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Section 9 Summary

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

To engage a vendor qualified and capable of providing for the design, construction and operation of the Facility, a two stage competitive process was utilized involving a Request for Qualification (RFQ) followed by a Request for Proposal (RFP). This process was conducted in parallel with the EA Study process.

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

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

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

The evaluation team assessed proposals on the basis of pre-approved evaluation criteria included in the RFP document that considered the technical, project delivery, cost, and commercial elements of the proposals.

Based on their consensus evaluation, the evaluation team unanimously recommended Covanta Energy Corporation (Covanta) as the preferred vendor. Negotiations between Covanta and the Regions are ongoing as of the date of submission of the EA. Some of the details relating to the vendor identification process remain confidential in accordance with standard public procurement practices and could not be included in the EA Study documents. In terms of the RFP process, Covanta not only achieved the highest aggregate score of any of the bidders, but also achieved the highest score in each of the three elements outlined in the RFP.

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

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Miller Waste Systems (Waste Disposal/Transportation). This team will be supplemented with additional expertise as required during the detailed design and construction processes.

9. Vendor Identification Process

At the completion of the site identification phase of the EA Study, it was necessary to assess the potential impacts of the Proposed Thermal Treatment Facility (the Facility) on the Proposed Thermal Treatment Facility Site (the Site). However, the major components of thermal treatment technologies are proprietary and can differ from vendor to vendor and as a result, in order to undertake these impacts assessments at a sufficient level of detail to support the EA, it was necessary to proceed through a competitive process to identify and engage a vendor of the preferred thermal treatment technology.

To engage a vendor qualified and capable of providing for the design, construction and operation of the Facility, a two stage competitive public procurement process was utilized involving a request for qualifications (RFQ) process, followed by a request for proposal (RFP) process. Both the RFQ and RFP documents were available to any interested members of the public. This two stage competitive process was conducted in parallel to, and separate from the EA Study process.

Stage 1: Request for Qualifications (RFQ)

As the first step in identifying the Preferred Technology Vendor, Durham and York solicited qualifications from technology vendors through the issuance of a RFQ. The information provided by respondents was used to identify the Qualified Respondents who were subsequently invited to submit proposals in response to a RFP.

Stage 2: Request for Proposals (RFP)

Following the completion of the RFQ stage, Qualified Respondents were invited to submit detailed proposals in response to a Request for Proposals for the design, construction and operating contract of the Facility. The Regions evaluated the detailed proposals received from the Qualified Respondents and recommended a preferred vendor to Durham and York Regional Councils. Staff then obtained authorization from the Regional Councils to proceed with the development and negotiation of a contract with the identified Preferred Technology Vendor.

The RFQ and RFP processes followed a “state-of-the-art” process that applied common best practices used by major provincial and federal infrastructure procurement agencies across Canada. This process included adherence to a strict anti-lobbying clause included within the documentation for both processes, which was also reported to Durham and York Regions, and local staff and Councils. Due diligence and communications were strictly monitored throughout both stages of the competitive process.

9.1 Stage 1: Request for Qualifications (RFQ) Process

In 2007, the Regions initiated the development of the RFQ. The procurement document was developed with input from the Regions’ technical, financial, procurement, and legal advisors each responsible for developing components of the procurement documents based on their areas of expertise. Once complete, and authorization had been received from Regional Councils to release the document, the RFQ was issued in July 12, 2007. Notification of availability of the RFQ was issued through a number of public sources including the Region’s

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website, the Durham/York study website, advertisements on procurement sites (e.g., Merx, Biddingo, etc.) as well as notification to industry and business associations. The following describes the vendor pre-qualification process.

9.1.1 RFQ – Proponent Submissions

The RFQ issued by Durham on behalf of both York and Durham, closed on October 11, 2007 (see **Appendix B** for the RFQ). Nine (9) respondents provided eleven (11) submissions for consideration as listed below (in no particular order):

- City of Amsterdam Entity of Afval Energie Bedrijf (Waste and Energy Company AEB);
- Dongara Pellet Plant LP; Algonquin Power Systems Inc.; MCW Light Heat Cool; The State Group;
- Veolia Environmental Services Waste to Energy Inc.; AMEC/Black & McDonald;
- Greey CTS Inc.; Entech – Renewable Energies P/L; HighPoint Financial Services Inc.; Aecon Construction Group Inc.;
- Covanta Energy Corporation;
- WRSI/DESC Joint Venture; Fisia Babcock Environmental GmbH; Kiewit Industrial Company; Morgan Stanley Biomass LLC; Babcock & Wilcox;
- ATCO Power Canada Ltd.; Thermostelect; Morrison Hershfield; EllisDon; Wabi;
- Wheelabrator Technologies Inc. (A Waste Management Company); and,
- Urbaser SA (3 submissions).

9.1.2 Evaluation of Submissions

Three (3) teams (procurement, financial and technical) composed of staff from both Regions and the consulting firms of Deloitte & Touche LLP, Jacques Whitford and GENIVAR, were assembled to evaluate the submissions. An independent third party fairness monitor and legal advisor were consulted as required during the evaluation process (see Section 9.1.2.6).

Subject to the approval of Durham Council and York Council, a RFQ Respondent was deemed to be a qualified respondent (“Qualified Respondent”) if its RFQ Submission:

1. Met all the mandatory criteria; and
2. Obtained the minimum grade of 60% on each of the following criterion:
 - a. Criterion 1: Reference Facilities;
 - b. Criterion 2: Thermal Treatment Facility;
 - c. Criterion 3: References; and,
 - d. Criterion 4: Financial Requirements.

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All decisions on whether a RFQ Submission met the above two requirements were matters within the sole discretion of the evaluation committee to determine. The Regions reserved the right to request additional information from RFQ Respondents at any time(s) after the Closing Date, including during the evaluation stage, and to request that RFQ Respondents attend a clarification meeting(s). Only Qualified Respondents authorized by both Durham Council and York Council were invited to respond to a detailed RFP in the second stage of the procurement process.

RFQ Respondents were advised that any and all determinations and decisions made by, or on behalf of, the Regions relating to the RFQ and any RFQ Submissions, including whether the RFQ Submissions met the mandatory criteria and the extent to which scoring and points were awarded under rated criteria, were final and not open to appeal. The Regions reserved the right to permit a short cure period following the Closing Date during which any RFQ Submissions, which contained minor irregularities, could be corrected.

The RFQ Respondent was responsible to provide all information requested.

9.1.2.1 Evaluation of Mandatory Requirements

RFQ Respondents that met the following Mandatory Criteria proceeded to the evaluation of the Rated Requirements.

Mandatory Criterion 1: Successful Completion of Form 1: RFQ Submission Form

RFQ Respondents submitted a complete and signed Form 1: RFQ Submission Form.

Mandatory Criterion 2: Ability to Bond

The RFQ Respondent provided evidence of the ability to provide Bonding for an amount not less than \$115 million, demonstrated by providing a letter of reference recently signed by a licensed surety that confirmed the capability of receiving such bonding from the surety.

9.1.2.2 Evaluation of Rated Requirements

RFQ Respondents were advised that the primary basis for the evaluation of the rated requirements was the degree to which the RFQ Submission demonstrated the ability to meet the stated criterion, as further defined below.

9.1.2.3 Technical Requirements

Three technical criteria were used in the evaluation: reference facilities, Thermal Treatment Facility, and references. The following describes the technical criteria used in the evaluation.

Criterion 1: Reference Facilities

Criterion 1 consisted of several measures that were used to assess RFQ submissions. These measures are described below:

1a) Capacity and Availability

Each of the Reference Facilities were required to be of the scope and nature of the Thermal Treatment Facility. A Reference Facility that was put forward for consideration must:

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- Have utilized the Thermal Treatment Technology of the Proposed Facility (as declared in Form 1); and,
- Have a minimum total capacity of 150,000 tonnes of MSW per year; and,
- Be operating at the time of submission and be in full operation for at least two (2) consecutive years prior to the time of submission, with the most recent year operating at a minimum 90% annual availability (based on the total hours that the thermal processing line(s) operated divided by 8760 hours/year).

1b) Involvement of RFQ Respondent in Reference Facilities

RFQ Submissions were evaluated based on the extent to which the corporate team members declared in Form 1 were involved in the design, construction and operational phases of the Reference Facilities.

1c) Compliance and Mitigation Program for the Reference Facilities.

RFQ Submissions were evaluated based on the extent to which the Reference Facilities complied with regulatory requirements and the measures to mitigate potential impacts to the natural environment and human health.

1d) Description of Reference Facility Process and Operations

RFQ Submissions were evaluated based on the degree to which the process and operation of the Reference Facilities demonstrated a successful application of the Thermal Treatment Technology associated with the Proposed Thermal Treatment Facility (the Facility).

1e) Integration of Reference Facilities into Host Community

RFQ Submissions were evaluated based on the successful integration of the Reference Facilities into the host community (i.e., into the local area in which the facilities are sited).

Criterion 2: Thermal Treatment Facility

Criterion 2 consisted of several measures that were used to assess RFQ submissions. These measures are described below:

2a) Proposed Project Team

i) Related Corporate Experience of RFQ Respondent

RFQ Respondents were evaluated based on the extent to which the experience of the corporate team member was relevant to their proposed roles (as declared in Form 1), and demonstrated a record of success for that role.

ii) Organization of RFQ Respondent

RFQ Respondents were evaluated on the suitability of the organizational structure, and the degree to which the proposed structure demonstrated an ability to successfully undertake a project of the scope and magnitude of the Thermal Treatment Facility.

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iii) Human Resources Capabilities

RFQ Respondents demonstrated the capability to provide human resources with the credentials and experience necessary to successfully undertake a project of the nature and scope of the Thermal Treatment Facility.

2b) Thermal Treatment Facility

Durham/York recognized that there may be technical differences between the Reference Facilities for which the RFQ Respondent had been responsible for designing, developing and/or operating and the Facility. These differences may be based on the RFQ Respondents' experiences and/or the differences between the residual municipal wastes that would be supplied by the Regions and the materials processed by the Reference Facilities. Criterion 2b)ii) was intended to allow RFQ Respondents to describe the concept that they would consider for the development of the Proposed Facility and to note differences between the Proposed Facility and their Reference Facilities.

