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File: 1009497

From: Jim McKay
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Reference: EA and Technical Reports Amendments and Rationale Concordance Tables

Please find attached the *EA Amendment and Rationale Concordance Table (EA Table)* and the *Technical Reports Amendment and Rationale Concordance Table (Technical Reports Table)*.

The EA Table is intended to aid in the reader's review of the recently submitted amended EA (November 27, 2009) by directing them to the sections of the EA that have been amended and provide a description of the amendment and associated rationale for the change.

The Technical Reports Table is intended for the same purpose. It outlines the amendments included in the Technical Reports Memos, which describe the amendments to the associated Technical Study Reports, and directs the reader to the corresponding section in the Technical Study Report.

I trust this information explains the intended purpose of the attached tables, please do not hesitate to contact me should you require further clarification.

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Attachment: EA Amendment and Rationale Concordance Table
Technical Reports Amendment and Rationale Concordance Table

Amendment/Rationale Concordance Table

Document Section	Amendment	Rationale
1.0 – Introduction and Background	Amended to acknowledge that potential landfill sites were identified in Durham and York through the Greater Toronto Area Interim Waste Authority EA process; however, these sites were never approved by the Province of Ontario for development.	The amendment was completed to address comments indicating that although no new landfill capacity was developed out of the Greater Toronto Area Interim Waste Authority EA several potential sites were identified, including sites in Durham and in York.
1.0 – Introduction and Background	Amended to explain that in consideration of the similarities of the Regions' waste management situations and a long history of Regional partnerships on municipal infrastructure and services, the Regions of Durham and York agreed to undertake a joint Residual Waste Planning Study in accordance with Ontario's Environmental Assessment Act.	The amendment was completed to address comments indicating that a clear rationale as to why a joint initiative be provided.
1.0 – Introduction and Background	Amended to indicate that the Regions intended to minimize the landfill component of their waste management systems, as originally described in the Terms of Reference. A landfill only system does not meet the purpose of the undertaking, and thus was not considered. The only reasonable options for a 'local' solution are processing/treatment options.	The amendment was completed to address comments indicating that additional discussion as to why a landfill only system was not included. This amendment ties into the amended discussion of the "Do Nothing" alternative in Section 7.0.
2.0 - Summary	Amended to state that through the minimization of the material requiring landfill, the associated risks with contracted waste disposal are significantly reduced.	The amendment was completed to address comments indicating that, as it was stated, that non-local landfill options would expose the Regions to significant public policy risks that are not within their control.
2.0 - Identification of Proponent	Amended to identify 5 factors which establish the position for Durham and York Regions to move forward as co-proponents in this EA study.	The amendment was completed to address comments indicating that a clear rationale as to why a joint initiative was undertaken be provided.
2.1.2.1 - York Region – Current Waste Management System	Amended to explain that York Region's contractual relationships with private sector waste disposal capacity providers do not run for the full length of the planning period and therefore York Region, over the long-term, does not have sufficient waste disposal capacity to satisfy its requirements. Furthermore, the revised description of the undertaking seeks approval for the initial design capacity of 140,000 tonnes per	The amendment was completed to address comments indicating that it was not clear as to why York Region's current waste management strategies are considered short term.

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	year only, with recognition of the potential need to expand over the planning period up to 400,000 tonnes per year. The proponents have also included a commitment to undertake Environmental Screening under O.Reg. 101/07 (or the applicable piece of legislation at the time) to support an expansion beyond 140,000 tonnes per year.	
3.2 – Waste to be Managed and Service Area	Amended to reflect that the revised description of the undertaking seeks approval for the initial design capacity to manage only those wastes from Durham and York Region, 140,000 tonnes per year, with recognition of the potential need to expand over the planning period up to 400,000 tonnes per year. The proponents have also included a commitment to undertake Environmental Screening under O.Reg. 101/07 (or the applicable piece of legislation at the time) to support an expansion beyond 140,000 tonnes per year.	The amendment was completed to address comments indicating that the proposed service area falls outside the EA study area (as described in Section 6 of the EA). The study area for the EA has been defined to include only the jurisdictional boundaries of the Regions, and therefore only considers this defined area for study and evaluation in the EA process.
3.3 – Role of Waste Diversion in the Regional Waste Management Systems	Amended to state that purpose of the EA study is to address the waste that remains after the application of at-source waste diversion. Consideration of waste diversion initiatives themselves, although included in the EA for planning purposes, are outside of the scope of this EA study.	The amendment was completed to address comments indicating that the Regions are intending to commit to the increased diversion targets or how these diversion targets will be specifically achieved.
3.3.1.4 – Current Waste Management System (York Region)	Section 3.3.1.4 was amended to provide additional clarification with respect to capacity requirements and how these requirements were determined. Originally, in the approved EA Terms of Reference, the Regions were to supply approximately equal amounts of waste to the facility. However, early in the evaluation of “Alternatives to” it was determined that York Region may be able to secure additional waste disposal capacity through a contractual agreement with the Dongara facility being built in Vaughan. To accommodate this potential reduction in waste supply, the evaluation of “Alternatives To” included a 150,000 tonnes per year scenario (later refined as part of the RFQ process to 140,000 tonnes per year). This scenario, evaluated in the “Alternatives To” evaluation process, and carried forward throughout the entire EA represents York Region’s current commitment to the facility and the waste to be managed as	The amendment was completed to address comments indicating that the current amounts of residual MSW requiring disposal capacity by the Regions are clearly defined, including an explanation of how the capacity requirements be determined.

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	described in the Preferred Undertaking. Should York require additional capacity beyond that currently defined, a facility expansion would be required.	
3.4 - Role of Landfill in the Regional Waste Management System	<p>Amended to include additional clarification on the “Do Nothing” alternative. The “Do Nothing” alternative would be the continuation of the current method of disposal of the residual waste that remains after diversion, namely, the continued export of waste from Durham and York to landfill facilities outside of the study area.</p> <p>The “Do Nothing” alternative is not a “reasonable” alternative for consideration as it does not represent a long-term solution for the management of residual waste. In particular, for Durham Region, the “Do Nothing” alternative is the continued export of residual waste to Michigan, an alternative no longer available after December 31, 2010. The “Do Nothing” alternative for York Region, based on the capacity for which approval is being sought, does not address the need for approximately 20,000 tonnes per year of post-diversion residual waste that cannot be accommodated by other current waste disposal contractual arrangements. As a result, should this EA not be approved, both Regions would have post-diversion residual waste requiring disposal and no capacity secured to manage this material.</p>	The amendment was completed to address comments indicating that the EA did not consistently identify and evaluate the “Do Nothing” alternative as the continuation of current practices.
3.4 - Role of Landfill in the Regional Waste Management System	Amended to explain that throughout the evaluation of “Alternatives To” and “Alternative Methods” the quantity and composition of the material requiring landfill has been taken into consideration where appropriate. However, the identification of this capacity falls outside the scope of this EA study.	The amendment was completed to address comments indicating that the EA study consider the requirement of landfill capacity as a component of the undertaking and be carried forward for consideration throughout the EA Study where appropriate.
7.3.2 – Application of Evaluation Methodology Priorities	Amended to explain that the application of the qualitative evaluation methodology, described in more detail in Section 7.6.1 did not entail the consideration of priorities related to individual criteria or indicators. Based on the criteria and indicators outlined in Table 7-2 it was determined that given the potential effects associated with each, there was no rationale for determining that one or more criteria or indicators would be more important than the others within the same broad environmental category. However, each indicator, criteria and category of the environment were assigned a technical	The amendment was completed to address comments indicating that priorities and weighting were not assigned to individual indicators or criteria in subsection 7.3.2, but only to the broader environmental categories set forth in the evaluation methodology.

