewer ☒ Yes ☐ No As long as a rationale is provided in the section to clarify the discrepancy so that the report is transparent. Accepted by Reviewer ☒ Yes ☐ No See above Accepted by Reviewer ☒ Yes ☐ No Accepted by Reviewer ☒ Yes ☐ No Accepted by Reviewer ☒ Yes ☐ No
23	Sections 6.3-6.5		
24	HHRA, Section 6.3, Table 6.2		
25	Section 6.6		
26	Section 7.3.3		

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Reviewer's Name & Organization		Harriet Phillips and Mehran Monabbati, SENES Consultants Limited	
Comment Number	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	DISPOSITION BY AUTHOR AND REVIEWER
27	Section 7.3.4.1	A wide range of values are reported in the literature for soil ingestion rates (SIRs). This section does not provide any discussion or recognition of the different SIRs. The Health Canada SIRs used in this section are all lower for the toddler than other SIRs used such as 100 mg/d. In addition the MOE posted the following document in October 2008 to the Environmental Registry "The Rationale for the Development of Generic Soil and Groundwater Standards for Use at Contaminated Sites in Ontario" (http://www.ene.gov.on.ca/envision/env_reg/er/documents/2008/010-4642%203.pdf). This document contains the SIRs the Ministry considers appropriate for use in assessing this exposure pathway which are much higher than the ones used in this assessment. Thus, this section should provide adequate discussion on the SIRs and provide a rationale for the values selected. Based on the June 5th Peer Review meeting, it is our understanding that calculations have been redone using an SIR of 100 mg/d for the toddler. The use of this value needs to be supported by a detailed rationale. In addition provide a rationale as to how the dust ingestion rate was calculated in Appendix G. <u>Disposition:</u> The June 12th report has been updated to include the toddler SIR to 100 mg/d.	Accepted by Reviewer ☐ Yes ☒ No While the calculation may reflect an SIR of 100 mg/d, the text still indicates that the SIR is from Health Canada. As indicated in this comment, more discussion and rationale is necessary in this section to support the selection of the SIRs used in the assessment.
28	Section 7.3.4.1	For breast milk ingestion it is indicated that the infant is "assumed to be exclusively breast fed (meaning their intake of all other foods and water is set to zero)"; however in Table 1-1 in Appendix G which has the receptor characteristics there is a value for the water ingestion rate and wild game ingestion rate. <u>Disposition:</u> The table has been updated.	Accepted by Reviewer ☒ Yes ☐ No
29	Section 7.3.4.1	Skin surface Areas have been obtained from Health Canada 2004 which provides information on total area, arms, hands, legs and feet. However in Appendix G different skin surface areas are provided for Summer and Winter with no rationale as to how these values have been derived. <u>Disposition:</u> Skin surface areas for summer include head, legs and arms, while skin surface areas for winter include only the head. Description of this rationale has been added to the appropriate sections of the Report which outline dermal soil/dust exposure.	Accepted by Reviewer ☒ Yes ☐ No As long as it is added to the text as it is not present in the June 11 updated document.
30	Section 7.3.4.1	In Appendix G, the characteristics of a composite receptor have been provided by using a weighted average of the various ingestion rates instead of considering each life stage separately and then considering the exposure. It was acknowledged in the June 5, 2009 meeting that calculations will be provided in the Uncertainty Section. This should be done. <u>Disposition:</u> An example of the calculation used to estimate composite receptor properties has been added to Appendix G of the Report.	Accepted by Reviewer ☐ Yes ☒ No At the June 5th meeting, it was agreed that this would be added to the Uncertainty Section of the report to reflect the different ways in calculating the risks to the composite receptor (i.e. weighted average vs calculation for each life stage then summing together).

REVIEW DOCUMENT DESCRIPTION		
Reviewer's Name & Organization	Harriet Phillips and Mehran Monabbati, SENES Consultants Limited	
	Date of comments: 09/06/2009 Disposition: 29/06/2009 Reviewer: 06/07/2009	
Comment Number	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION
31	Section 7.3.4.1	The document indicates that ingestion rates for beef, chicken, pork, dairy and eggs were taken from EPA 2005. Appendix G provides the values used in the report. It is difficult to reconcile the ingestion values for these different food groups in Appendix G with the Tables from the EPA 2005 document. A rationale needs to be provided in the Appendix as to how these values were derived for the toddler and composite farmer receptors. The text indicates that the rates are specific to a child and adult farmer receptor. This needs to be corrected. <u>Disposition:</u> Child and adult consumption rates were used as proxies for toddler and adult consumption rates for ingestion of aboveground-exposed, aboveground-protected and belowground produce and agricultural products only. All other relevant consumption rates related to toddler-specific and adult-specific consumption rates. Consumption rates were taken from US EPA HHRAP guidance. Additional rationale and discussion has been added to Appendix G of the Report.
32	Section 7.4.3	This section is supposed to present the results of the exposure analysis; however no results are presented in this section or in an Appendix. Appendix G only provides a worked example, Appendix B the baseline concentrations and Appendix C the equations used to calculate the exposure. Exposure results are necessary to check the intermediate steps in the risk assessment. <u>Disposition:</u> EPCs are now provided in Appendix E of the Report.
33	General	Overall, the methodology used to calculate the COPC concentrations in the environmental media and point of exposure COPC concentrations is sound. However, some specific clarifications are needed for these calculations within the context of ecological risk assessment. <u>Disposition:</u> Appendix K (Biological Uptake Factors) provides rationale for calculations conducted within the Ecological Risk Assessment surrounding aquatic plants, soil invertebrates and benthic invertebrates. Exposure point concentration calculations for other media, which are common to both the HHRA and ERA are provided in Appendix C of the Report.