Ability of Proposed Facility to Meet Objectives

RFQ Respondents demonstrated that the Proposed Facility would successfully meet the Objectives.

ii) Description of Proposed Facility

RFQ Respondents were evaluated on the extent to which the Proposed Facility would provide a reliable, proven, practical and effective, long term waste management solution.

Criterion 3: References

Criterion 3 consisted of several measures that were used to assess RFQ submissions. These measures are described below:

3a) References for Reference Facilities

RFQ Respondents were evaluated on the extent to which the references supported the information provided and demonstrated a track record of success.

3b) References for RFQ Respondents

RFQ Respondents were evaluated on the extent to which the references supported the information provided and demonstrated a track record of success.

9.1.2.4 Financial Requirements

Criterion 4 used in the evaluation of the RFQ involved financial considerations. Several measures were used to assess the financial requirements and these are described below.

Criterion 4: Financial Requirements

4a) Financial Condition

RFQ Respondents were evaluated on the extent to which they had the financial strength to construct and operate the Thermal Treatment Facility as proposed in the RFQ.

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4b) Financial Capacity

RFQ Respondents were evaluated on the extent to which:

- They demonstrated the capacity to access a minimum of \$75 million of capital per year over a two year period, in a timely manner for the purposes of meeting construction and financing obligations and ongoing operating requirements; and,
- Any known or committed projects would not impair their capability to meet an annual construction financing obligation of \$75 million over a two-year period and ongoing quarterly operating requirements in the order of \$2 million.

4c) Track Record of Experience

RFQ Respondents were evaluated on the extent to which they demonstrated a successful track record of historic borrowing for infrastructure projects that are of the scope and magnitude of the Thermal Treatment Facility (e.g., a minimum of \$75 million of capital per year over a two-year period and ongoing quarterly operating requirements in the order of \$2 million).

9.1.2.5 Failure to Comply

Failure to have complied with any mandatory requirements of this RFQ resulted in disqualification of a RFQ Respondent and/or the rejection of its RFQ Submission.

A summary of the Technical Requirements is provided below in Table 9-1.

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Table 9-1 Scoring of Rated Criteria

Criteria	Max	Min to Qualify
Technical Requirements		
Criterion 1: Reference Facilities 1a: Capacity and Availability 1b: Involvement of RFQ Respondent in Reference Facilities 1c: Compliance and Mitigation Program for the Reference Facilities 1d: Description of Reference Facility Process and Operations 1e: Integration of the Reference Facilities into the Host Community		
Total for Criterion 1	100	60
Criterion 2: Thermal Treatment Facility 2a: Proposed Project Team 2a i: Related Corporate Experience of RFQ Respondent 2a ii: Organization of RFQ Respondent 2a iii: Human Resource Capabilities 2b: Thermal Treatment Facility 2b i: Ability of Proposed Facility to Meet Objectives 2b ii: Description of Proposed Facility		
Total for Criterion 2	100	60
Criterion 3: References 3a: References for Reference Facilities 3b: References for RFQ Respondent		
Total for Criterion 3	100	60
Financial Requirements		
Criterion 4: Financial Requirements Criterion 4a: Financial Condition Criterion 4b: Financial Capacity Criterion 4c: Track Record and Experience		
Total for Criterion 4	100	60

9.1.2.6 Fairness Monitor Review of RFQ Process

In February 2007, KPMG was retained to monitor from a fairness perspective the Regions' process to identify and qualify a number of respondents to the RFQ who would then be eligible to submit proposals to design, build and operate a Thermal Treatment Facility.

Prior to the release of the RFQ, a contingency of Regional councilors visited several Thermal Treatment Facilities in Europe and were accompanied by two staff member who were involved in the procurement process. KPMG indicated the involvement of these staff members in the tour did not constitute a fairness variance because the trip occurred before the issuance of the RFQ and the development of the RFQ was already in its final stages.

Prior to receiving submissions on October 11, 2007, the following took place:

- A process framework (the "RFQ Selection Framework") was developed, which documented the process to be followed in soliciting and evaluating statements of qualifications.

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- Access to secondary level RFQ information (such as addenda to the RFQ, questions from potential respondents together with the answers from the Regions) was provided via the Region's website.
- A total of 102 potential respondents registered by placing themselves on the bidders list for the RFQ. Placement on the bidders list was not a mandatory requirement for submitting a response.
- Three addenda to the RFQ were issued and made available via the website.
- Questions and answers were posted to the website. As questions were received they were reviewed by a Question and Answer Team (the "Q&A Team") and distributed to technical and/or financial personnel to draft a proposed answer. Draft answers were reviewed by the Q&A Team for clarity, completeness and consistency. Questions and answers were then assembled periodically into question and answer sets, and posted to the website.
- On October 9, 2007, members of the teams formed to evaluate the RFQ submissions (the "Evaluation Teams") attended a briefing session, which provided an overview of the RFQ Selection Framework, and an opportunity to review any questions the members of the teams might have had regarding the evaluation.
- Detailed evaluation score sheets were developed by each of the Evaluation Teams prior to the review of submissions.

In accordance with the RFQ Selection Framework, all evaluation team members and advisors involved in the evaluation were required to review the submissions and confirm by completing a form that they had reviewed the RFQ submissions and either (i) do not have any relationships to declare or (ii) have relationships to declare, as detailed on that form. Additionally, they were required to confirm that they have read and agree to be bound by the RFQ Selection Framework document.

KPMG's role was solely that of an observer to the RFQ process. KPMG did not develop the RFQ or participate in the evaluation of submissions.

KPMG's work was based on the following:

- Discussions and meetings with the Region staff and advisors to discuss the RFQ documents, procurement process, evaluation and related matters;
- Review of the RFQ document prior to issue;
- Review of the evaluation process, including the RFQ Selection Framework, evaluation criteria and evaluation tools;
- Review of addenda, and questions and answers issued prior to the RFQ deadline;
- Review of clarification questions issued to the Proponents;
- Review of the evaluation reports;
- Review of the following:

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- Evaluation of mandatory requirements
- Evaluation of technical submission
- Evaluation of the financial capacity

KPMG's Methodology to Assess Fairness

KPMG's approach to fairness monitoring was based on a set of fairness principles, developed by KPMG, which described the foundation of a fair process. These principles were developed based on KPMG's experience in conducting transaction and procurement processes and monitoring fairness. The fairness principles were discussed with the Region at the onset of process, and it was agreed that the fairness monitoring would be based on these principles:

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

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

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

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

Conclusions

KPMG indicated in a letter to Regional staff containing the above information that KPMG was satisfied the RFQ process was fair to all proponents.

9.1.3 Recommended Short List of Pre-Qualified Proponents

Based on the submission evaluation process described above, the following five (5) proponents (listed in no particular order) were pre-qualified to submit detailed proposals in response to the RFP:

- Veolia Environmental Services Waste to Energy Inc.; AMEC/Black & McDonald;
- Covanta Energy Corporation;
- WRSI/DESC Joint Venture; Fisia Babcock Environmental GmbH; Kiewit Industrial Company; Morgan Stanley Biomass LLC; Babcock & Wilcox;
- Wheelabrator Technologies Inc. (A Waste Management Company); and,
- Urbaser SA.

9.1.4 Confirmation of Preferred “Alternative to”

As discussed in Section 7.8.1 the determination of System 2a versus System 2b would be left to the RFQ/RFP process. The completion of the RFQ process advanced the understanding of the preferred technology to a point where the preferred system/technology had been identified. Through the RFQ process it was determined that only vendors offering a System 2a alternative met the minimum qualifications requirements and therefore it was determined, prior to the release of the RFP, that the preferred “Alternative to” was System 2a. In other words, all potential vendors qualified through the RFQ process were providing the same technology and were provided the opportunity to prepare proposals to a technical standard that would ensure a “best-in-class” facility. This technical standard specified in the RFP, ensured all bidders meeting the minimum requirements would be designing and building a facility capable of meeting or exceeding all regulatory requirements in the Province of Ontario at a minimum.

The technical specifications provided in the RFP were prepared to ensure consistency with the results of the “Alternatives to” evaluation and the RFQ but were also prepared to a level of detail to ensure all vendors would be building a very similar facility consistent with the findings of the EA and the commitments made to date in the process. The RFP was strictly utilized to obtain more detailed design and price proposals.

9.2 Stage 2: Request for Proposals (RFP) Process

York and Durham Regional Councils authorized the issuance of the RFP to the pre-qualified proponents listed above on August 22, 2008 (see **Appendix B** for a copy of the RFP).

The original closing date for submissions of January 15, 2009 was extended to February 19, 2009 to accommodate the vendors who had expressed the need for additional time due to the complexity of the project.

On February 19, 2009 responses were received from the following four proponents:

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

Veolia Environmental Services Waste to Energy Inc.; AMEC/Black & McDonald did not submit a proposal in response to the RFP citing economic risks as the primary decision making factor.

9.2.1 Overview of Unsuccessful Submissions Received

The following provides an overview of the unsuccessful submissions received in response to the RFP. The successful bidder, Covanta Energy Corporation is discussed in detail in Section 10 of this EA document. In order to maintain the fairness of the procurement process and to uphold the duty of confidentiality owed to all proponents, the proprietary technical, financial and commercial information contained within said proposals cannot be disclosed. Until a final Project Agreement is executed with Covanta Energy Corporation, the RFP procurement process is ongoing. To disclose information regarding the evaluation of the proposals submitted would be prejudicial to the successful conclusion of the RFP.

9.2.1.1 Vendor A

Vendor 'A' has proposed to develop and operate a single line 426 tonne per day (140,000 tpy) mass burn thermal processing line to process the Regions' residual waste.