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	ranking/weighing as part of the "Alternatives To" evaluation process.	
7.4.1.1 – Current Waste Diversion Programs	Amended to explain that consideration of waste diversion are outside of the scope of this EA study.	The amendment was completed to address comments indicating that it was not apparent if the Regions are intending to commit to the increased diversion targets or how these diversion targets will be specifically achieved.
7.4.1.5 – Characterization and Quantities of Post-Diversion Residual Waste	Amended to contain a more detailed description of the characteristics of the Residual Waste stream, as well as a detailed description of the programs required to increase the Region's waste diversion rates. This additional level of detail was used in the original analysis of opportunities for additional diversion and is based on actual waste audit data collected in Durham and York Regions. In addition, Durham and York Region have comprehensive waste management master plans which are continually updated to ensure effort is focused on reducing the amount of waste destined for disposal through reduction, reuse and recycling initiatives.	The amendment was completed to address comments indicating that the incoming waste stream had not been fully characterized.
7.1.4.6 – Rationale for Assumed Waste Residuals Processing Capacity	<p>Amended to indicate that the revised description of the undertaking to be included in the amended EA seeks approval for the initial design capacity of 140,000 tonnes per year only, with recognition of the potential need to expand over the planning period up to 400,000 tonnes per year. The proponents have also included a commitment to undertake Environmental Screening under O.Reg. 101/07 (or the applicable piece of legislation at the time) to support an expansion beyond 140,000 tonnes per year.</p> <p>The estimates for facility size and capacity were refined during the evaluation of "Alternative Methods", such that the projected minimum requirements for residue disposal were determined as being less than 250,000 tonnes per year while the maximum remained unchanged.</p> <p>It was recognized that such refinement would be required to address updated diversion program performance and agreements for any residual waste that could be supplied by commercial/industrial generators within the Regions and/or municipalities outside of the EA Study area. Many of the current technologies that were considered as part of the alternative systems were modular in nature and were regarded</p>	<p>The amendment was completed to address comments indicating that:</p> <ul style="list-style-type: none"> i) it was not apparent why the assumptions for population increase and waste diversion targets differ between the 250,000 tonnes per year and 400,000 tonnes per year scenarios; ii) If a potential existed for changes to diversion rates or population growth they be accounted for in each scenario; iii) Consideration be given to the possibility that diversion rates and population rates may not increase as anticipated in the evaluation of each scenario; and iv) it is not understood why two scenarios for waste residual system capacity were developed. If the EA is seeking approval for a processing system to manage up to 400,000 tonnes of residual MSW per year then only an evaluation of the capacity for which approval was being sought is required.

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	as easy to increase or decrease in size pending approval under Ontario Regulation 101/07, as amended, (or any other applicable pieces of legislation at the time of expansion).	
7.4.1.6 – Rationale for Assumed Waste Residuals Processing Capacity	Section 7.4.1.6 has been amended to indicate that any additional waste streams, from Durham, York or other waste generators, will require an expansion of the facility which will be the subject of an additional approval under the EAA.	The amendment was completed to address comments indicating that: <ul style="list-style-type: none"> i) The waste to be managed for the EA study includes only the residual MSW remaining after diversion generated by the Regions, and therefore only considered this waste supply for study and evaluation in the EA process; ii) The evaluation and study of other waste types or streams on the undertaking for which approval is being sought has not been undertaken; and, iii) That an explanation needed to be provided as to why the EA study references other waste types or streams on the undertaking for which approval is being sought.
7.4.2.6 – Consideration of the “Do Nothing Alternative”	<p>A new Section, 7.4.2.6, has been added to the EA to explain the “Do Nothing” alternative. In the approved EA Terms of Reference Section 1.1, the inability to access current waste disposal capacity (ie. Landfill in Michigan) was discussed. For this study the “Do Nothing” system would be the continuation of the current method of disposal of the residual waste that remains after diversion, namely, the continued export of waste from Durham and York to landfill facilities outside of the study area. However, this “Do Nothing” alternative is not a “reasonable” alternative for consideration as the “Do Nothing” alternative does not represent a long-term solution for the management of residual waste. In particular, for Durham Region, the “Do Nothing” alternative is the continued export of residual waste to Michigan, an alternative no longer available after December 31, 2010. The “Do Nothing” alternative for York Region, based on the capacity for which approval is being sought, does not address the need for approximately 20,000 tonnes per year of post-diversion residual waste that cannot be accommodated by these other waste disposal contractual arrangements.</p> <p>For Durham and York, the “Do Nothing” alternative cannot be compared to the other systems identified above as the “Do</p>	The amendment was completed to address comments indicating that the “Do Nothing” alternative was described as a landfill only system, consisting of a new landfill site capable of managing all wastes that remain after diversion. The description of the “Do Nothing” alternative was (in the opinion of the MOE) not an adequate representation of the current waste management practices for the Regions, as set forth in Section 2 of the EA study. Subsection 7.1 of the EA study states that the “Do Nothing” alternative described in the EA does not meet the purpose of the undertaking and would therefore not be considered in this study.