DISPOSITION BY AUTHOR AND REVIEWER

Accepted by Reviewer
☐ Yes ☒ No
 More information than what is provided here is needed as when the 2005 document was checked, the numbers did not match what was presented in the Appendix. The value selected from the table in the 2005 document is needed and how it was adjusted to be used in the assessment.

Accepted by Reviewer
☐ Yes ☒ No
 This comment does not relate to EPCs but to the calculations of exposure (i.e. in mg/kg-d) for each pathway that were used to calculate the risk. These have not been provided in the report.

Accepted by Reviewer
☒ Yes ☐ No

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34	Appendix B, Section 1.1	The US EPA (2005) Human Health Risk Assessment Protocol for Hazardous Waste Combustion Facilities (HHRAP) provides recommendation for HHRA and does not provide recommendations on how to Develop a site-specific ecological risk assessment. EPA had previously published its recommendations for conducting screening level ecological combustion risk assessments in a separate document, the Screening Level Ecological Risk Assessment Protocol for Hazardous Waste Combustion Facilities (SLERAP) Peer Review Draft (U.S. EPA 1999). is currently undergoing substantial revision. Until revisions are complete, we can't recommend using the SLERAP. The media considered for HHRA in this document were (Figure 1.1 of HHRAP) 1. Air for Direct Inhalation 2. Soil 3. Produce 4. Meats, Milk, and Eggs 5. Drinking Water and Fish <u>Disposition:</u> SLERAP (1999) was reviewed but was not relied upon to any great degree in the assessment. Guidance from MOE, CCME, Ohio EPA, ORNL and other regulatory bodies was consulted for guidance on conducting the ERA.	Accepted by Reviewer ☐ Yes ☒ No This response does not indicated as to how the document will be changed to respond to the comment.
35	Appendix C, General	It is understood that indoor air, grain, beef, pork, chicken, egg, dairy products, and fruits are also used in calculation of intake by receptors. If this appendix is meant to provide a complete methodology to calculate point of exposure concentrations, it should provide the equations and methodology used to estimate the above exposure media concentrations. They are missing from the document. <u>Disposition:</u> Intake via indoor air and grain were not predicted in the HHRA. However, predictive equations for beef, pork, chicken, egg, dairy and fruit have been added to Appendix C of the Report. Brackets are used incorrectly in the equation. This is the same problem with some other equations as well. It should be ensured that the calculations used the equations with proper location of brackets. <u>Disposition:</u> All equations have been reviewed and proper bracketing has been ensured.	Accepted by Reviewer ☒ Yes ☐ No As long as the report is very clear as to what exposure pathways were considered.
36	Appendix C, Section 1.2.2	Brackets are used incorrectly in the equation. This is the same problem with some other equations as well. It should be ensured that the calculations used the equations with proper location of brackets. <u>Disposition:</u> All equations have been reviewed and proper bracketing has been ensured.	Accepted by Reviewer ☒ Yes ☐ No
37	Appendix C, Section 1.2.2, Section 1.3.1	The units for Dydv, Dywv, Dydp, and Dywp are incorrect in equations for soil and above ground produce concentration. As such both sides of the equations have different dimensions. Please note that terms are unitized deposition rates not yearly average depositing rates (Q was considered to be 1).	Accepted by Reviewer