I. Technical Description

a. Waste Receiving, Handling and Storage

The waste receiving, handling and storage design proposed has the following features:

- Two overhead cranes that are sized for the 250,000 tpy facility as required by the Technical Requirements.

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- An enclosed tipping floor and truck tipping bays with roll up door system.
- An enclosed waste storage pit sized for four (4) days capacity at the 250,000 tpy expansion facility, as required by the Technical Requirements.
- During normal operations, Odour on the tipping floor will be controlled by a ventilation system that will draw air from above the waste storage pit to maintain negative air pressure when the tipping floor truck roll-up doors are open. The air drawn from the tipping floor will be directed to the combustion unit to be used as combustion air.

b. Furnace/Boiler Design

- Waste will be fed to a single reciprocating water-cooled stoker grate sized to thermally process residual waste at an average waste higher heating value (HHV) of 13 MJ/kg, as required by the Technical Specifications.
- Based on the firing diagram provided, the design MCR heat input is 231 GJ/hr (64.1 MW). This heat input can be maintained while firing waste with an HHV range between 12.3 and 15 MJ/kg.
- Proponent did not include the required technical data in Form 5 of the RFP at the Temporary Overload (TOL) or Maximum Continuous Turndown (MCTD) conditions.
- Proponent has guaranteed a processing line/boiler availability of 93.5%.
- Waterwall construction is used and the boiler is integral with the furnace. The boiler system consists of four (4) vertical passes, operating at typical steam conditions for an EFW boiler.
- Flue gas recirculation (or "FGR") has been proposed for this facility. FGR involves taking a portion of the flue gas after it has passed through the flue gas treatment system and re-injecting it into the furnace section of the boiler. The use of FGR reduces the amount of excess ambient or fresh air needed to complete the combustion process.

c. Flue Gas Treatment Design

- The Flue Gas Treatment (FGT) system proposed includes (in the order the equipment is arranged in the facility from the waste feed chute to the stack):
 - Selective Non-Catalytic Reduction (SNCR) system with aqueous urea injection for NO_x control;
 - powdered activated carbon (PAC) injection for mercury and dioxins control;
 - a dry scrubbing system for acid gas control;
 - and a fabric filter baghouse for particulate and heavy metals removal.
- Proponent has guaranteed to meet the Regions' air emissions limits in the RFP and Technical Requirements.

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- Proponent has included a dedicated continuous emissions monitoring system and dioxin sampler as required by the Technical requirements. However, proponent did not include a continuous analyzer to measure hydrogen chloride (HCl) emissions at the stack as required.

d. Energy Recovery

i. Electricity Generation

- Proponent has proposed a turbine-generator (T-G) set with a nameplate capacity of 15 MW (final design to be determined).
- Proponent provided gross and net Electricity Production Guarantees as required in Form 4 of the RFP.
- An air cooled condenser (ACC) has been proposed as the steam condenser cooling method.
- Proponent did not provide the required electrical connection details from the onsite switchyard to the 44kV line located on the east side of Osbourne Road.

ii. District Heating Capability

- Proponent has provided a plan for the use of thermal energy in a future district energy system including an extraction Turbine-Generator capable of providing low pressure steam and a thermal load of 7.4 MW, as well as physical space for the heat exchangers, pumps and other equipment as required by the RFP and Technical Requirements.
- Proponent provided gross and net Electricity Production Guarantees in Form 4 of their proposal that reflect the impact on the T-G electrical efficiency of providing up to 7.4 MW of thermal energy to the future district energy system.

e. Residue Handling

- Proponent is proposing to separate the bottom ash and grate siftings from the boiler and FGT fly ash as required by the Technical Requirements.
- Proponent will meet the Residue Quality Guarantee of less than 3% unburned combustible matter and 25% moisture in the bottom ash, and the Residue Quantity Guarantee of 30% Total Residue.
- Bottom ash and grate siftings will be quenched in a water bath before being transferred by a series of vibrating pan and belt conveyors to the Residue Storage Building. Proponent has provided sufficient storage for up to four days of bottom ash storage for the 250,000 tonne/year facility, as required by the Technical Specifications.

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- No re-use of bottom ash is specified in the proposal. There is mention of using bottom ash as alternate daily cover in an unspecified landfill, but no details are provided.
- Fly ash will be collected, combined and conveyed via drag chain conveyors to an air tight steel storage silo. The fly ash will be wetted down and mixed in a pug-mill mixer. Lime may also be added to the pug mill, if necessary, to aid in stabilizing the fly ash. The treated fly ash will be discharged into open-top containers stationed below the pug-mill mixer before tarping and shipping to an unspecified non-hazardous landfill. It should be noted that the Proponent has limited experience with the proposed fly ash stabilization process. No indication was provided that the MoE will accept this stabilization process.

f. Balance of Plant

- Proponent has proposed a Zero Water Discharge Facility in accordance with the Technical Requirements. No discharge, other than from sanitary wastewater sources, will be sent to the Courtice Water Pollution Control Plant (WPCP).
- The source of boiler make-up water will be potable city water that will pass through a single-pass reverse osmosis (RO) system to remove suspended solids.
- Proponent took exception to including a back-up diesel generator in their proposal as required by the Technical Requirements. As an alternative, Proponent has proposed to install a battery powered UPS system to safely shutdown the facility in the event of a loss of power. The turbine has also been designed to shed load and continue processing waste in the event the utility tie is lost. In the event of a prolonged outage, Proponent proposes to rent a generator to supply power to the plant.
- Proponent is supplying two 100% electric-driven boiler feedwater pumps in their facility design versus one electric-driven pump and one steam-driven pump as required in the Technical Requirements. Proponent stated that the use of two electric-driven pumps will still meet boiler code and all applicable insurance requirements.
- Proponent provided a detailed Noise Management and Control Plan in their proposal.
- The proposed design provides for the recovery of ferrous and non-ferrous metals as required by the Technical Requirements.

g. Expansion Capability

- Proponent has sized the utilities (water, sewer, gas, electric) for the ultimate 400,000 tonne/year facility as required by the Technical Requirements.
- Proposal provides for the expansion of the processing capacity of the facility in two phases: 1) Expansion by 110,000 tpy to increase capacity from 140,000 tpy (or base facility) to 250,000 tpy; and 2) Expansion by 150,000 tpy to increase capacity from 250,000 tpy to 400,000 tpy. The conceptual layout of the two expansions indicates that

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process interruptions should be minimal. The waste storage pit has been designed for four days storage at the 250,000 tpy facility capacity, and includes a knockout-wall for the expansion to 400,000 tpy.

- The conceptual design drawings provided indicate that an additional stack may be required for the expansion of the facility from 250,000 tpy to 400,000 tpy.

h. Innovation

- Proponent identified the use of a water-cooled combustion grate as a major innovation in their proposal. The use of the water-cooled grates in the higher temperature zones of the combustion unit may offer the following benefits:
 - a. Increased service life of the grate bars;
 - b. Optimized use of combustion air for completing combustion and burnout;
 - c. Heat from the water cooling loop is recovered in an heat exchanger increasing energy efficiency; and
 - d. May minimize CO and NOx formation in the flue gas.

i. Operation and Maintenance

- Proponent has provided a generic narrative for their Operations and Maintenance Plan that outlines their Key Operating Principles for the proposed facility. The proposal includes a preventative maintenance schedule and costs associated with the refurbishment and/or replacement of some facility equipment, but the list provided is limited to mostly on-site mobile equipment (e.g. loaders) and not major processing equipment.
- Proponent indicates in their proposal that a computerized maintenance monitoring system (CMMS) will be incorporated in the design to track preventative and major maintenance at the facility. The proposal does not cite the product name of the CMMS that will be used.
- Proponent provides a Communication and Community Relations Plan in their proposal. This Plan outlines their public education strategies, as well as how they will handle public complaints/concerns

j. Construction and Permitting Plan

- Proponent has provided a guaranteed construction schedule of 1,308 days (or approximately 3 years and 7 months).
- The proposed Early Works Schedule is very detailed and provides estimated timelines for a large number of other permit approvals (not just air and solid waste), as well as a schedule for their involvement in the EA process. This schedule implies that it will take

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less than 12 months to prepare, submit and obtain approval for the Certificate of Approval for air and noise.

- The construction schedule provided appears to be reasonable, but lacks sufficient detail to determine whether there is contingency built into the schedule to handle delays or upsets during the construction, commissioning and start-up phases of the project.

II. Conclusions

Proponent has provided detailed technical and environmental proposals that are generally in compliance with the Technical Requirements of the RFP and generally accepted industry practices. The Proponent and its technology partner have extensive experience in the design, engineering, construction and operation of waste processing facilities in the U.S. and Europe. There are concerns that the Performance Guarantees offered in the proposal for throughput capacity and electricity production are limited to a very narrow range of waste HHVs, and any deviation from the assumed design HHV of 13 MJ/kg will result in a significant adjustment or reduction to the stated guarantees. Proponent has not provided substantial detail in their Operations and Maintenance Plan regarding scheduled preventative and major maintenance, but the information that was provided is consistent with generally accepted EFW industry practices. The Project Schedules provided are detailed, but some of the timelines (i.e. CofA permitting) are probably overly optimistic or lack contingency to adjust for schedule upsets.

The following Table 9-2 provides an overview of the vendors ability to meet the RFP general design and operating requirements.