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	Nothing” alternative is not an available alternative that can address the long-term disposal requirements of the Regions’ integrated waste management system, the problem for which this EA study was initiated to address. For this reason, it is also not practical to carry forward a systematic evaluation of “Alternatives To” including the “Do Nothing” alternative as it is not an alternative available for consideration.	
7.5.3.3 – Electrical Energy Balances	Section 7.5.3.3 has been amended to explain that through the evaluation of “Alternatives To”, the ability to generate energy was confirmed, as was it confirmed that the quantity of energy would be sufficient to market to the external sources resulting in an environmental and economic benefit.	The amendment was completed to address comments indicating that a detailed explanation of when the potential to generate excess energy was identified and how it was incorporated into the EA study framework or methodology should be included in the EA.
7.7 – Identification of Preferred “Alternatives To”	<p>A new Table 7-16 Differentiation between Advantages and Disadvantages provides an explanation and example for each ranking to assist in the reviewers understanding of what constitutes a major advantage, an advantage, a neutral ranking, a disadvantage or a major disadvantage.</p> <p>Table 7-18 has been amended to provide additional clarification and rationale for the application of rankings/weightings for each indicator, criteria and category as they applied to each system.</p>	The amendment was completed to address comments indicating that: <ul style="list-style-type: none"> i) subsection 7.7 of the EA study discussed the different waste management approaches that were identified, compared and evaluated in order to identify the advantages, disadvantages and net effects of each approach relative to one another; and, ii) the EA study explain how each indicator, criteria and category were weighted or prioritized and also include an explanation of how these weighting or priorities were compared and evaluated to determine the conclusions reached.
8.2.2 – Refinements to Proposed Evaluation Process	Amended to explain that through the evaluation of “Alternatives To”, the ability to generate energy was confirmed, as was it confirmed that the quantity of energy would be sufficient to market to external sources resulting in an environmental and economic benefit. As a result, to take advantage of this environmental and economic benefit the proximity to required infrastructure (considering both the electrical grid connection and distance to a heat and/or steam load) were confirmed as appropriate to carry forward in the evaluation of “Alternative Methods”:	The amendment was completed to address comments indicating that it was not understood why proximity to an electrical grid connection and steam and/or heat load are considered in the requirement for proximity to infrastructure criterion.
8.8 – Evaluation of the Short List Sites	Tables 8-40 to 8-44 have been amended to provide additional clarification and rationale for the application of rankings/weightings for each indicator, criteria and category as	The amendment was completed to address comments indicating that: <ul style="list-style-type: none"> i) the comparison and evaluation process for the “Alternative Methods” analysis used a qualitative

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	<p>they applied to each site.</p> <p>Table 8-45 has been amended to provide additional clarification and rationale for the application of rankings/weightings for each indicator, criteria and category as they applied to each site. This table provides a summary of the more detailed tables 8-40 to 8-44.</p>	<p>methodology; and,</p> <p>ii) the EA study explain how each indicator, criteria and category were weighted or prioritized and also include an explanation of how these weighting or priorities were compared and evaluated to determine the conclusions reached.</p>
<p>8.8.7 – Assumptions Utilized in Short List Evaluation Process</p>	<p>Amended to indicate that through the completion of the RFQ and RFP process, the accuracy of the assumptions carried forward and discussed were validated. As a result, there was no need to go back, following the identification of the preferred vendor, to reassess the accuracy of the original site evaluation process.</p> <p>Section 8.8.8.2 further explains that expansion of the Facility to accommodate additional waste streams would require approval under Ontario Regulation 101/07, as amended, (or the applicable piece of legislation at the time of expansion). This EA study is seeking approval for a 140,000 tonne per year facility which will provide sufficient capacity (with a small contingency) for Durham and York Region’s post-diversion residual waste stream. Any additional waste streams, from Durham, York or other waste generators, will require an expansion of the Facility.</p>	<p>The amendment was completed to address comments indicating that it was not understood why the maximum scenario of 400,000 tonnes were not evaluated to the same level of detail as the 150,000 tonnes and 250,000 tonnes scenarios, considering that the EA seeks approval for a facility to process 400,000 tonnes of waste.</p>
<p>9.1.4 – Confirmation of Preferred “Alternative To”</p>	<p>Section 9.1.4 was added to the EA to explain that the evaluation of “Alternatives To” concluded that System 2a (thermal treatment with the recovery of material from ash/char) was identified as the Preferred Long Term Residual Processing System.</p> <p>System 2b was not identified as the preferred system but rather it was recommended this system be carried forward for further investigation as part of the RFQ process.</p> <p>Although there was less detail with respect to the System 2b technology, it was the considered opinion of that proponents that sufficient detail was available to undertake the evaluation of “Alternatives To” up to the point of identification of a preferred system; however, the Proponents, at this stage in the process did not want to preclude this system from moving</p>	<p>The amendment was completed to address comments indicating that it was not understood why a residual processing system technology was considered in the evaluation and comparison of “Alternatives To” if the information available about the system technology was limited; and the EA include a more detailed rationale and explanation to support the proposed change.</p>

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	<p>forward should it prove to be as viable as System 2a) through the RFQ process.</p> <p>Through the RFQ process it was determined that System 2a is the preferred system and that the assumptions utilized in the evaluation of "Alternatives To" with respect to System 2b technologies were substantiated.</p>	
10.0, 10.1 – The Undertaking, 10.4 – Waste to be Managed and Service Area, 10.3.1 – Waste Requiring Management Considered in the EA	Amended to explain that the undertaking for which approval is being sought is a facility with an initial approved capacity of 140,000 tonnes per year and a projected maximum design capacity of 400,000 tonnes per year. This approval will provide sufficient capacity (with a small contingency) for Durham and York Regions post-diversion residual waste stream. Any additional waste streams, from Durham, York or other waste generators, will require an expansion of the facility which will be the subject of an additional approval under the EAA.	The amendment was completed to address comments indicating that although the EA does contemplate the management of waste from other sources, the evaluation and study of these other sources of waste on the undertaking had not been carried out. It was not understood why capacity for other sources of waste were considered in determining the maximum system capacity.
10.6 – Description of the Proposed Facility	Amended to explain that although the initial approved capacity will be 140,000 tonnes per year, a discussion regarding the ability of the facility to expand, the eventual need for the facility to expand, and the potential impacts of the expanded facility have been included in this EA document. This information is being included to recognize the projected maximum design of the facility and to demonstrate that based on the information available to date (and subject to confirmation at the time of expansion (See Section 12.3 of this EA document) the facility could be expanded to 400,000 tonnes per year.	The amendment was completed to address comments indicating that as the EA is seeking approval for a waste management system capable of processing up to 400,000 tonnes of MSW per year, the EA should provide a detailed description of the facility for which approval is being sought and for each proposed expansion phase.
10.6.1.1 – Waste Delivery, Receiving, Storage, and Handling	Amended to include additional information with respect to waste delivery, receiving, storage and handling. This update includes a discussion of the proposed strategy for the receipt of unacceptable materials and hazardous waste. More detailed information regarding waste delivery, receiving, storage and handling will be provided as part of the EPA approvals process	The amendment was completed to address comments indicating an explanation of how and where unacceptable or hazardous waste will be identified, managed, stored and disposed of be included in the EA.
10.6.1.1 – Waste Delivery, Receiving, Storage, and Handling	Amended to include additional detail with respect the process for tipping floor cleaning.	The amendment was completed to address comments indicating that no information on the design of the necessary infrastructure or the operational procedures had been provided for cleaning the tipping floor.
10.6.1.1 – Waste Delivery, Receiving, Storage, and	Amended to discuss the potential discharge of waste material directly onto the tipping floor and the mechanism in place to	The amendment was completed to address comments indicating that no details on how the above the tipping floor