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Harriet Phillips and Mehran Monabbati, SENES Consultants Limited				☒ Yes ☐ No
38	Appendix C, Section 1.4.1	<u>Disposition:</u> The units of these parameters will be reviewed and proper units will be ensured in displaying the calculations and in the model itself. The equation for calculating the concentration in wild game tissue is incorrect. The $B_{wildgame}$ should be multiplied by forage intake as well as soil intake. In addition the equation for calculating $B_{wildgame}$ is applicable only for organic compounds. It is not clear, from the document, how $B_{wildgame}$ for metals are calculated. <u>Disposition:</u> As outlined in Appendix C, the equation for $C_{wildgame}$ includes Q_a, C_s, and B_a, or the quantity of soil eaten by wild game each day, the average soil concentration over exposure duration and the soil bioavailability factor. Soil intake is thus combined with forage intake and multiplied by $B_{wildgame}$ to obtain the tissue concentration. The calculation of B_{game} for metals is based on Baes et al. (1984), as per US EPA HHRAP. A description of this calculation will be added to Appendix C.	Accepted by Reviewer ☒ Yes ☐ No	
39	Appendix C, General Section 3.3.3.3 of HHRA	It appears that the upset factor (1.45 or 10 times for 5% of the time for metals and 2.8 or 10 times for 20% of time) used for prediction plant emissions during upset conditions are consistent based on a methodology used by California Air Resources Board (CARB) (1990). This should be referenced in the document. <u>Disposition:</u> CARB(1990) is now referenced in the Report. This section should explain the difference between BCF and BAF and their application in calculating fish concentrations. Also, it is not clear why BAF is based on fish fresh weight and BCF is not. Usually both of these factors should be used on a fresh weight basis.	Accepted by Reviewer ☒ Yes ☐ No	
40	Appendix C Section 1.5.8	<u>Disposition:</u> A paragraph explaining the difference between BCF and BAF has been added to Section 1.5.8. of Appendix C. Units for BAF have also been updated to reflect that the BAF is expressed on a fresh weight basis.	Accepted by Reviewer ☒ Yes ☐ No	
41	Appendix C Section 1.5.8	The BSAF is not unitless. It is usually expressed as kg sediments/kg fish FW. It is significant to provide the unit, even though the factor is dimensionless, as it make a difference if the fish concentration is calculated on a fresh weight basis. <u>Disposition:</u> Appendix C has been updated to reflect the basis of the calculation.	Accepted by Reviewer ☒ Yes ☐ No	
42	Appendix C Section 1.5.8	While application of BSAF for calculation of concentrations in benthic fish or bottom feeders which spent most of the time at the vicinity of bottom sediments is appropriate, this may not be the case for placic fish which spent most of the time in water column. There should be a discussion about this.	Accepted by Reviewer	

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Comment Number	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	DISPOSITION BY AUTHOR AND REVIEWER Yes ☒ No ☐
43	Appendix C, 1.5.8	<u>Disposition:</u> As outlined in Appendix C, the BSAF calculation was applied only to extremely hydrophobic chemicals such as dioxins, furans and PCBs. This use of the BSAF factor takes into account the highest possible exposure (expected to occur in sediment) to any fish (including pelagic). By using this conservative approach the pelagic fish population is expected to be protected. US EPA document says: <i>"The MF presented above for BEHP applies only to mammalian species, including beef cattle, dairy cattle, and pigs. It does not relate to metabolism in produce, chicken, or fish. In addition, since exposures evaluated in this guidance are intake driven, using an MF applies only to estimating COPC concentrations in food sources used in evaluating indirect human exposure, including ingestion of beef, milk, and pork. In summary, an MF is not applicable for direct exposures to air, soil, or water, or to ingestion of produce, chicken, or fish."</i> However MF was used to calculate the fish concentration. It may underestimate the fish concentrations by a factor of 100 for PAH compounds. <u>Disposition:</u> The use of a MF in the calculation of concentrations of PAHs in media such as fish, beef, milk, pork, poultry and eggs, is based on rationale from Hofelt et al. (2001). This rationale is described in Section 1.4.1 of Appendix C. A reference to this section has been added to Section 1.5.8. Briefly, Hofelt et al. states that the assumption of a MF of 1 for PAHs can result in an overestimation of the tissue concentration that, in turn, results in an overestimation of risk. The article also states that the USEPA has recommended a reduction in the fish bioaccumulation factors provided in HHRAP by three orders of magnitude – equivalent to a fish metabolic factor of 0.001 – based on empirically derived fish bioconcentration factors. The Report documents the use of a metabolic factor of 0.01 – which incorporates a conservative safety factor of 10%.	Accepted by Reviewer ☒ Yes ☐ No
44	Appendix D, General	It should be clear that all the transfer factors provided for all COPC is on the FW or DW basis. There is a significant difference between calculations based on FW and calculations based on DW. The unitless numbers provided does not indicate which basis was used. <u>Disposition:</u> Appendix D has been modified to specify the basis for all unitless biotransfer factors.	Accepted by Reviewer ☒ Yes ☐ No
45	Appendix D, General	Based on the methodology provided in Appendix C, Section 1.4.1, the transfer factor (Ba) for wild game was calculated using Ba for beef. The transfer factor (Ba) for beef was also calculated using Ba for fat. However, in Appendix D, numerical values (cited from EPA 2005) were provided for both. It should be clear which method was used to calculate the tissue concentration of wild game. Generally, there may be cases where both empirical values and equations were provided for a parameter. In those cases the document should be clear which method was used.	Accepted by Reviewer ☒ Yes ☐ No