Table 9-2 Vendor A – General Design and Operating Requirements

General Design and Operating Requirements		Response	Comments
1.0	The Company has offered equipment of a design, type and arrangement that meets the experience and technical requirements of the RFP, and a base-line Facility capable of processing MSW up to a guaranteed initial processing rate of 140,000 tonnes per year (426 tonne/day @ 13 MJ/kg)?	Yes	Vendor has offered a facility that features single (1) processing line capable of processing up to 436 tpd of the Regions' residual waste at a average waste HHV of 13 MJ/kg.
2.0	Proposal includes short-term expansion capabilities for processing an additional minimum 110,000 tonnes per year, and an ultimate capacity of 400,000 tonnes per year?	Yes	
3.0	Bid includes either a single (e.g. 1 x 426 tonnes per day) or dual line system (e.g. 2 x 213 tonnes per day)	Yes	Vendor has proposed a single (1) 436 tpd processing lines (or approx. 1 x 18 Mg/hr)

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General Design and Operating Requirements		Response	Comments
4.0	Each chute-to-stack system will maintain or exceed 90% availability (i.e. the amount of time the unit will actually be available to process waste versus the number of hours in the year)?	Yes	Vendor has guaranteed an overall facility availability of 93.5% (or ~9,190 hrs/yr)
5.0	Facility will be designed to be a zero wastewater discharge facility?	Yes	Process or contact water only. Non-contact water (e.g. cooling tower blowdown, etc.), stormwater and sanitary cited as exceptions that will be sent back to the headworks of the WPCP.
6.0	Minimum design useful life of the Facility is thirty (30) years?	Yes	
7.0	Proposal includes a plan/capability to satisfy the future district energy demands of the Clarington Energy Park and the Courtice WPCP?	Yes	Vendor has proposed an extraction/condensing steam turbine generator capable of providing up to 12.2 Mg/hr of medium pressure steam for the future hot water DH system.
8.0	Facility proposed will be operational by the end of 2013 (assuming a Jan. 1, 2010 start date)?	Yes	Vendor has proposed a 1,308 day (~ 3.6 years) construction schedule, which would meet the 2013 requirement assuming an early 2010 start date.
9.0	Units capable of operating at a maximum continuous turndown (MCTD) point of 75% or better?	Yes	
10.0	Proposal satisfies the minimum Air Emission Criteria outlined in Appendix C-2 in the RFP and Table 4-1 of the Technical Requirements?	Yes	Vendor has proposed emission limits that MEET the requirements of the RFP.
11.0	Proposal complies with the Facility Expansion Capability Requirements outlined in Section 4.4 of the Technical Requirements? If not, what exceptions have been taken?	Yes	
12.0	Are all utilities (i.e. water, sewer, gas, electric) sized for the ultimate facility capacity of 400,000 tonnes per year?	Yes	
Structural/Civil Design Requirements			
13.0	Does the proposal include a detailed layout of the proposed Facility, including: dimensionally defined layout of buildings and critical equipment; defined area for future expansion; and a clearly defined area for the future district energy system?	Yes	A single Site Plan was provided that also indicates the location of the expansion units. No general arrangement drawing provided for the turbine-generator area
14.0	Does the proposed facility include a totally enclosed maneuvering and tipping area, a totally enclosed processing building, a totally enclosed boiler building, a totally enclosed turbine area, a totally enclosed air pollution control equipment area, a totally enclosed ash handling building, and a totally enclosed administration and maintenance area?	Yes	

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General Design and Operating Requirements		Response	Comments
15.0	Is the pit storage area, pit walls, bay framing totally enclosed with reinforced concrete?	No	Open structural steel provided above the pit and tipping floor areas.
16.0	Does the site access roads and tipping floor entrance have sufficient space to accommodate on-site queuing of the anticipated waste delivery vehicles during peak delivery times for full expanded facility (1,218 tonnes per day)?	Yes	
17.0	Are all main building enclosures a minimum of 30 meters set back from the property line?	Yes	
Architectural Design Requirements			
18.0	Has the Proposer provided colour renderings (4 minimum per submission) and key site plan, material sample boards, and description of treatment material types and finishes that depict the actual proposed architectural treatment for the facility?	Yes	
19.0	Has the vendor provided a minimum of 5 offices (minimum 14 square meters each in size) for the Regions' staff and MoE staff?	Yes	
20.0	Does the proposed facility design include a Visitor Education Centre capable of holding up to 100 people?	Yes	
21.0	Has a central control room been provided in the proposal?	Yes	
Mechanical/Equipment Design Requirements			
A. Solid Waste Handling			
22.0	Is the tipping floor designed for a minimum of four (4) days storage at the expanded Facility capacity of 250,000 tonnes per year (or minimum storage of 2,740 tonnes)?	Yes	
23.0	Tipping Floor slab is reinforced concrete with a 80 mm thick minimum wear layer of high strength unreinforced concrete	Yes	
24.0	Does the tipping bay have individual tipping bays and tipping bay doors?	Yes and No	Tipping bays available for up to six (6) waste delivery vehicles. Unclear if individual tipping bay doors were provided.
25.0	Has an odour control plan been provided in the proposal?	Yes	
26.0	Does the proposal include at least two (2) refuse cranes capable of handling solid waste ranging in density from 180 to 500 kg/cubic meter?	Yes	

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General Design and Operating Requirements		Response	Comments
27.0	Pulpit designed for full hopper viewing and sized to accommodate a minimum of two crane operators and control consoles and allow operation of all cranes at the same time.	Yes	A separate crane pulpit was not provided. The crane pulpit will be located in the control room, which is an accepted industry practice.
B. Combustion System			
28.0	Has the furnace been designed to provide at least a one second retention time at an incineration temperature of 1000°C in the combustion zone (measured from the final combustion air injection port)? Has the Proposer proposed a method to continuously monitor and record the temperature in the furnace?	Yes	Referenced in Proposal that design complies with requirements - no specific protocol or calculations provided as back-up.
29.0	Has the Proposer provided a firing diagram that at a minimum shows the acceptable operating range of the proposed grates over the range of waste HHVs and throughputs?	Yes	
30.0	Has the Proposer provided refractory or inconel cladding in the furnace section that extends upward from the grate to the top of the fireball?	Yes	
31.0	Auxiliary burners provided are of a low NOx design and capable of preheating the furnace to 1,000°C during boiler start up?		Does not specify whether Low NOx Burners are used.
32.0	Is the maximum gas velocities through the furnace and the convection sections of superheater and economizer 6.0 m/sec?	Yes	Max gas velocity = 5.1 m/s.
33.0	Minimum and maximum steam pressures are between approximately 4 MPa and 6 MPa?	Yes	Boiler design is 6 Mpa.
34.0	Minimum of 800 mm between each superheater section?		Insufficient detail
35.0	Maximum continuous rating (MCR) of 426 tpd @ 13 Mj/kg?	Yes	
36.0	Does each proposal include a minimum of one underfire air fan, one secondary air fan or overfire air fan, and one induced draft fan that are equipped with variable frequency drives (VFDs)?	Yes	All three fans include VFDs.
C. Air Pollution Control Equipment			
37.0	Has the Proposer guaranteed emission levels equal to or less than the values listed in Appendix C-2 of the RFP and Table 4-1 of the Technical Requirements?	Yes	Vendor has guaranteed to MEET the Regions' RFP requirements.

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General Design and Operating Requirements		Response	Comments
38.0	Has the Proposer provided a means of reducing acid gases, NOx control, mercury and dioxin control, and a high efficiency particulate collection system?	Yes	
39.0	Has the Proposer provided continuous emissions monitors as required in the Technical Requirements, including a continuous dioxins sampling system?	Yes	
40.0	Is the minimum flue gas temperature exiting the acid gas scrubber 150°C?	Yes	
41.0	If a pulse jet type baghouse is proposed, is the net air-to-cloth ratio no greater than 1.2:1 m/min under the maximum flue gas flow conditions w/ one module offline?	Yes	
42.0	If a reverse air type baghouse is proposed, is the net air-to-cloth ratio no greater than 0.6:1 m/min under the max flue gas flow conditions with one module offline?	No	Not applicable.
43.0	Does the baghouse proposed include a filter bag leak detection system?		Continuous Opacity monitor and pressure drop monitoring included in lieu of a bag leak detection system.
44.0	Is the stack designed for an exit gas velocity (each flue) of 15-18 meters per second?		Not specified in original proposal. Clarified in follow-up letter.
D. Ash Handling System			
45.0	Does the proposed facility include separate collection of bottom ash and fly ash (i.e. boiler ash and air pollution control fly ash)?	Yes	Bottom ash handled separately from Fly ash
46.0	Is the system designed for a minimum number of transfer points?	Yes	
47.0	Is the bottom ash building designed for a minimum of four (4) days storage for 1,218 tonne per day facility?	Yes	
48.0	Proposer has furnished two (2) 50% capacity fly ash storage silos with a combined storage capacity for four (4) days at 761 tonne/day?	Yes	
49.0	Has the vendor provided a ferrous and non-ferrous recovery system capable of at least 80 percent recovery of all material greater than 2.5 cm and less than 15 cm?	Yes	
E. Power Generation			
50.0	Has a regenerative cycle turbine with multiple extractions for in-plant usage been provided that is designed to accept all of the steam produced by the Facility at MCR?	Yes	Single extraction point - extraction
51.0	Have Energy balances been provided for all boilers at MCR (426 tonnes at 13 MJ/kg)?	Yes	

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General Design and Operating Requirements		Response	Comments
52.0	Does the turbine-generator has a design backpressure of 127 mm Hg or less at all outdoor ambient dry bulb temperatures?	Yes	
53.0	Does the design package include the necessary provisions and space to incorporate a future district heating system, including an overview of the proposed concept to recover thermal energy and an implementation plan describing the plant modifications and equipment required for the future district heating system?	Yes	
54.0	Does the proposed Facility have a means of dumping steam while continuing to process MSW @ MCR?	Yes	Bypass provided.
55.0	If a alternative cooling system is proposed, has the vendor proposed a vapor plume abatement type cooling system?		Not applicable.
56.0	Design assumes that the make-up water requirements for the alternative cooling system will be supplied by effluent water from the nearby Courtice WPCP		Not applicable.
57.0	Has at least one (1) 100% capacity electric feed pump and one (1) 100% steam driven feed pump to supply feed water at plant MCR been provided?	No	Two (2) 100% electric feed pumps provided.
58.0	Have two (2) 100% or three (3) 50% base Facility capacity vertical turbine canned condensate pumps, motor drives, and associated accessories been provided?	Yes	Two (2) x 100% pumps
59.0	Have a minimum of two (2) full capacity air compressors w/ aftercoolers, two (2) air receivers, one (1) air dryer w/ bypass capabilities, and associated accessories been included in proposed design?	Yes	
60.0	Has a complete, automated electronic inbound & outbound scale system been included?		Not specified
Electrical And I&C Design Requirements			
61.0	Does the proposed design utilizes VFD's on the FD, ID, ACC (if applicable) and SA fans?	Yes	FD/ID and SA fans included with VFD. Not specified whether VFDs included for ACC fans.
62.0	Does the proposal include all system metering, controls, and protection required by Hydro One and this independent system operator?	No	Vendor has taken exception to this requirement of the RFP on the grounds that sufficient detail regarding Hydro One's requirements are not known at this time.