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Handling	manage any potential leachate from the truck or material. Where waste is discharged onto the tipping floor, a front-end loader would then push the material into the pit, as required. Waste discharge onto the tipping floor would be for inspection purposes only. No waste would be stored on the tipping floor for an extended period of time.	storage would be undertaken.
10.6.3 – Conceptual Residue Handling	Amended to include a more comprehensive description of the ash management process and building concept. This includes a discussion of fly ash surge bins and also how air is managed within the residuals building, the process for removal of ash from the building and the filtration system.	The amendment was completed to address comments indicating that the conceptual design must be provided for the filtered ventilation system, the various processing and waste storage areas and the waste loading/unloading areas, and ash management equipment.
10.6.7 – Conceptual Process Control Systems	Amended to include a discussion of the process of facility start-up and shutdown, both planned and unplanned, including the need for emergency power generation equipment.	The amendment was completed to address comments indicating that further details on handling of power outage situations needed to be included in Section 10.0 of the EA Document
10.6.9 – Conceptual Electrical System Design	Amended to include a detailed description of the Facility's Electrical System	Amendment was provided to provide further clarification on the electrical system and its backup systems.
10.7 – Facility Expansion Capability	<p>The revised description of the undertaking to be included in the amended EA seeks approval for the initial design capacity of 140,000 tonnes per year only, with recognition of the potential need to expand over the planning period up to 400,000 tonnes per year. The proponents have also included a commitment to undertake Environmental Screening under O.Reg. 101/07 (or the applicable piece of legislation at the time) to support an expansion beyond 140,000 tonnes per year.</p> <p>This approval will provide sufficient capacity (with a small contingency) for Durham and York Regions post-diversion residual waste stream. Any additional waste streams, from Durham, York or other waste generators, will require an expansion of the facility which, as described above, will be the subject of an additional approval under the EAA.</p> <p>Amended to indicate that the specific need to undertake an expansion will be considered, initially through the review of the proponents' integrated waste management systems and a re-determination and/or confirmation of projected long-term disposal capacity requirements. Once a need has been determined by the Proponents, consultation will be undertaken with the MOE to confirm the requirements to undertake an</p>	<p>The amendment was completed to address comments indicating that:</p> <ul style="list-style-type: none"> i) it was not understood why capacity for other sources of waste were considered in the proposed expansion of the facility from its initial design capacity to the final maximum operating capacity; ii) it was not understood why the initial design capacity included a contingency of additional capacity and the subsequent expansion phases did not or why the additional capacity was only required during the initial design stage; iii) a commitment to confirm the assumptions used in the development of site specific studies should undertaken prior to expansion and this commitment not be excluded should expansion take place within the first five years of operation; and, iv) it was not apparent what protocols and processes were to be applied to determine and facilitate expansion of the facility. The EA should include a detailed description on the process that will be followed to determine the need for expansion, an overview of the commitments to confirm the conclusions of all site specific studies, the

Document Section	Amendment	Rationale
	expansion. Based on initial planning completed as part of this EA process and in consideration of the type of facility and expansion requirements, it is likely that the expansion would take place in two phases.	identification of any legislative requirements or contract agreements, and an overview of how any proposed expansion will be carried out.
10.10 – Facility Contingency Plans	Amended to include that when necessary, the preferred vendor is currently proposing that waste will be hauled to one of three permitted disposal facilities in the United States on a short-term basis. These facilities are already permitted to receive this waste material and the contractual agreement with Covanta already secures this capacity. Should capacity at these facilities be required, waste will be redirected from the Regions' transfer stations to these alternate facilities. The Design and Operations report for the facility to be prepared as part of the approvals process under the EPA will provide the detailed procedures for managing and redirecting waste should contingency capacity be required. The MOE will be notified should use of this contingency capacity be required.	The amendment was completed to address comments indicating that the EA include a more detailed description of a contingency plan to account for both short term and long term disruptions to operations.
12.0 – Changes to the EA	Amended to reflect that other approvals issued by the Ministry may be required for minor amendments, and a commitment to undertake Environmental Screening under O.Reg. 101/07 to support an expansion beyond the initial approved capacity of 140,000 tonnes per year.	The amendment was completed to address comments indicating that any changes to the EA must be discussed in consultation with the ministry and receive ministerial approval before the change can be undertaken.
16.0 – Consultation	Amended to include the identification of the meeting location wherever a meeting took place.	The amendment was completed to address comments indicating that the EA should include both the dates and locations of consultation events.

Amendment/Rationale Concordance Table – Technical Reports

Document Section in Original Technical Report	Amendment	Rationale
Site Specific Human Health and Ecological Risk Assessment (HHERA) - Technical Study Report		
Section 7.5 – Hazard Assessment and Section 7.6 – Inhalation Toxicity Reference Values	A full review of inhalation benchmarks, guidelines, standards and criteria was performed. This involved verifying the underlying rationale behind each TRV labeled <i>benchmark</i> to determine the true nature of the value, a search of TRV values from recognized regulatory bodies was also conducted to ensure that, where available, a reference concentration TRV took precedence over the use of a benchmark.	Amendment was made in response to comments received during the initial Public Inspection Period.
7.6 – Inhalation Toxicity Reference Values 7.11.1.1 - 140,000 tpy Operational Cases – Inhalation Risk Assessment Criteria Air Contaminants (CACs) 7.12.1.1- 400,000 tpy Operational Cases – Inhalation Risk Assessment Criteria Air Contaminants (CACs)	Table 1-1 provides results for those chemicals and averaging times where benchmarks or RfCs were updated. For the remaining chemicals, either the existing RfCs were deemed to continue to be protective of health, or there were no RfCs available for those previously reported benchmarks. Tables 1-2 and 1-3 were also amended based on the application of updated TRVs. It was determined that emissions of the COPCs from the facility are not anticipated to pose an undue risk to receptors in the Local Risk Assessment Study Area. Tables 1-1, 1-2 and 1-3 are provided as Attachment 1 to this Table.	Amendment was made in response to comments received during the initial Public Inspection Period.
Appendix O – EHQ Derivation: Worked Example, Section 2.2 – Estimation of Ecological Hazard Quotient	The TRV used for muskrats in Appendix O was corrected to read 0.427 mg/kg-bw/day.	In response to a comment received during the consultation process which indicated that the final Beryllium TRV used for muskrat listed in Table 1 in Appendix J is 0.427 mg/kg-bw/day whereas the ERA worked example for this TRV in Appendix O is 0.393 mg/kg-bw/day. This discrepancy should be clarified.
Air Quality Technical Study Report		
Executive Summary, Section 4.1.1 – Facility Description	The unit identified as having a capacity of 160,000 tonnes per year was a typographic error; it was amended to read 150,000 tonnes per year.	Amendment was made in response to comments received during the initial Public Inspection Period.