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Comment Number	Section Number			
		<u>Disposition:</u> Where a COPC is present, the HHRAP database provides Ba _{base} . The HHRAP details that this value is based on Ba _{base} as described in Appendix C. For all COPC, Ba _{game} has been calculated from Ba _{base} . All Ba _{base} and Ba _{game} values are correctly cited as having been obtained from HHRAP (if the COPC is included in the HHRAP database), or as having been calculated based on an equation from HHRAP (as described in Appendix C).		
46	Appendix E, General	<u>Disposition:</u> The point of exposure concentrations for Project Case (Baseline + Project) and Process Upset Project Case (Baseline+ Upset Conditions) were not provided. <u>Disposition:</u> Project Case and Process Upset Project Case risk estimates were calculated by taking the sum of the Baseline Case and Project Alone Case/Process Upset Case risk estimates.		
47	Appendix E, General	Calculated Indoor air concentrations should be provided for receptor clusters where appropriate. <u>Disposition:</u> Appendix E has been updated to provide separate inhalation (i.e. air) and multi-pathway exposure point concentrations. As inhalation is assessed separately, air concentrations have been removed from the multi-pathway exposure point concentration tables.		
48	Section 7.5 General	This Section provides all the toxicity reference values (TRVs) that were used in the assessment. There are a number of inconsistencies in this Section. Based on discussions at the June 5 th peer review meeting it is our understanding that this section and the TRVs have been updated. Nonetheless, a few comments relating to issues with the TRVs will be provided. <u>Disposition:</u> The Toxicological Profiles have been updated.		
49	Section 7.5 General	The TRVs taken from Health Canada were referenced to a 2004 document. The HHRA should note, however, that the literature cut-off date for these TRVs was 1992. Similarly, when referencing TRVs taken from USEPA IRIS, the year that the TRV was published, in addition to the year that IRIS was accessed to get the TRV, should be indicated. <u>Disposition:</u> Jacques Whitford is aware of the cut off dates used for the Health Canada 2004 document. The references to US EPA are all properly documented in the Report.		
50	Section 7.5 General	Not all of the values presented in the table as TRVs are actually TRVs. For example, the reliance on air guidelines as sources of TRVs may not be appropriate. Air guidelines may not be based on health effects and thus concentration ratios obtained using these values would not be considered valid. The values used to assess health risks in the HHRA must all be actual TRVs.		
				Accepted by Reviewer ☒ Yes ☐ No As long as the report is clear about the approach.
				Accepted by Reviewer ☒ Yes ☐ No
				Accepted by Reviewer ☐ Yes ☒ No The toxicity Profiles have not been updated to reflect the WHO guidelines that were used as discussed by JWEL in response to comment 51.
				Accepted by Reviewer ☒ Yes ☐ No
				Accepted by Reviewer ☒ Yes ☐ No

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		<u>Disposition:</u> It is stated in Section 7.5 of the Report under Benchmark (Inhalation), "for this assessment only health-based benchmarks were used". We acknowledge, however, that for benchmarks related to particulate matter, values are often derived based on policy and not only health. It is recognized that these are benchmark values, however, when these values were used there was a lack of toxicological information from any of the reliable agencies that provide RfCs.	DISPOSITION BY AUTHOR AND REVIEWER As long as this is discussed in the Uncertainty Section that the use of the Concentration ratios based on AAQCs may not be fully protective of all health effects.
51	Section 7.6 Table 7.2	It is curious to note that WHO guideline values were used for the CACs in the generic risk assessment and they have not been used in this assessment. No rationale has been provided as to why these values were not used in this assessment. Based on the June 5th discussion, it is our understanding that the WHO values will be used. <u>Disposition:</u> The WHO guideline values for PM₁₀, PM_{2.5}, NO₂ and SO₂ have been added to the inhalation assessment documented in the Report.	
52	Section 7.6 Table 7.2	Similarly, why was the value for hydrogen fluoride changed from the original value that was used in the generic HHRA? <u>Disposition:</u> As outlined in the toxicity profile for hydrogen fluoride, the Texas Commission on Environmental Quality recently updated its 1-hour value for hydrogen fluoride to 25 µg/m³. Further details regarding the derivation of this value are found in the toxicity profile.	Accepted by Reviewer ☒ Yes ☐ No However, the toxicity profiles in Appendix H need to be updated – see Comment 48
53	Section 7.6 Table 7.2	The values presented for particulate matter PM₁₀ and PM_{2.5} do not reflect the current science on particulate matter. The National Ambient Air Quality Objective for Particulate Matter has reference levels for health based values of 15 µg/m³ for 24-h PM_{2.5} and 25 µg/m³ for 24-h PM₁₀. In addition the California Air Resources Board (2008) provides a summary of the latest research on PM_{2.5}. It should be noted that in some cases scientists think that there is no threshold that is safe for exposure to PM_{2.5} and others think ranges from 3 µg/m³ to 7 µg/m³ are protective of health for PM_{2.5}. The discussion in Appendix H is inadequate as it does not reflect the latest literature on particulate matter. <u>Disposition:</u> The PM_{2.5} values have been updated with the WHO criteria. That being said it is acknowledged that there is considerable debate in the literature and by regulatory agencies from around the world on appropriate PM_{2.5} values. It should be noted that the addition of PM_{2.5} at the MGLC from the Facility itself will be lower than the values cited above. Regardless the Report has been updated with a further discussion on this matter.	Accepted by Reviewer ☐ Yes ☒ No This is inadequate and as discussed in the original comment a proper discussion on the science relating to PM_{2.5} is requested. The WHO criteria are not protective of health and the WHO in their document indicate a level of 3 to 5 µg/m³ where health effects have been observed. All of this should be discussed and an appropriate value selected.