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General Design and Operating Requirements		Response	Comments
63.0	Has a 44 kV transmission line between the Facility step up substation and Hydro One interconnection point been included?	No	Vendor has taken exception to this requirement of the RFP on the grounds that sufficient detail regarding Hydro One's requirements are not known at this time.
64.0	Does the generator design provided meet the specifications listed in section 9.8 of the Technical Requirements?	Yes	
65.0	Is the instrumentation and control system for all equipment integrated into a DCS?	Yes	
66.0	Has a real time display of Facility emissions been furnished in the proposed design?	Yes	

* Proposer may propose conditions other than these, subject to the Regions' approval. For any deviations, the Proposer shall have demonstrated operating experience at the proposed conditions and provide information on facilities that utilize the proposed technology.

9.2.1.2 Vendor B

Vendor 'B' has proposed to develop and operate a single line 426 tonne per day (140,000 tpy) mass burn thermal processing line to process the Regions' residual waste.

III. Technical Description

a. Waste Receiving, Handling and Storage

The waste receiving, handling and storage design proposed has the following features:

- A circular waste receiving building, tipping floor and waste storage pit has been proposed. This arrangement requires the use of stacked cranes where two separate cranes operate on their own dedicated set of rails with one crane running underneath the other crane. This crane arrangement is not typical and results in higher capital and operating costs, as well as potential operating issues due to potential crane collisions and refuse build-up on the lower crane. Proponent did not provide a detailed description of the crane operations in their proposal.
- An enclosed tipping floor with up to six tipping bays for waste delivery vehicles has been proposed;
- The circular waste storage pit is 22 meters in diameter and 15 meters deep, and has been sized for four (4) days capacity at the ultimate facility capacity of 400,000 tpy (or approximately 4,100 tonnes). The waste pit is very deep which will increase capital costs initially, but should also reduce costs and the impact on facility operations during the facility expansions;
- During normal operations, Odour on the tipping floor will be controlled by a ventilation system that will draw air from above the waste storage pit to maintain negative air pressure when the tipping floor truck roll-up doors are open. During prolonged

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shutdowns of the single processing line, the Proponent has proposed to bale and wrap the incoming waste to prevent the escape of odours.

b. Furnace/Boiler Design

- Waste will be fed to a single reciprocating water-cooled stoker grate sized to thermally process residual waste at an average waste higher heating value (HHV) of 13 MJ/kg, as required by the Technical Specifications.
- Proponent has guaranteed a processing line availability of 90%.
- The proposed design can process waste across the range of waste HHVs specified in the Technical Requirements (11-15 MJ/kg). The firing diagram provided shows that the design MCR heat input is 234 GJ/hr (65 MW) for the single unit. This heat input can be maintained by the unit while firing waste over a range of 12.1 to 15 MJ/kg.
- Proponent has stated that the proposed design will allow for a one (1) second residence time at 1,000oC from the last air injection point.
- Waterwall construction is used and the boiler is integral with the furnace. The boiler consists of three vertical passes, a horizontal convective pass and a vertical economizer pass.
- The proposed steam conditions (53 bar (5 MPa) and 400oC) are typical for similarly designed EFW facilities.

c. Flue Gas Treatment Design

- The Flue Gas Treatment (FGT) system proposed includes (in the order of the equipment's arrangement in the facility from the waste feed chute to the stack):
 - Selective Non-Catalytic Reduction (SNCR) system with aqueous ammonia injection for additional NO_x control;
 - powder activated carbon (PAC) injection for mercury and dioxins control;
 - a venturi dry injection scrubbing device for acid gas control;
 - and a fabric filter baghouse for particulate and heavy metals removal.
- The proposed venturi dry injection scrubber system proposed requires the use of dry hydrated lime (Ca(OH)₂), which is slightly more expensive than (CaO). However, the use of lime may be maximized by recirculating the fly ash and lime back into the venturi scrubber as proposed. The venturi scrubber is operated in a completely dry mode with no temperature reduction or humidification, which could reduce the devices ability to effectively reduce acid gas emission spikes during normal operations. Proponent has provided a list of eight reference plants that utilize a similar dry scrubbing device. It should be noted that three of these reference facilities contain a reactor that is likely used for temperature reduction and humidification, and the remaining five facilities have not operated for longer than 10 years. No detailed emissions or compliance data for these reference facilities was provided.

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- Proponent has included a dedicated continuous emissions monitoring system and dioxin sampler as required by the Technical requirements. In addition, the proposal includes an in-situ analyzer for the continuous measurement of particulates, as well as continuous monitors for organic matter and hydrogen fluoride (HF)

d. Energy Recovery

i. Electricity Generation

- Proponent has proposed a turbine-generator (T-G) set with a nameplate capacity of 15.5 MW.
- Proponent only provided Electricity Production Guarantees for net electricity production in Form 4 of the RFP.
- An air cooled condenser (ACC) has been proposed as the steam condenser cooling method.
- In accordance with the Technical Requirements, Proponent provided the physical equipment required for the electrical interconnect with Hydro One.

ii. District Heating Capability

- Proponent has provided a plan for the use of thermal energy in a future district energy system as required by the RFP and Technical Requirements. Proponent has included an extraction T-G capable of providing approximately 16.3 Mg/hr of medium pressure steam and a thermal load of 7.4 MW for the future district energy system, as well as physical space for the heat exchangers, pumps and other required equipment, as required by the Technical Specifications.
- Proponent provided Electricity Production Guarantees in Form 4 of their proposal that reflect the impact on the T-G electrical efficiency of providing up to 7.4 MW of thermal energy to the future district energy system.

e. Residue Handling

- Proponent is proposing to keep the bottom ash and grate siftings separate from the boiler and FGT fly ash as required by the Technical Requirements.
- Proponent will meet the Residue Quality Guarantee of less than 3% unburned combustible matter and 25% moisture in the bottom ash, and the Residue Quantity Guarantee of 30% Total Residue.
- Bottom ash and grate siftings will be quenched in a water bath before being transferred by a series of vibrating pan and belt conveyors to the Residue Storage Building. Proponent has provided sufficient storage for up to four days of bottom ash storage for the 250,000 tonne/year facility, as required by the Technical Specifications.

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- Proponent proposes to transport bottom ash (total quantity of 22,646 tpy) by rail to a US based landfill. The details of the rail haul agreement are not finalized.
- Fly ash from the convective passes of the boiler and the FGT equipment will be collected, combined and conveyed to air tight storage bins. The fly ash will be stabilized by mixing it with Portland Cement. The stabilized fly ash will be stored in the Residue Storage Building for transport via rail to a non-hazardous landfill in the US. It is unknown whether the MoE or the US Environmental Protection Agency will accept the treated fly ash as a non-hazardous material, or what additional testing requirements they may enforce to demonstrate compliance.

f. Balance of Plant

- Proponent has proposed a Zero Water Discharge Facility in accordance with the Technical Requirements. No discharge, other than sanitary sewer uses, will be sent to the Courtice Water Pollution Control Plant (WPCP).
- Proponent has proposed to use effluent water from the WPCP as process water make-up. The proposal includes an on-site water treatment facility that consists of an ultrafiltration unit (or UF), reverse osmosis system, and electro de-ionization unit (or EDI) to treat effluent to boiler make-up quality standards.
- Proponent provides a description of the noise attenuation methods that will be incorporated into the facility design, including: silencers on boiler safeties; acoustic attenuation on the induced draft fan; and other equipment modifications to reduce noise. In addition, Proponent has proposed a baseline noise study prior to facility construction and an on-going noise monitoring program during operations.
- The proposed design provides for the recovery of ferrous and non-ferrous metals as required by the Technical Requirements. It appears that a belt magnet has been provided as opposed to a drum magnet as preferred in the Technical Requirements.

g. Expansion Capability

- Proponent has sized the utilities (water, sewer, gas, electric) for the ultimate 400,000 tonne/year facility as required by the Technical Requirements.
- The proposal provides for the expansion of the processing capacity of the facility in two phases: 1) Expansion by 110,000 tpy to increase capacity from 140,000 tpy (or base facility) to 250,000 tpy; and 2) Expansion by 150,000 tpy to increase capacity from 250,000 tpy to 400,000 tpy. The design concept allows for phased expansion of facility with minimal disruption to existing operations. As noted previously, the circular waste storage pit is sized for the ultimate facility capacity of 400,000 tpy.
- The conceptual design drawings provided indicate that each additional processing line will have a dedicated stack (or three (3) individual stacks total for the 400,000 tpy facility).

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h. Innovation

- Proponent has proposed a water treatment system that consists of UF and EDI units that will allow for use of effluent from the WPCP to meet the process water requirements of the facility. The use of effluent for make-up water, particularly boiler make-up water, will significantly reduce the potable water requirements of the proposed facility. This innovation will help reduce facility operating costs.

i. Operation and Maintenance

- Proponent has provided some generic detail in their Operations and Maintenance Plan for the proposed facility. However, the lack of specific detail for many of the major equipment/components of the facility does not meet generally accepted industry standards. In addition, the detail provided in their life cycle and rehabilitation plan is inadequate.
- Proponent has proposed to operate the facility over four (4) six-hour operating shifts versus the normal three eight-hour or two twelve-hour shifts for these types of facilities. This may increase the risk for operational upsets that could occur during a shift change-over due to minor adjustments made by the new operator, or due to extra focus on “turning the plant over” rather than monitoring operating conditions carefully.

j. Construction and Permitting Plan

- Proponent has provided a guaranteed construction schedule of 1,446 days (or approximately 4 years).
- The proposed Early Works Schedule acknowledges all applicable provincial and municipal approvals, and provides adequate approval for the EA process. The Permitting Plan assumes that the air, noise and waste permitting process will take approximately two years from start to finish, which is a reasonable assumption.
- The construction schedule implies that construction will commence before the issuance of the Certificate of Approval or other permits, which is not the case.