Section 2.3 – Study Area	The description of the Air Quality Study Area was amended to correct a typographic error, it now reads: for the purpose of this Technical Study Report, an AQSA was defined to suit the assessment needs. The AQSA was defined as an area approximately 20 km to the east and west of the Site, 10 km to the south (extending into Lake Ontario) and 20 km to the north of the Site. The overall dimensions of the AQSA were 40 km by 30 km.	Amendment was made in response to comments received during the initial Public Inspection Period.
Section 4.2.1.1 -Normal Facility Operation (Scenarios 1 and 2)	In the second column from the right, the header in Table 4-2, was re-labeled to correct a typographic error; originally it read “Scenario 1-A – MCR”, it now reads “Scenario 1-B – MCR”.	Amendment was made in response to comments received during the initial Public Inspection Period.
Section 4.2.3 – Odour Emissions	The discussion on odour emissions sources and controls in the proposed Facility has been expanded to include additional detail.	Amendment was made in response to comments received during the initial Public Inspection Period.
Section 5.2.3 – Fugitive Emissions	A new sub-section (5.2.4) has been added to Section 5 (Facility Design and Mitigation Measures) which addresses aspects of the facility design that mitigate odour emissions during normal operations. Development of an odour mitigation plan to address potential non-routine odour emissions is also discussed	Amendment was made in response to comments received during the initial Public Inspection Period.
7.1.1.2 - Special Receptor Modelling Results	The metals sections of Tables 7-7 and 7-8 contained an error in which the background concentration for a different averaging period was added to the maximum predicted concentration. Excerpts of these tables, providing the corrected maximum cumulative metals concentrations (facility plus background) are provided in Attachment 2. Note that this error only occurred in Tables 7-7 and 7-8 (summary tables) - the cumulative predictions presented in all other results tables and report appendices are correct.	Amendment was made in response to comments received during the initial Public Inspection Period.
7.4.1- Onsite Vehicle Emissions	A typo in the input file for the PM _{2.5} run for the facility plus on-site vehicle traffic has been corrected, the model re-run and the updated PM _{2.5} results are presented in the Table 7-13, provided in Attachment 2. The maximum predicted 24-hour-average PM _{2.5} concentration due to the Facility alone increased by 0.7 µg/m ³ (10% greater than the previously predicted level). When cumulative environmental effects were considered by adding background levels to the maximum predicted GLC for PM _{2.5} , the total predicted maximum GLC (with background) increased by less than 0.1% above the previously predicted level. The maximum predicted concentration (with background) is still	Amendment was made in response to comments received during the initial Public Inspection Period.

	below the applicable limit and the change in model predictions for this scenario does not affect the results or conclusions of the Air Quality Assessment.	
Appendix A – Review of Ambient Air Quality, Section 2.3.1 - Summary of Courtice Road Monitoring Station Measurements	Table A2-5 has been updated to reflect MOE comments and additional QA of the data. Table A2-5 is provided in Attachment 2.	Amendment was made in response to comments received during the initial Public Inspection Period.
Appendix A – Section A2-4	Table A2-7 and subsequent figures and tables in the section have been revised to incorporate additional QA of the ozone data based on reviewer comments.	Amendment was made in response to comments received during the initial Public Inspection Period.

Please note amendments are made in the Technical Memos only. Document section references identify the amendment's corresponding section in the originally submitted Technical Report.

Attachment 1

Updated Tables 1-1, 1-2 and 1-3 from the
Site Specific Human Health and Ecological Risk Assessment

Table 1-1 Updated Inhalation Toxicological Reference Values

COPC	Exposure Period	Previous TRV ($\mu\text{g}/\text{m}^3$)	New TRV ($\mu\text{g}/\text{m}^3$)
Ammonia	1-hour	3200 (CalEPA, 2008)	1182 (ATSDR, 2004)
Boron	1-hour	50 (TCEQ, 2009)	10 (ATSDR, 2007)
Acetaldehyde	1-hour	Not Evaluated	470 (CalEPA, 2008)
Formaldehyde	24-hour	65 (MOE, 2008)	9 (CalEPA, 2008)
1,1,2-trichloroethylene	Annual	54 (TCEQ, 2009)	2.3 (MOE, 2008)

Table 1-2 Updated Inhalation Exposure Results at Maximum Ground Level Concentration – 140,000 tpy

COPC	Exposure Period	Air Concentration at Maximum GLC – Project Alone Case ($\mu\text{g}/\text{m}^3$)	Air Concentration at Maximum GLC – Process Upset Case ($\mu\text{g}/\text{m}^3$)	Previous CR Results					Updated CR Results				
				Baseline Case	Project Alone Case	Project Case	Process Upset Case	Process Upset Project Case	Baseline Case	Project Alone Case	Project Case	Process Upset Case	Process Upset Project Case
Ammonia	1-hour	2.0	20	-	6.1E-04	6.1E-04	0.0061	0.0061	-	0.0017	0.0017	0.017	0.017
Boron	1-hour	0.055	0.55	0.0037	0.0011	0.0048	0.011	0.015	0.019	0.0055	0.024	0.055	0.074
Acetaldehyde	1-hour	2.6E-07	2.6E-06	-	-	-	-	-	0.0091	5.6E-10	0.0091	5.6E-09	0.0091
Formaldehyde	24-hour	0.0024	0.024	0.052	3.7E-05	0.052	3.7E-04	0.052	0.38	2.6E-04	0.38	0.0026	0.38
1,1,2-trichloroethylene	Annual	7.1E-07	2.0E-06	0.0050	1.3E-08	0.0050	3.7E-08	0.0050	0.12	3.1E-07	0.12	8.7E-07	0.12

Table 1-3 Updated Inhalation Exposure Results at Maximum Ground Level Concentration – 400,000 tpy

COPC	Exposure Period	Air Concentration at Maximum GLC – Project Alone Case ($\mu\text{g}/\text{m}^3$)	Air Concentration at Maximum GLC – Process Upset Case ($\mu\text{g}/\text{m}^3$)	Previous CR Results					Updated CR Results				
				Baseline Case	Project Alone Case	Project Case	Process Upset Case	Process Upset Project Case	Baseline Case	Project Alone Case	Project Case	Process Upset Case	Process Upset Project Case
Ammonia	1-hour	4.2	33	-	0.0013	0.0013	0.010	0.010	-	0.0036	0.0036	0.028	0.028
Boron	1-hour	0.12	0.94	0.0037	0.0024	0.0061	0.019	0.023	0.019	0.012	0.031	0.094	0.11
Acetaldehyde	1-hour	4.2E-07	3.3E-06	-	-	-	-	-	0.0091	8.9E-10	0.0091	6.9E-09	0.0091
Formaldehyde	24-hour	0.0045	0.035	0.052	6.9E-05	0.052	5.4E-04	0.053	0.38	5.0E-04	0.38	0.0039	0.38
1,1,2-trichloroethylene	Annual	1.6E-06	4.4E-06	0.0050	2.9E-08	0.0050	8.2E-08	0.0050	0.12	6.9E-07	0.12	1.9E-06	0.12

Attachment 2

Updated Tables 7-7 and 7-8, 7-13 from the
Air Quality Technical Study Report

Table 7-7 Summary of Maximum Predicted Metals Concentrations at Special Receptors - Scenario 1B (MCR 400,000 tpy Facility).