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54	Section 7.6 Table 7.3	CalEPA 2003, considers naphthalene to have carcinogenic properties. Therefore, the toxicity profile for naphthalene should be more detailed, particularly in light of the potential mutagenicity and carcinogenicity of naphthalene. <u>Disposition:</u> There is considerable debate in the scientific community on the potential carcinogenic nature of naphthalene. Text from CalEPA (2003) has been added to the discussion on the carcinogenicity and mutagenicity of naphthalene, but since IARC, Health Canada and US EPA only consider naphthalene as a possible carcinogen to humans and US EPA considers the current data to be inadequate to derive carcinogenic inhalation or oral TRVs, naphthalene has been evaluated as a non-carcinogenic substance in this risk assessment. For lead, rationale needs to be provided as to why the MOE values which have been derived from a blood lead level have not been used.	Accepted by Reviewer ☒ Yes ☐ No As long as this is done as it is not in the June 11 document.
55	Section 7.6 Table 7.3 and 7.4	<u>Disposition:</u> The oral TRV for lead has been updated to the MOE value in the final version of the risk assessment. The annual average for beryllium was cited as 0.0007 $\mu\text{g}/\text{m}^3$ (CalEPA REL, 2008) in the report but the value was found to be 0.007 $\mu\text{g}/\text{m}^3$ (CalEPA REL, 2008).	Accepted by Reviewer ☒ Yes ☐ No
56	Section 7.6 Table 7.3	<u>Disposition:</u> This is a typographical error in Table 7-3. The table has been updated.	Accepted by Reviewer ☒ Yes ☐ No
57	Section 7.6 Table 7.3 and 7.4	Even though it was stated in appendix H that naphthalene was used as a surrogate for 1-methylnaphthalene and 2-methylnaphthalene it should be stated in the chart as well. <u>Disposition:</u> Tables 7.3 and 7.4 have been updated to reflect that that naphthalene was used as a surrogate for 1-methylnaphthalene and 2-methylnaphthalene	Accepted by Reviewer ☒ Yes ☐ No As long as this is done as it is not in the June 11 document.
58	Section 7.6 Table 7.3	We were unable to find the Cadmium annual average of 0.005 $\mu\text{g}/\text{m}^3$ (MOE AAQC) in the MOE AAQC 2008 document, where did the number from? <u>Disposition:</u> The MOE AAQC 2008 documents lists an annual average of 0.005 $\mu\text{g}/\text{m}^3$ for Cadmium (and Cadmium Compounds), list #51.	Accepted by Reviewer ☐ Yes ☒ No The MOE February 2008 Air Quality Standards does not have an annual average value for Cadmium. It is not #51 in the list. #51 in the list is Butyl-benzene sulphonamide. Cadmium and Cadmium compounds in #53 and no annual value is presented.
59	Section 7.6 Table 7.3	Benzene: an acute value of 0.009ppm was used which does not match the given critical effects description. Also an acute value is inappropriate for a 24 hour duration. The more appropriate value would be an intermediate duration value of 0.006ppm, which also matches the given critical effects description.	Accepted by Reviewer