IV. Conclusions

Proponent has provided detailed technical and environmental proposals that are generally in compliance with the Technical Requirements of the RFP, and generally accepted industry practices. Proponent and its proposed Team Members have demonstrated experience in the design, engineering, construction and operation of waste processing facilities in Europe, particularly biological treatment processes. The proposed boiler and turbine cycle designs are conservative, but include features that should improve operating and energy efficiency without the risk of increased operations and maintenance impacts. Proponents Operations and Maintenance Plan provides some generic overview of their procedures regarding preventative and major maintenance of major facility components, but lacks sufficient detail to be consistent

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with generally accepted industry standards and practices. The timelines provided in the Construction and Early Work Schedules appear to be reasonable, but the start and stop dates provided in the proposal will be subject to change.

The following Table 9-3 provides an overview of the vendors ability to meet the RFP general design and operating requirements.

Table 9-3 Vendor B – General Design and Operating Requirements

General Design and Operating Requirements		Response	Comments
1.0	The Company has offered equipment of a design, type and arrangement that meets the experience and technical requirements of the RFP, and a base-line Facility capable of processing MSW up to a guaranteed initial processing rate of 140,000 tonnes per year (426 tonne/day @ 13 MJ/kg)?	Yes	Vendor has offered a facility that features single (1) processing line capable of processing up to 436 tpd of the Regions' residual waste at a average waste HHV of 13 MJ/kg.
2.0	Proposal includes short-term expansion capabilities for processing an additional minimum 110,000 tonnes per year, and an ultimate capacity of 400,000 tonnes per year?	Yes	
3.0	Bid includes either a single (e.g. 1 x 426 tonnes per day) or dual line system (e.g. 2 x 213 tonnes per day)	Yes	Vendor has proposed a single (1) 436 tpd processing lines (or approx. 1 x 18 Mg/hr)
4.0	Each chute-to-stack system will maintain or exceed 90% availability (i.e. the amount of time the unit will actually be available to process waste versus the number of hours in the year)?	Yes	Vendor has guaranteed an overall facility availability of 90% (or ~7,884 hrs/yr)
5.0	Facility will be designed to be a zero wastewater discharge facility?	Yes	Vendor has also proposed in their facility design to use Courtice WPCP effluent as process and boiler make-up water.
6.0	Minimum design useful life of the Facility is thirty (30) years?	Yes	
7.0	Proposal includes a plan/capability to satisfy the future district energy demands of the Clarington Energy Park and the Courtice WPCP?	Yes	Vendor has proposed an extraction/condensing steam turbine generator capable of providing up to 16.3 Mg/hr of medium pressure steam for the future hot water DH system.
8.0	Facility proposed will be operational by the end of 2013 (assuming a Jan. 1, 2010 start date)?	Yes	Vendor has proposed a 1,446 day (~ 3.9 years) construction schedule, which would meet the 2013 requirement assuming an early 2010 start date.
9.0	Units capable of operating at a maximum continuous turndown (MCTD) point of 75% or better?	Yes	
10.0	Proposal satisfies the minimum Air Emission Criteria outlined in Appendix C-2 in the RFP and Table 4-1 of the Technical Requirements?	Yes	Vendor has proposed emission limits that MEET the requirements of the RFP.

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General Design and Operating Requirements		Response	Comments
11.0	Proposal complies with the Facility Expansion Capability Requirements outlined in Section 4.4 of the Technical Requirements? If not, what exceptions have been taken?	Yes	
12.0	Are all utilities (i.e. water, sewer, gas, electric) sized for the ultimate facility capacity of 400,000 tonnes per year?	Yes	
Structural/Civil Design Requirements			
13.0	Does the proposal include a detailed layout of the proposed Facility, including: dimensionally defined layout of buildings and critical equipment; defined area for future expansion; and a clearly defined area for the future district energy system?	Yes	
14.0	Does the proposed facility include a totally enclosed maneuvering and tipping area, a totally enclosed processing building, a totally enclosed boiler building, a totally enclosed turbine area, a totally enclosed air pollution control equipment area, a totally enclosed ash handling building, and a totally enclosed administration and maintenance area?	Yes	Vendor has proposed an open round-shaped waste storage pit for ease of traffic flow in the tipping gallery.
15.0	Is the pit storage area, pit walls, bay framing totally enclosed with reinforced concrete?	No	The pit is totally open.
16.0	Does the site access roads and tipping floor entrance have sufficient space to accommodate on-site queuing of the anticipated waste delivery vehicles during peak delivery times for full expanded facility (1,218 tonnes per day)?	Yes	
17.0	Are all main building enclosures a minimum of 30 meters set back from the property line?	Yes	
Architectural Design Requirements			
18.0	Has the Proposer provided color renderings (4 minimum per submission) and key site plan, material sample boards, and description of treatment material types and finishes that depict the actual proposed architectural treatment for the facility?	Yes	
19.0	Has the vendor provided a minimum of 5 offices (minimum 14 square meters each in size) for the Regions' staff and MoE staff?	Yes	

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General Design and Operating Requirements		Response	Comments
20.0	Does the proposed facility design include a Visitor Education Center capable of holding up to 100 people?	Yes	
21.0	Has a central control room been provided in the proposal?	Yes	
Mechanical/Equipment Design Requirements			
A. Solid Waste Handling			
22.0	Is the tipping floor designed for a minimum of four (4) days storage at the expanded Facility capacity of 250,000 tonnes per year (or minimum storage of 2,740 tonnes)?	Yes	The pit design as stated in the proposal provides more than four (4) days storage.
23.0	Tipping Floor slab is reinforced concrete with a 80 mm thick minimum wear layer of high strength unreinforced concrete	Yes	
24.0	Does the tipping bay have individual tipping bays and tipping bay doors?	Yes	Tipping bays available for up to six (6) waste delivery vehicles. Individual tipping bay doors were provided.
25.0	Has an odour control plan been provided in the proposal?	Yes	A detailed odour control system and monitoring plan was provided in their proposal.
26.0	Does the proposal include at least two (2) refuse cranes capable of handling solid waste ranging in density from 180 to 500 kg/cubic meter?	Yes	Vendor has proposed a two-tier crane design.
27.0	Pulpit designed for full hopper viewing and sized to accommodate a minimum of two crane operators and control consoles and allow operation of all cranes at the same time.	Yes	
B. Combustion System			
28.0	Has the furnace been designed to provide at least a one second retention time at an incineration temperature of 1000°C in the combustion zone (measured from the final combustion air injection port)? Has the Proposer proposed a method to continuously monitor and record the temperature in the furnace?	Yes	Referenced in Proposal that design complies with requirements - no specific protocol or calculations provided as back-up.
29.0	Has the Proposer provided a firing diagram that at a minimum shows the acceptable operating range of the proposed grates over the range of waste HHVs and throughputs?	Yes	
30.0	Has the Proposer provided refractory or inconel cladding in the furnace section that extends upward from the grate to the top of the fireball?	Yes	

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General Design and Operating Requirements		Response	Comments
31.0	Auxiliary burners provided are of a low NOx design and capable of preheating the furnace to 1,000°C during boiler start up?	Yes	
32.0	Is the maximum gas velocities through the furnace and the convection sections of superheater and economizer 6.0 m/sec?	Yes	
33.0	Minimum and maximum steam pressures are between approximately 4 MPa and 6 MPa?	Yes	Boiler design is ~5 MPa.
34.0	Minimum of 800 mm between each superheater section?		Insufficient detail. No exceptions taken in proposal.
35.0	Maximum continuous rating (MCR) of 426 tpd @ 13 Mj/kg?	Yes	
36.0	Does each proposal include a minimum of one underfire air fan, one secondary air fan or overfire air fan, and one induced draft fan that are equipped with variable frequency drives (VFDs)?	Yes	
C. Air Pollution Control Equipment			
37.0	Has the Proposer guaranteed emission levels equal to or less than the values listed in Appendix C-2 of the RFP and Table 4-1 of the Technical Requirements?	Yes	Vendor has guaranteed to MEET the Regions' RFP requirements.
38.0	Has the Proposer provided a means of reducing acid gases, NOx control, mercury and dioxin control, and a high efficiency particulate collection system?	Yes	
39.0	Has the Proposer provided continuous emissions monitors as required in the Technical Requirements, including a continuous dioxins sampling system?	Yes	
40.0	Is the minimum flue gas temperature exiting the acid gas scrubber 150°C?	Yes	
41.0	If a pulse jet type baghouse is proposed, is the net air-to-cloth ratio no greater than 1.2:1 m/min under the maximum flue gas flow conditions w/ one module offline?	Yes	
42.0	If a reverse air type baghouse is proposed, is the net air-to-cloth ratio no greater than 0.6:1 m/min under the max flue gas flow conditions with one module offline?		Not applicable.
43.0	Does the baghouse proposed include a filter bag leak detection system?		Not specified.
44.0	Is the stack designed for an exit gas velocity (each flue) of 15-18 meters per second?		Not specified in original proposal. Clarified in follow-up letter.
D. Ash Handling System			

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General Design and Operating Requirements		Response	Comments
45.0	Does the proposed facility include separate collection of bottom ash and fly ash (i.e. boiler ash and air pollution control fly ash)?	Yes	Bottom ash handled separately from Fly ash
46.0	Is the system designed for a minimum number of transfer points?	Yes	
47.0	Is the bottom ash building designed for a minimum of four (4) days storage for 1,218 tonne per day facility?	Yes	
48.0	Proposer has furnished two (2) 50% capacity fly ash storage silos with a combined storage capacity for four (4) days at 761 tonne/day?	Yes	
49.0	Has the vendor provided a ferrous and non-ferrous recovery system capable of at least 80 percent recovery of all material greater than 2.5 cm and less than 15 cm?	Yes	
E. Power Generation			
50.0	Has a regenerative cycle turbine with multiple extractions for in-plant usage been provided that is designed to accept all of the steam produced by the Facility at MCR?	Yes	
51.0	Have Energy balances been provided for all boilers at MCR (426 tonnes at 13 MJ/kg)?	Yes	
52.0	Does the turbine-generator has a design backpressure of 127 mm Hg or less at all outdoor ambient dry bulb temperatures?	Yes	Design backpressure of 75 mm Hg (abs) proposed.
53.0	Does the design package include the necessary provisions and space to incorporate a future district heating system, including an overview of the proposed concept to recover thermal energy and an implementation plan describing the plant modifications and equipment required for the future district heating system?	Yes	
54.0	Does the proposed Facility have a means of dumping steam while continuing to process MSW @ MCR?	Yes	
55.0	If a alternative cooling system is proposed, has the vendor proposed a vapor plume abatement type cooling system?		Not applicable.
56.0	Design assumes that the make-up water requirements for the alternative cooling system will be supplied by effluent water from the nearby Courtice WPCP		Not applicable.