Contaminant	Averaging Period	Criteria ¹ (µg/m ³)	Background Concentration (µg/m ³)	Maximum Predicted Concentration (µg/m ³)	Total Concentration (Facility + Background) (µg/m ³)	% of Criteria	Special receptor #	Description	UTM N (m)	UTM E (km)
Metals										
Aluminum	1 Hr		0.52	0.04	0.56		266	Future Industrial 8	680.40	4860.73
	24 Hr ⁴	4.8	0.21	4.66E-03	0.22	5%	266	Future Industrial 8	680.40	4860.73
	Annual		0.11	1.22E-04	0.11		7	ECO 7	681.58	4862.07
Antimony	1 Hr		7.35E-03	2.68E-03	0.01		266	Future Industrial 8	680.40	4860.73
	24 Hr	25	3.02E-03	3.21E-04	3.34E-03	<0.1%	266	Future Industrial 8	680.40	4860.73
	Annual		2.93E-03	8.43E-06	2.94E-03		7	ECO 7	681.58	4862.07
Arsenic	1 Hr		4.41E-03	4.12E-04	4.82E-03		266	Future Industrial 8	680.40	4860.73
	24 Hr ²	0.3	1.81E-03	4.92E-05	1.86E-03	1%	266	Future Industrial 8	680.40	4860.73
	Annual		1.80E-03	1.29E-06	1.80E-03		7	ECO 7	681.58	4862.07
Barium	1 Hr		0.02	2.07E-03	0.02		266	Future Industrial 8	680.40	4860.73
	24 Hr ²	10	8.18E-03	2.48E-04	8.43E-03	<0.1%	266	Future Industrial 8	680.40	4860.73
	Annual		4.95E-03	6.51E-06	4.96E-03		7	ECO 7	681.58	4862.07
Beryllium	1 Hr		7.35E-04	3.26E-04	1.06E-03		266	Future Industrial 8	680.40	4860.73
	24 Hr	0.01	3.02E-04	3.90E-05	3.41E-04	3%	266	Future Industrial 8	680.40	4860.73
	Annual		2.98E-04	1.03E-06	2.99E-04		7	ECO 7	681.58	4862.07
Boron	1 Hr		0.19	0.15	0.34		266	Future Industrial 8	680.40	4860.73
	24 Hr	120	0.08	0.02	0.09	<0.1%	266	Future Industrial 8	680.40	4860.73
	Annual		0.02	4.71E-04	0.02		7	ECO 7	681.58	4862.07
Cadmium (Cd)	1 Hr		1.47E-03	6.86E-03	8.33E-03		266	Future Industrial 8	680.40	4860.73
	24 Hr	0.025	6.04E-04	8.20E-04	1.42E-03	6%	266	Future Industrial 8	680.40	4860.73
	Annual ³	0.005	6.01E-04	2.15E-05	6.22E-04	12%	7	ECO 7	681.58	4862.07

Table 7-7 Summary of Maximum Predicted Metals Concentrations at Special Receptors - Scenario 1B (MCR 400,000 tpy Facility).

Contaminant	Averaging Period	Criteria ¹ (µg/m ³)	Background Concentration (µg/m ³)	Maximum Predicted Concentration (µg/m ³)	Total Concentration (Facility + Background) (µg/m ³)	% of Criteria	Special receptor #	Description	UTM N (m)	UTM E (km)
Cadmium and Thallium (Cd + Th)	1 Hr			0.05			266	Future Industrial 8	680.40	4860.73
	24 Hr			5.39E-03			266	Future Industrial 8	680.40	4860.73
	Annual			1.42E-04			7	ECO 7	681.58	4862.07
Chromium (hexavalent)	1 Hr			3.14E-04			266	Future Industrial 8	680.40	4860.73
	24 Hr			3.75E-05			266	Future Industrial 8	680.40	4860.73
	Annual			9.85E-07			7	ECO 7	681.58	4862.07
Total Chromium (and compounds)	1 Hr		6.72E-03	2.20E-03	8.92E-03		266	Future Industrial 8	680.40	4860.73
	24 Hr ³	1.5	2.76E-03	2.64E-04	3.02E-03	<0.1%	266	Future Industrial 8	680.40	4860.73
	Annual		1.71E-03	6.92E-06	1.72E-03		7	ECO 7	681.58	4862.07
Cobalt	1 Hr		1.47E-03	5.68E-03	7.15E-03		266	Future Industrial 8	680.40	4860.73
	24 Hr ³	0.1	6.04E-04	6.79E-04	1.28E-03	1%	266	Future Industrial 8	680.40	4860.73
	Annual		5.96E-04	1.78E-05	6.13E-04		7	ECO 7	681.58	4862.07
Lead (Pb)	1 Hr		0.01	0.05	0.06		266	Future Industrial 8	680.40	4860.73
	24 Hr	0.5	4.98E-03	5.86E-03	0.01	2%	266	Future Industrial 8	680.40	4860.73
	Annual		3.29E-03	1.54E-04	3.44E-03		7	ECO 7	681.58	4862.07
Mercury (Hg) - Vapour/Particulate phase	1 Hr			0.01			266	Future Industrial 8	680.40	4860.73
	24 Hr	2		1.76E-03		<0.1%	266	Future Industrial 8	680.40	4860.73
	Annual			4.62E-05			7	ECO 7	681.58	4862.07
Nickel	1 Hr		0.01	0.09	0.10		266	Future Industrial 8	680.40	4860.73
	24 Hr	2	4.49E-03	0.01	0.01	<1.1%	266	Future Industrial 8	680.40	4860.73
	Annual		2.24E-03	2.68E-04	2.51E-03		7	ECO 7	681.58	4862.07
Phosphorus	1 Hr		0.18	0.05	0.22		266	Future Industrial 8	680.40	4860.73

Table 7-7 Summary of Maximum Predicted Metals Concentrations at Special Receptors - Scenario 1B (MCR 400,000 tpy Facility).