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		<u>Disposition:</u> The critical endpoint matches are provided in the ATSDR document, Compendium of Papers on MRLs and Health Effects: Health effects classification and its role in the derivation of minimal risk levels: Immunological effects (http://www.atsdr.cdc.gov/mrls/articles/health_effects_classification_and_its_role_in_the_derivation_of_mrls_immunological_effects.pdf). In respect to the benzene acute 24-hour inhalation value, we believe the acute value of 0.009 ppm is more appropriate as a 24-hour value than the intermediate MRL for benzene given that this dose reflects a 1-14 day time period, as compared to >14-365 days for the intermediate dose (i.e., a subchronic dose).	☒ Yes ☐ No
60	Section 7.6 Table 7.3	Where did the acetaldehyde carcinogenic annual average value come from, the compound could not be found in the Health Canada 2004 report listed in the references. <u>Disposition:</u> As stated in the toxicity profile for Acetaldehyde, the Health Canada reference for this value is: Health Canada. 2004. Health-based Guidance Values for Substances on the Second Priority Substances List. http://www.hc-sc.gc.ca/ewh-semt/alt_formats/hccs-sccs/pdf/pubs/contaminants/psl2-lsp2/acetaldehyde/acetaldehyde_fin-eng.pdf.	Accepted by Reviewer ☒ Yes ☐ No
61	Section 7.6 Table 7.3	Where did the formaldehyde annual average of 3 ug/m³ (CalEPA REL. 2008) come from, the value and the description are not consistent with the given description in the 2009 report. <u>Disposition:</u> This value has been updated in the Report. CalEPA recently re-evaluated its chronic formaldehyde REL to 9 ug/m³; therefore, the updated CalEPA was selected for use in this assessment	Accepted by Reviewer ☒ Yes ☐ No
62	Section 7.6 Table 7.3	Where did the 1,1,1-trichloroethane number come from as there is not an entry for 1,1,1-trichloroethane in the US EPA IRIS database. <u>Disposition:</u> Values are from the IRIS profile for 1,1,1-trichloroethane, under the subheading: "I.B.1.1. Acute Inhalation RfC Summary", http://www.epa.gov/iris/subst/0197.htm#refinal	Accepted by Reviewer ☒ Yes ☐ No
63	Section 7.6 Table 7.3	Why was the annual average for 1,1,1-trichloroethylene listed as no value when there is an annual average value of 54 ug/m³ (TCEQ REL. 2008). <u>Disposition:</u> This value has been added to the inhalation assessment in the Report.	Accepted by Reviewer ☒ Yes ☐ No
64	Section 7.6 Table 7.3 and 7.4	Where did the TEF for benzo(e) pyrene and dibenzo(a,c) anthracene come from as relative potency factors could not be found in IPCS 1998. <u>Disposition:</u> The TEF factors used for the abovementioned PAHS are from Table A1.9. Relative potencies of indicator polycyclic aromatic hydrocarbons.	Accepted by Reviewer ☒ Yes ☐ No

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Comment Number	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	DISPOSITION BY AUTHOR AND REVIEWER
65	Section 7.6 Table 7.4	Why were dioxin-like PCBs not considered in the assessment? <u>Disposition:</u> Section 4.4 has been updated to include a discussion on dioxin-like PCBs. Further information on dioxin-like PCBs will also be added to the Report in the section regarding uncertainty.	Accepted by Reviewer ☒ Yes ☐ No As long as information is presented in the Uncertainty Section.
66	Section 7.6 Table 7.4	Why was the methyl mercury value of 2×10^{-4} mg/kg-d (Heath Canada 2004) used instead of the more conservative value of 1×10^{-4} mg/kg-d (IRIS 2001). <u>Disposition:</u> The Health Canada value of 2×10^{-4} mg/kg-d was selected for use in this assessment because it is the provisional tolerable daily intake for pregnant women and toddlers in Canada and is consistent with WHO/FAO Expert Committee on Food Additives (JECFA) recommended provisional tolerable weekly intake for methylmercury of 0.00016 mg/kg bw/week (equivalent to 0.00023 mg methylmercury/kg bw/day) in order to sufficiently protect the developing fetus. We believe this value to be more applicable to the current risk assessment.	Accepted by Reviewer ☒ Yes ☐ No
67	Section 7.6 Table 7.4	Why is perylene listed with a TEF value if it is not considered a carcinogen <u>Disposition:</u> Perylene is considered a carcinogenic according to WHO, as stated in Environmental Health Criteria document 202 (IPCS, 1998), Table A1.9. Relative potencies of indicator polycyclic aromatic hydrocarbons.	Accepted by Reviewer ☒ Yes ☐ No
68	Section 7.6 Table 7.4	Acenaphthene has a non-carcinogen value of 6×10^{-2} mg/kg-d (IRIS 1994) which was not included. <u>Disposition:</u> This has been updated in the Report.	Accepted by Reviewer ☒ Yes ☐ No As long as added to the report as not in the June 11 version
69	Section 7.8.1.1	As discussed Comment 50, ambient air quality standards were used for comparison for the metals and CAC. As these AAQC may not be true health-based values, the limitations of this approach should be discussed. <u>Disposition:</u> Please see response to comment #50 above.	Accepted by Reviewer ☒ Yes ☐ No As long as this is discussed in the Uncertainty Section that the use of the Concentration ratios based on AAQCs may not be fully protective of all health effects
70	Section 7.8.1.1	The evaluation of health-based effects from particulate matter is not appropriate and needs to be revisited.	Accepted by Reviewer