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General Design and Operating Requirements		Response	Comments
57.0	Has at least one (1) 100% capacity electric feed pump and one (1) 100% steam driven feed pump to supply feed water at plant MCR been provided?	Yes	
58.0	Have two (2) 100% or three (3) 50% base Facility capacity vertical turbine canned condensate pumps, motor drives, and associated accessories been provided?	Yes	
59.0	Have a minimum of two (2) full capacity air compressors w/ aftercoolers, two (2) air receivers, one (1) air dryer w/ bypass capabilities, and associated accessories been included in proposed design?	Yes	
60.0	Has a complete, automated electronic inbound & outbound scale system been included?	Yes	
Electrical and I&C Design Requirements			
61.0	Does the proposed design utilizes VFD's on the FD, ID, ACC (if applicable) and SA fans?	Yes	
62.0	Does the proposal include all system metering, controls, and protection required by Hydro One and this independent system operator?	Yes	
63.0	Has a 44 kV transmission line between the Facility step up substation and Hydro One interconnection point been included?	Yes	
64.0	Does the generator design provided meet the specifications listed in section 9.8 of the Technical Requirements?	Yes	
65.0	Is the instrumentation and control system for all equipment integrated into a DCS?	Yes	
66.0	Has a real time display of Facility emissions been furnished in the proposed design?	Yes	

* Proposer may propose conditions other than these, subject to the Regions' approval. For any deviations, the Proposer shall have demonstrated operating experience at the proposed conditions and provide information on facilities that utilize the proposed technology.

9.2.1.3 Vendor C

Vendor 'C' has proposed to develop and operate a single line 426 tonne per day (140,000 tpy) mass burn thermal processing line to process the Regions' residual waste.

V. Technical Description

a. Waste Receiving, Handling and Storage

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The waste receiving, handling and storage design proposed has the following features:

- Two overhead cranes equipped with grapples will be provided in the design. The cranes are sized for the 250,000 tpy facility as required by the Technical Requirements.
- An enclosed tipping floor with up to seven (7) waste truck tipping bays will be provided.
- An enclosed waste storage pit sized for approximately four (4) days capacity at the 250,000 tpy expansion facility, as required by the Technical Requirements.
- Odour on the tipping floor will be controlled by a ventilation system that will draw air from above the waste storage pit to maintain negative air pressure when the tipping floor truck roll-up doors are open. The air drawn from the tipping floor will be directed to the combustion unit to be used as combustion air. During prolonged shutdowns of the single processing line air from the tipping floor and above the waste pit will be drawn through dust and activated carbon filters to remove odours. A detailed Odour Control Plan was not included in the proposal.
- Proponent has proposed to rent a mobile baling machine to temporarily bale the waste in the event the storage capacity of the pit is exceeded (e.g. during prolonged shutdowns for scheduled boiler maintenance).

b. Furnace/Boiler Design

- Waste will be fed to a single reciprocating forward moving grate that is sized to thermally process approximately 17.75 tonnes/hour of residual waste at an average waste higher heating value (HHV) of 13 MJ/kg.
- Based on the firing diagram provided, the design MCR heat input is 231 GJ/hr (64.1 MW). This heat input can be maintained while firing waste with an HHV range between 11 and 15 MJ/kg.
- Proponent has guaranteed a processing line/boiler availability of 8,000 hours per year (or approximately 91%). However, Proponent has provided limited Form 4 Throughput Capacity Guarantees and no Electricity Production Guarantees in their original submission to the Regions.
- The furnace proposed is a center flow design. Three empty vertical radiant passes are provided with a fourth horizontal convective pass that contains pendent tube bundles. The economizer is located in a metal casing but the rest of the boiler is encased by waterwall tubes. This approach tends to increase furnace temperatures for all the flue gas before exiting the furnace increasing the residence time above 850oC. The combustion air distribution will normally be about 55% primary air and 45% secondary for a total excess air percentage of 90-100%, which is typical for EFW facilities. Secondary air is introduced in a manner designed to improve mixing and complete combustion.
- Steam production is expected to be 77.2 tph at 400oC and 56.5 bar (absolute). These are within the normal range of steam conditions for a typical EFW facility.

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- The economizer exit temperature is 170oC, cooler than many similar North American facilities.

c. Flue Gas Treatment Design

- The FGT system includes (in the order of the equipment arrangement in the facility from the waste feed chute to the stack):
 - Selective Non-Catalytic Reduction (SNCR) system with aqueous ammonia injection for NOx control;
 - a hot-side fabric filter baghouse (Baghouse 1) for particulate reduction;
 - powder activated carbon (PAC) injection for mercury and dioxins control;
 - a two-stage wet HCl scrubber that includes a Quench Scrubber and an HCl Absorber;
 - a counter-current flow SO₂ Scrubber system;
 - and a second fabric filter baghouse (Baghouse 2) for additional particulate and heavy metals removal.
- The proposed FGT design also includes a cross flow gas-to-gas heat exchanger mounted to the top of the HCl scrubber. This system is designed to reheat the flue gas after it exits the SO₂ scrubber to keep it from condensing in Baghouse 2 and causing a water vapour plume at the stack exit. The heat exchanger components will be made of plastic or high alloy metal to address corrosion issues. In the event the heat exchanger is not successful in maintaining the desired inlet temperatures a by-pass is proposed around Baghouse 2. However, such a bypass may not be allowed by the permitting agencies.
- Proponent's proposed guarantees meet the Region's air emission limits in the RFP and Technical Requirements.
- Proponent has included a dedicated continuous emissions monitoring system and dioxin sampler as required by the Technical requirements. In addition, a continuous mercury monitor has been included to monitor the mercury loading to the first baghouse and wet scrubbers. It is not clear whether this analyzer will be used solely for process control purposes, or for regulatory compliance as well.

d. Energy Recovery

i. Electricity Generation

- Proponent did not provide Electricity Production Guarantees in their original submission to the Regions as required in Form 4 of the RFP.
- An air cooled condenser (ACC) has been proposed as the steam condenser cooling method.
- Proponent has provided a connection design to the Hydro One power system for the facility via the 44kV substation. It will include the dead-end structure and other equipment sized for the first phase of facility operation. A set of 13.8kV power cables

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installed in underground duct banks will be terminated in 13.8kV switchgear. Main switch gear will include a main breaker and feeder breakers. Three feeder breakers are proposed with one for the current unit and two will be provided when the facility is expanded.

ii. District Heating Capability

- Proponent has provided a plan for the use of thermal energy in a future district energy system as required by the RFP and Technical Requirements. Proponent has included an extraction T-G that allows for steam take-offs that could be used to provide up to 10 MW of thermal energy for the future district energy system and has provided the physical space for the heat exchangers, pumps and other required equipment that would be used in the district energy system.
- Proponent did not provide details for the Future District Energy Output in their original submission to the Regions as required in Form 4 of the RFP.

e. Residue Handling and Recovered Materials

- Proponent is proposing to keep the bottom ash and grate siftings separate from the boiler and FGT fly ash as required by the Technical Requirements.
- Proponent will meet a Residue Quality Guarantee of less than 3% unburned combustible matter and 18% moisture in the bottom ash (versus the minimum of 25% moisture required by the RFP), but did not provide a Total Residue Guarantee as required.
- Bottom ash and grate siftings will be quenched in a water bath before being transferred to the proposed Bottom Ash Processing Building. Bottom ash will be stored for a period of two to three days in this building before going through a washing and processing system.
- The bottom ash processing system is intended to remove remaining ferrous and non-ferrous metals from the ash residue stream, and to convert the bottom ash into a marketable aggregate for construction. Proponent has experience with this process, however there are no markets identified for this material in their proposal. There is also no clear indication in the proposal of how the bottom ash will be disposed of in the event a market for this material is not identified.
- Fly ash from the convective passes of the boiler will be collected and pneumatically conveyed to a boiler fly ash storage silo. The fly ash from the FGT will also be collected and conveyed to a storage silo. The Proponent proposes to produce reusable by-products from the FGT equipment residues, including hydrochloric acid (HCl) and gypsum. The HCl recovered from the wet scrubber will be purified and concentrated (up to 20% strength) in the HCl-Rectification unit. Gypsum can also be recovered from the SO₂ scrubber residue through a cleaning and desiccation process. However, there are no clear markets defined for these by-products in their proposal.