Contaminant	Averaging Period	Criteria ¹ (µg/m ³)	Background Concentration (µg/m ³)	Maximum Predicted Concentration (µg/m ³)	Total Concentration (Facility + Background) (µg/m ³)	% of Criteria	Special receptor #	Description	UTM N (m)	UTM E (km)
	24 Hr ⁴	0.35	0.07	5.39E-03	0.08	22%	266	Future Industrial 8	680.40	4860.73
	Annual		0.05	1.42E-04	0.05		7	ECO 7	681.58	4862.07
Silver	1 Hr		8.33E-04	3.28E-03	4.12E-03		266	Future Industrial 8	680.40	4860.73
	24 Hr	1	3.42E-04	3.93E-04	7.35E-04	<0.1%	266	Future Industrial 8	680.40	4860.73
	Annual		3.43E-04	1.03E-05	3.54E-04		7	ECO 7	681.58	4862.07
Selenium	1 Hr		7.35E-03	4.70E-04	7.82E-03		266	Future Industrial 8	680.40	4860.73
	24 Hr ²	10	3.02E-03	5.62E-05	3.07E-03	<0.1%	266	Future Industrial 8	680.40	4860.73
	Annual		2.93E-03	1.48E-06	2.93E-03		7	ECO 7	681.58	4862.07
Thallium	1 Hr			0.04			266	Future Industrial 8	680.40	4860.73
	24 Hr ⁴	0.24		4.57E-03		<0.1%	266	Future Industrial 8	680.40	4860.73
	Annual			1.20E-04			7	ECO 7	681.58	4862.07
Tin	1 Hr		7.35E-03	0.02	0.02		266	Future Industrial 8	680.40	4860.73
	24 Hr	10	3.02E-03	2.06E-03	5.08E-03	<0.1%	266	Future Industrial 8	680.40	4860.73
	Annual		2.93E-03	5.42E-05	2.98E-03		7	ECO 7	681.58	4862.07
Vanadium	1 Hr		3.77E-03	1.14E-03	4.91E-03		266	Future Industrial 8	680.40	4860.73
	24 Hr	2	1.55E-03	1.36E-04	1.69E-03	<0.1%	266	Future Industrial 8	680.40	4860.73
	Annual		7.70E-04	3.58E-06	7.73E-04		7	ECO 7	681.58	4862.07
Zinc	1 Hr		0.10	0.20	0.30		266	Future Industrial 8	680.40	4860.73
	24 Hr	120	0.04	0.02	0.07	<0.1%	266	Future Industrial 8	680.40	4860.73
	Annual		0.03	6.14E-04	0.03		7	ECO 7	681.58	4862.07
Sum of (As, Ni, Co, Pb, Cr, Cu, V,	1 Hr		0.52	0.45	0.97		266	Future Industrial 8	680.40	4860.73
	24 Hr		0.21	0.05	0.27		266	Future Industrial 8	680.40	4860.73

Table 7-7 Summary of Maximum Predicted Metals Concentrations at Special Receptors - Scenario 1B (MCR 400,000 tpy Facility).

Contaminant	Averaging Period	Criteria ¹ (µg/m ³)	Background Concentration (µg/m ³)	Maximum Predicted Concentration (µg/m ³)	Total Concentration (Facility + Background) (µg/m ³)	% of Criteria	Special receptor #	Description	UTM N (m)	UTM E (km)
Mn, Sb)	Annual		0.11	1.42E-03	0.11		7	ECO 7	681.58	4862.07

Note 1:

¹ Reg419/05 Schedule 3 Criteria unless stated otherwise

² O. Reg. 419 Guidelines

³ Ontario's ambient air quality criteria

⁴ Jurisdictional Screening Level List (JSL)

⁵ National Ambient Air Quality Objectives (NAAQO) Max Desirable Level

Table 7-8 Summary of Maximum Predicted Metals Concentrations at the Special Receptors - Scenario 2B (MCTD 400,000 tpy Facility)

Contaminant	Averaging Period	Criteria ¹ (µg/m ³)	Background Concentration (µg/m ³)	Maximum Predicted Concentration (µg/m ³)	Total Concentration (Facility + Background) (µg/m ³)	% of Criteria	Special receptor #	Description	UTM N (m)	UTM E (km)
Metals										
Aluminum	1 Hr		0.52	0.03	0.55		273	Future Industrial 11	680.25	4860.26
	24 Hr ⁴	4.8	0.21	4.60E-03	0.22	5%	266	Future Industrial 8	680.40	4860.73
Antimony	1 Hr		7.35E-03	2.35E-03	9.70E-03		273	Future Industrial 11	680.25	4860.26
	24 Hr	25	3.02E-03	3.17E-04	3.33E-03	<0.1%	266	Future Industrial 8	680.40	4860.73
Arsenic	1 Hr		4.41E-03	3.61E-04	4.77E-03		273	Future Industrial 11	680.25	4860.26
	24 Hr ²	0.3	1.81E-03	4.87E-05	1.86E-03	1%	266	Future Industrial 8	680.40	4860.73
Barium	1 Hr		0.02	1.82E-03	0.02		273	Future Industrial 11	680.25	4860.26
	24 Hr ²	10	8.18E-03	2.45E-04	8.43E-03	<0.1%	266	Future Industrial 8	680.40	4860.73
Beryllium	1 Hr		7.35E-04	2.86E-04	1.02E-03		273	Future Industrial 11	680.25	4860.26
	24 Hr	0.01	3.02E-04	3.86E-05	3.41E-04	3%	266	Future Industrial 8	680.40	4860.73
Boron	1 Hr		0.19	0.13	0.32		273	Future Industrial 11	680.25	4860.26
	24 Hr	120	0.08	0.02	0.09	<0.1%	266	Future Industrial 8	680.40	4860.73
Cadmium (Cd)	1 Hr		1.47E-03	6.01E-03	7.48E-03		273	Future Industrial 11	680.25	4860.26
	24 Hr	0.025	6.04E-04	8.11E-04	1.41E-03	6%	266	Future Industrial 8	680.40	4860.73
Cadmium and Thallium (Cd + Th)	1 Hr			0.04			273	Future Industrial 11	680.25	4860.26
	24 Hr			5.33E-03			266	Future Industrial 8	680.40	4860.73
Chromium (hexavalent)	1 Hr			2.75E-04			273	Future Industrial 11	680.25	4860.26
	24 Hr			3.71E-05			266	Future Industrial 8	680.40	4860.73
Total Chromium (and compounds)	1 Hr		6.72E-03	1.93E-03	8.65E-03		273	Future Industrial 11	680.25	4860.26
	24 Hr ³	1.5	2.76E-03	2.61E-04	3.02E-03	<0.1%	266	Future Industrial 8	680.40	4860.73
Cobalt	1 Hr		1.47E-03	4.98E-03	6.45E-03		273	Future Industrial 11	680.25	4860.26

Table 7-8 Summary of Maximum Predicted Metals Concentrations at the Special Receptors - Scenario 2B (MCTD 400,000 tpy Facility)