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Comment Number	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	DISPOSITION BY AUTHOR AND REVIEWER ☐ Yes ☐ No
		<u>Disposition:</u> Please see response to comment #53 above.	
71	Section 7.8.3.1	The use of the lower WHO values will result in exceedances in the baseline case and thus a frequency analysis will need to be presented for the Project Case. <u>Disposition:</u> A full discussion of all WHO results has been provided in the report and where relevant frequency analysis has been provided for discussion.	Accepted by Reviewer ☒ Yes ☐ No
72	Section 7.10	There is a discussion on transfer factors used to calculate concentrations in various media under food chain effects. The following statement is provided "Typically these assumptions are conservative and tend to overestimate rather than underestimate risks". Caution needs to be exercised in using this statement because for a number of chemicals this statement is not correct. The Analysis of this should be neutral and not overestimate. In addition food chain uptakes have no relation to the Toxicity Assessment and this row should be moved to the Exposure Assessment Section. <u>Disposition:</u> The Report has been updated accordingly.	Accepted by Reviewer ☒ Yes ☐ No As long as in final report as not in June 11 Report.
73	Section 7.10	There is no discussion on the assumptions used in deriving the Upset Conditions. <u>Disposition:</u> Discussion of Upset Conditions have been added to the list of assumptions provided in Table 7-84 in the Report.	Accepted by Reviewer ☒ Yes ☐ No As long as in final report as not in June 11 Report.
74	Section 7.10	There is no discussion on the use of AAQCs as TRVs rather than health based numbers. The use of AAQCs underestimate the risk. <u>Disposition:</u> Section 7.5 under benchmark (inhalation) discussed the use of air benchmarks as TRVs. We do not believe the use of AAQCs will underestimate risk as they are all health-based (with the exception of those used for particulate matter). This has been updated in the Report.	Accepted by Reviewer ☐ Yes ☒ No The use of AAQC values do underestimate risk as shown for PM2.5 for example, health effects are seen at values that are below the WHO values. This should be reflected in the report.
75	Section 8.3.2.2.1	Generally mallards are considered to be present in the aquatic environment and consume aquatic plants and invertebrates. It is interesting to not that in this assessment mallards were assumed to consume terrestrial vegetation and soil.	Accepted by Reviewer

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Comment Number	Section Number	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION		DISPOSITION BY AUTHOR AND REVIEWER	
		<u>Disposition:</u> Mallards are indeed known to be closely associated with the aquatic environment, and, as reflected in this ERA, consume foods primarily associated with this habitat (approximately 88%). However, it is also known that mallards are not exclusively aquatic species and will frequent terrestrial habitats for forage (seeds, tubers, stems of terrestrial plants), which is also reflected in the assessment (terrestrial forage accounting for approximately 12% of their diet). Sediment (and soil) ingestion rates were estimated based on dietary intake of these foods, assuming that each dietary component was associated with a fixed percentage of soil/sediment. Please refer to Appendix L, Section 4.1, for more information.		☒ Yes ☐ No	
76	Section 8.3.2.2.1	The food intake for the muskrat seems low based on the allometric equations provided in Appendix L.		Accepted by Reviewer ☒ Yes ☐ No	
77	Appendix L	<u>Disposition:</u> The food intake rate for the muskrat was verified to be correct, based on the allometric equation for rodents provided in Appendix L ($FI = 0.621 Wt^{0.584}$), and incorporating a dry weight to wet weight conversion factor. In general, the ecological profiles appear reasonable although there are some parameters that we could not verify in the Appendix such as the body weight for the shrew seems to be low, the food intake for the muskrat is low compared to the body weight, the body weight seems low for the white-tailed deer. No references are cited in the Tables in Appendix L and these should be provided. <u>Disposition:</u> All receptor parameters were verified as correct. Section 8.3.5 of the main report details receptor characteristics and sources of information. Inhalation is not considered in the ERA and thus the checkmark should be removed from this table.		Accepted by Reviewer ☒ Yes ☐ No	
78	Section 8.4 Table 8-4	<u>Disposition:</u> Inhalation is considered in the ERA, albeit qualitatively based on inferences from the HHRA. Please refer to Section 8.8 for the inhalation risk characterization discussion. Small mammals were not broken up into various groups so it was difficult to determine what small mammals the predatory species were consuming. In addition in Appendix L there is no breakdown of the prey either. This is needed to improve transparency of the report. <u>Disposition:</u> Dietary information for each receptor is discussed in Section 8.3.5 of the Report.		Accepted by Reviewer ☒ Yes ☐ No	
79	Section 8.4 Figure 8.3	<u>Disposition:</u> Dietary information for each receptor is discussed in Section 8.3.5 of the Report.		Accepted by Reviewer ☐ Yes ☒ No This is not discussed in this section. For example for fox it says that they consume small mammals and there is no breakdown as to what makes up small mammals – is it all voles, is it a mixture of voles and shrews?	

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Reviewer's Name & Organization		Date of comments: 09/06/2009 Disposition: 29/06/2009 Reviewer: 06/07/2009
Harriet Phillips and Mehran Monabbati, SENES Consultants Limited		
Comment Number	Section Number	DISPOSITION BY AUTHOR AND REVIEWER
80	Section 8.5	REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION There is a discussion of scaling in this section; however an acknowledgement should be provided to indicate that while scaling is still being used in ERAs that there is a movement away from scaling and what the potential effect of this would be on the results. In addition the MOE has indicated that they do not support allometric scaling. <u>Disposition:</u> Text has been added to the Report to address the use of the allometric scaling. In addition, alternate approaches to allometric scaling in the section regarding uncertainty will be provided and a discussion on how this would not affect the overall conclusions contained in the Report will be provided. Accepted by Reviewer ☒ Yes ☐ No
81	Section 8.5	We do not support the use of AAQC's for the evaluation of vegetation effects from exposure to NO₂ and SO₂. The WHO values should be used. <u>Disposition:</u> As stated in Section 8.5.8.5: "... the Maximum Acceptable Level was used as the threshold for conducting the risk assessment of sulphur dioxide and nitrogen dioxide on vegetation.", where: "the Maximum Acceptable Level is intended to provide adequate protection against effects on soil, water, vegetation, materials, animals, visibility, personal comfort and well-being;" (second bullet in Section 8.5.8.5). WHO benchmarks have been included in the Report. Accepted by Reviewer ☒ Yes ☐ No
82	Section 8.6	No intakes to the ecological receptors were provided so it is difficult to verify the results presented. <u>Disposition:</u> Intakes for all non community-based ecological receptors assessed in the ERA are provided in Appendix L. Exposure point concentrations used in the ERA for all assessment scenarios are provided in Appendix M. A worked example, detailing the risk characterization process using information found in each of Appendix L and M, is provided in Appendix O. Accepted by Reviewer ☐ Yes ☒ No This comment relates to the fact that concentrations of the average daily dose were not provided in the report. These are intermediate steps in the risk assessment and without these values it is difficult to check the calculations.

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Section Number		REVIEWER'S COMMENTS/AUTHOR'S DISPOSITION	DISPOSITION BY AUTHOR AND REVIEWER
83	Section 8.9 and Table 8-19	There is an extensive discussion on uncertainty and a table summarizing the assumptions. However the discussion and the table do not discuss the effect of these uncertainties on the assessment. <u>Disposition:</u> The effects of these uncertainties have been discussed in section 8.10 of the Report.	Accepted by Reviewer ☐ Yes ☒ No The information provided in Table 8.10 is not adequate. For example, the TRV discussion provides no indication whether the TRVs selected, overestimate, underestimate, or are neutral to the risks. Similarly no discussion as to how allometric scaling affects the uncertainty. This table should be similar to the one for the human health assessment. In addition, the Table in Section 8.10 does not discuss all of the assumptions.
84	Section 8.9.5	There was a discussion of using uncertainty factors of 3 and 10 to adjust from a subchronic to a chronic exposure and from an acute to a chronic TRV. <u>Disposition:</u> That is correct.	Accepted by Reviewer ☒ Yes ☐ No
85	Section 8.9.6	There is no discussion on the effect of using uptake factors to predict COPC concentrations in certain media and biota. <u>Disposition:</u> Section 8.10.7 discusses the exposure prediction limitations, including the use of uptake factors (UP). Rationale should be provided why compounds such as acrolein, butadiene, methylene chloride phthalates, CO and Cl₂ were not considered for screening of COPC. <u>Disposition:</u> This has been provided in the Report.	Accepted by Reviewer ☒ Yes ☐ No
86	Appendix A, General	The document should identify the environmental media whose half-life was considered. We assumed that the half-life for soil was considered. <u>Disposition:</u> Table 2 has been updated to specify the environmental media for half-life, which was soil.	Accepted by Reviewer ☒ Yes ☐ No
87	Appendix A, Section 1, Table 2	For the COPC that were considered for inhalation pathway only, the environmental persistence is more represented by half-life in air. Was this considered in COPC screening?	Accepted by Reviewer ☒ Yes ☐ No
88	Appendix A, Section 1,		

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	Table 3	<u>Disposition:</u> Half-life in air was not considered for COPC screening of the inhalation pathway, as all potential COPC were assessed for the inhalation pathway, regardless of environmental persistence.		Accepted by Reviewer ☒ Yes ☐ No As long as it is clarified in the document.
89	Appendix A, Section 1, Table 2	Unit for $t_{1/2}$ should be identified. <u>Disposition:</u> The units (days) have been to Table 2 of the Report.		Accepted by Reviewer ☒ Yes ☐ No
90	Appendix A, Section 1, Table 3	For clarity, HCl, HF, and NH ₃ should be listed under a heading other than under CAC's. <u>Disposition:</u> While Jacques Whitford recognises that HCl and HF are not defined by Environmental Canada as CACs, it is believed that this category is the best placement for these substances. NH ₃ is considered a CAC by Environment Canada. Clarity will be provided in the Report.		Accepted by Reviewer ☒ Yes ☐ No
91	General	The document is poor in referencing, page numbering, equation numbering, etc. <u>Disposition:</u> All referencing, pages and equations numbering have been updated.		Accepted by Reviewer ☒ Yes ☐ No
92	General	The comments provided above will not affect the conclusions of the assessment; however they will result in improvements to the transparency of the report. <u>Disposition:</u> No further comment needed.		Accepted by Reviewer ☒ Yes ☐ No