Contaminant	Averaging Period	Criteria ¹ (µg/m ³)	Background Concentration (µg/m ³)	Maximum Predicted Concentration (µg/m ³)	Total Concentration (Facility + Background) (µg/m ³)	% of Criteria	Special receptor #	Description	UTM N (m)	UTM E (km)
	24 Hr ³	0.1	6.04E-04	6.71E-04	1.28E-03	1%	266	Future Industrial 8	680.40	4860.73
Lead (Pb)	1 Hr		0.01	0.04	0.06		273	Future Industrial 11	680.25	4860.26
	24 Hr	0.5	4.98E-03	5.79E-03	0.01	2%	266	Future Industrial 8	680.40	4860.73
Mercury (Hg) - Vapour/Particulate phase	1 Hr			0.01			273	Future Industrial 11	680.25	4860.26
	24 Hr	2		1.74E-03		<0.1%	266	Future Industrial 8	680.40	4860.73
Nickel	1 Hr		0.01	0.07	0.09		273	Future Industrial 11	680.25	4860.26
	24 Hr	2	4.49E-03	0.01	0.01	<1.1%	266	Future Industrial 8	680.40	4860.73
Phosphorus	1 Hr		0.18	0.04	0.21		273	Future Industrial 11	680.25	4860.26
	24 Hr ⁴	0.35	0.07	5.33E-03	0.08	22%	266	Future Industrial 8	680.40	4860.73
Silver	1 Hr		8.33E-04	2.88E-03	3.71E-03		273	Future Industrial 11	680.25	4860.26
	24 Hr	1	3.42E-04	3.88E-04	7.30E-04	<0.1%	266	Future Industrial 8	680.40	4860.73
Selenium	1 Hr		7.35E-03	4.12E-04	7.76E-03		273	Future Industrial 11	680.25	4860.26
	24 Hr ²	10	3.02E-03	5.56E-05	3.07E-03	<0.1%	266	Future Industrial 8	680.40	4860.73
Thallium	1 Hr			0.03			273	Future Industrial 11	680.25	4860.26
	24 Hr ⁴	0.24		4.52E-03		<0.1%	266	Future Industrial 8	680.40	4860.73
Tin	1 Hr		7.35E-03	0.02	0.02		273	Future Industrial 11	680.25	4860.26
	24 Hr	10	3.02E-03	2.04E-03	5.06E-03	<0.1%	266	Future Industrial 8	680.40	4860.73
Vanadium	1 Hr		3.77E-03	9.99E-04	4.77E-03		273	Future Industrial 11	680.25	4860.26
	24 Hr	2	1.55E-03	1.35E-04	1.68E-03	<0.1%	266	Future Industrial 8	680.40	4860.73
Zinc	1 Hr		0.10	0.17	0.27		273	Future Industrial 11	680.25	4860.26
	24 Hr	120	0.04	0.02	0.07	<0.1%	266	Future Industrial 8	680.40	4860.73
Sum of (As, Ni, Co, Pb, Cr, Cu, V, Mn, Sb)	1 Hr		0.52	0.40	0.91		273	Future Industrial 11	680.25	4860.26

Table 7-8 Summary of Maximum Predicted Metals Concentrations at the Special Receptors - Scenario 2B (MCTD 400,000 tpy Facility)

Contaminant	Averaging Period	Criteria ¹ (µg/m ³)	Background Concentration (µg/m ³)	Maximum Predicted Concentration (µg/m ³)	Total Concentration (Facility + Background) (µg/m ³)	% of Criteria	Special receptor #	Description	UTM N (m)	UTM E (km)
	24 Hr		0.21	0.05	0.26		266	Future Industrial 8	680.40	4860.73

Note 1:

¹ Reg419/05 Schedule 3 Criteria unless stated otherwise

² O. Reg. 419 Guidelines

³ Ontario's ambient air quality criteria

⁴ Jurisdictional Screening Level List (JSL)

⁵ National Ambient Air Quality Objectives (NAAQO) Max Desirable Level

Table 7-13 Summary of Maximum Predicted Ground Level Concentrations over the Special Receptors due to the 140,000 tpy Facility Stationary Sources (Scenario 1A, MCR) and Onsite Vehicle Traffic

Contaminant	CAS #	Averaging Period	Criteria ¹ (µg/m ³)	Background Concentration (µg/m ³)	Maximum Predicted Concentration (µg/m ³)	Total Concentration (Facility + background) (µg/m ³)	% of Criteria	Special Receptor #	Description	UTM E (km)	UTM N (km)
Sulphur Dioxide (SO ₂)	7446-09-5	1 Hr	900	19.5	19.60	39.1	4%	273	Future Industrial 11	680.25	4860.26
		24 Hr	300	19.3	2.29	21.6	7%	266	Future Industrial 8	680.40	4860.73
		Annual	60	5.9	0.05	6.0	10%	7	ECO 7	681.58	4862.07
Nitrogen Dioxide (NO ₂)	10102-44-0	1 Hr	400	64.6	67.71	132.3	33%	273	Future Industrial 11	680.25	4860.26
		24 Hr	200	58.2	7.98	66.2	33%	266	Future Industrial 8	680.40	4860.73
		Annual	100	37	0.18	37.2	37%	282	Farmer	681.39	4861.67
Carbon Monoxide (CO)	630-08-0	1 Hr	35000	1035	45.81	1081.2	3%	265	Future Industrial 7	680.82	4860.22
		8 Hr	15700	1036	8.30	1044.3	7%	266	Future Industrial 8	680.40	4860.73
		24 Hr		1029	3.07	1032.1		266	Future Industrial 8	680.82	4860.22
		Annual		632	0.14	631.8		265	Future Industrial 7	680.82	4860.22
Particulate Matter (PM _{2.5})	PM _{2.5}	1 Hr		22.8	5.92	28.7		14	Future Industrial 10	680.61	4860.72
		24 Hr	30 ²	20.4	0.71	21.1	70%	266	Future Industrial 8	680.40	4860.73
		Annual		9.8	0.03	9.8		265	Future Industrial 7	680.82	4860.22

Notes:

¹ Federal NAAQO Maximum Acceptable Levels unless otherwise noted

² Canada Wide Standard

³ Ontario's ambient air quality criteria

Attachment 3

Updated Table A2-5 from Appendix A of the
Air Quality Technical Study Report

Table A2-5 Summary of Ambient PM_{2.5} Measurements (µg/m³)

Averaging Period	AAQC		Value
24	30 ⁽¹⁾	Maximum measured	65
		98 th percentile measurement ⁽²⁾	20.6 ⁽²⁾
		Minimum	0.0
		Median	10.2
		Standard Deviation	6.7
		# of Exceedances ⁽²⁾	0
Annual	N/A	Average	10.2
		# of Exceedances	N/A

Notes:

1 – Canada Wide Standard (based on the maximum 98th percentile of the daily average values over the most recent 3 consecutive years)

2 – Based on 98th percentile measurement for comparison to the CWS