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- Proponent did not provide ferrous metal and non-ferrous metal recovery guarantees as required in Form 4 of their proposal. However, the bottom ash processing system proposed is designed to maximize metal recovery. The proposal includes four stages of ferrous magnets and a bulky ferrous system (i.e. grizzly scalper) that are designed to optimize the product quality and rate of capture. The design also features eddy current separation to capture non-ferrous metal.

f. Balance of Plant

- Proponent has proposed a Zero Discharge Facility in accordance with the Technical Requirements. No discharge, other than from sanitary wastewater sources, will be sent to the Courtice Water Pollution Control Plant (WPCP). Proponent did not provide a detailed water balance in their proposal as required in the Technical Requirements, so the water usage requirements and discharge quantities (if any) could not be confirmed.
- Proponent discusses the possibility of using effluent from WPCP (termed “greywater” in their proposal) as make-up water to the process. However, there is no commitment in their proposal to use any water other than City water as process make-up.
- Proponent states that LEED certification of the facility will be sought to the highest practical extent possible.
- Proponent did not provide a Noise Management and Control Plan in their proposal as required. Proponent claims that they will inform the public about extended periods of noise during the construction phase of the project.

g. Expansion Capability

- Proponent has not provided sufficient detail regarding how the utilities (water, sewer, gas, electric) were sized. The Technical Specifications required onsite sizing to the 400,000 tpy facility size.
- Proposal provides for expanding the processing capacity of the facility in two equally sized phases: 1) Expansion by 140,000 tpy to increase capacity from 140,000 tpy (or base facility) to 280,000 tpy; and 2) Expansion by another 140,000 tpy to increase capacity from 280,000 tpy to 420,000 tpy. The proposed expansion plan does not meet the RFP requirements of a 110,000 tpy expansion followed by a 150,000 tpy.
- Insufficient detail is provided in the proposal to determine whether the proposed expansion plan will result in significant process interruptions.

h. Innovation

- The HCI and gypsum recovery systems were considered as innovative processes in the proposal. However, with the lack of a defined market and limited quantities for these products identified in the proposal, the commercial benefits of these innovations are unknown.

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i. Operation and Maintenance

- Proponent has provided a generic Operations and Maintenance Plan for the proposed facility but the details in the Plan regarding the preventative and major maintenance of major facility equipment are not yet developed. However, the proposal does include a detailed schedule and the associated costs for the refurbishment and/or replacement of major facility equipment for the facility over twenty years of operations. Proponent also states that a computerized maintenance monitoring system (CMMS) will be incorporated into their design to track preventative and major maintenance at the facility, but no specific product name or detail is provided.
- Proponent provides a very detailed Community Relations Plan that includes the recommended formation of a Citizens Advisory Panel (CAP). There are no details or recommendations provided in the proposal on how the CAP should be formed.

j. Construction and Permitting Plan

- Proponent has provided a guaranteed construction schedule of 1,422 days (or approximately 3 years and 11 months).
- The proposed Early Works Schedule includes Proponents Permitting Plan. Proponent assumes that the preparation of the Certificate of Approval application, MoE review, negotiations and final issuance of the permit will occur in less than a year.
- The construction schedule provided does not include sufficient contingency (i.e. additional time and project milestone overlap) to accommodate upsets or delays during the construction, commissioning and start-up of the facility.

VI. Conclusions

Proponent has failed to provide some of the technical data required by the RFP, and they did not provide substantial commercial guarantees in their original submission to the Regions. The boiler and turbine cycle design appear to be conservative with regards to the proposed steam temperature and pressure, and the result of this conservative design appears to be a highly reliable boiler. The FGT system proposed is very complex, but should allow them to meet the air emission limit guarantees offered in their proposal. Proponent has only provided a very generic description of their Operations and Maintenance Plan in the proposal, but they also provided a detailed schedule and associated costs for major refurbishments and replacements that are consistent with generally accepted industry standards and practices. The lead times and construction timelines provided in the Project Schedule are reasonable, but lack sufficient contingency to handle upsets and delays. The Early Works Schedule provided, particularly their permitting schedule, is very optimistic.

The following Table 9-4 provides an overview of the vendors ability to meet the RFP general design and operating requirements.

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Table 9-4 Vendor C – General Design and Operating Requirements

General Design and Operating Requirements		Response	Comments
1.0	The Company has offered equipment of a design, type and arrangement that meets the experience and technical requirements of the RFP, and a base-line Facility capable of processing MSW up to a guaranteed initial processing rate of 140,000 tonnes per year (426 tonne/day @ 13 Mj/kg)?	Yes	Vendor has offered a facility that features single (1) processing line capable of processing up to 436 tpd of the Regions' residual waste at a average waste HHV of 13 MJ/kg.
2.0	Proposal includes short-term expansion capabilities for processing an additional minimum 110,000 tonnes per year, and an ultimate capacity of 400,000 tonnes per year?	Yes	
3.0	Bid includes either a single (e.g. 1 x 426 tonnes per day) or dual line system (e.g. 2 x 213 tonnes per day)	Yes	Vendor has proposed a single (1) 436 tpd processing lines (or approx. 1 x 17.8 Mg/hr)
4.0	Each chute-to-stack system will maintain or exceed 90% availability (i.e. the amount of time the unit will actually be available to process waste versus the number of hours in the year)?	Yes	Vendor has guaranteed an overall facility availability of 8,000 hrs/yr (or ~ 91%)
5.0	Facility will be designed to be a zero wastewater discharge facility?		No detail provided. No water balance provided.
6.0	Minimum design useful life of the Facility is thirty (30) years?	Yes	
7.0	Proposal includes a plan/capability to satisfy the future district energy demands of the Clarington Energy Park and the Courtice WPCP?	No	Vendor has included a description in their proposal that states the facility is capable of providing up to 10 MW of thermal energy. Sufficient detail was not provided in the proposal.
8.0	Facility proposed will be operational by the end of 2013 (assuming a Jan. 1, 2010 start date)?	Yes	Vendor has proposed a 1,422 day (~3.9 years) construction schedule, which would not meet the 2013 requirement assuming an early 2010 start date.
9.0	Units capable of operating at a maximum continuous turndown (MCTD) point of 75% or better?	Yes	
10.0	Proposal satisfies the minimum Air Emission Criteria outlined in Appendix C-2 in the RFP and Table 4-1 of the Technical Requirements?	Yes	Vendor has guaranteed to MEET the Regions' RFP requirements.
11.0	Proposal complies with the Facility Expansion Capability Requirements outlined in Section 4.4 of the Technical Requirements? If not, what exceptions have been taken?		No detail provided.
12.0	Are all utilities (i.e. water, sewer, gas, electric) sized for the ultimate facility capacity of 400,000 tonnes per year?		Insufficient detail. No exceptions taken in proposal.
STRUCTURAL/CIVIL DESIGN REQUIREMENTS			

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General Design and Operating Requirements		Response	Comments
13.0	Does the proposal include a detailed layout of the proposed Facility, including: dimensionally defined layout of buildings and critical equipment; defined area for future expansion; and a clearly defined area for the future district energy system?	Yes	
14.0	Does the proposed facility include a totally enclosed maneuvering and tipping area, a totally enclosed processing building, a totally enclosed boiler building, a totally enclosed turbine area, a totally enclosed air pollution control equipment area, a totally enclosed ash handling building, and a totally enclosed administration and maintenance area?	Yes	
15.0	Is the pit storage area, pit walls, bay framing totally enclosed with reinforced concrete?	Yes	
16.0	Does the site access roads and tipping floor entrance have sufficient space to accommodate on-site queuing of the anticipated waste delivery vehicles during peak delivery times for full expanded facility (1,218 tonnes per day)?	Yes	
17.0	Are all main building enclosures a minimum of 30 meters set back from the property line?	Yes	
ARCHITECTURAL DESIGN REQUIREMENTS			
18.0	Has the Proposer provided color renderings (4 minimum per submission) and key site plan, material sample boards, and description of treatment material types and finishes that depict the actual proposed architectural treatment for the facility?	Yes	
19.0	Has the vendor provided a minimum of 5 offices (minimum 14 square meters each in size) for the Regions' staff and MoE staff?		Insufficient detail.
20.0	Does the proposed facility design include a Visitor Education Center capable of holding up to 100 people?	Yes	The proposal states that a Education Center is included. No detail provided.
21.0	Has a central control room been provided in the proposal?		Insufficient detail.
MECHANICAL/EQUIPMENT DESIGN REQUIREMENTS			
A. Solid Waste Handling			
22.0	Is the tipping floor designed for a minimum of four (4) days storage at the expanded Facility capacity of 250,000 tonnes per year (or minimum storage of 2,740 tonnes)?	Yes	The pit design as stated in the proposal provides more than four (4) days storage.
23.0	Tipping Floor slab is reinforced concrete with a 80 mm thick minimum wear layer of high strength unreinforced concrete	Yes	

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General Design and Operating Requirements		Response	Comments
24.0	Does the tipping bay have individual tipping bays and tipping bay doors?	Yes	Tipping bays available for up to seven (7) waste delivery vehicles. Individual tipping bay doors were provided.
25.0	Has an odour control plan been provided in the proposal?	Yes	
26.0	Does the proposal include at least two (2) refuse cranes capable of handling solid waste ranging in density from 180 to 500 kg/cubic meter?	Yes	
27.0	Pulpit designed for full hopper viewing and sized to accommodate a minimum of two crane operators and control consoles and allow operation of all cranes at the same time.	Yes	
B. Combustion System			
28.0	Has the furnace been designed to provide at least a one second retention time at an incineration temperature of 1000°C in the combustion zone (measured from the final combustion air injection port)? Has the Proposer proposed a method to continuously monitor and record the temperature in the furnace?	Yes	Referenced in Proposal that design complies with requirements - no specific protocol or calculations provided as back-up.
29.0	Has the Proposer provided a firing diagram that at a minimum shows the acceptable operating range of the proposed grates over the range of waste HHVs and throughputs?	Yes	
30.0	Has the Proposer provided refractory or inconel cladding in the furnace section that extends upward from the grate to the top of the fireball?	Yes	
31.0	Auxiliary burners provided are of a low NOx design and capable of preheating the furnace to 1,000°C during boiler start up?	Yes	
32.0	Is the maximum gas velocities through the furnace and the convection sections of superheater and economizer 6.0 m/sec?	Yes	
33.0	Minimum and maximum steam pressures are between approximately 4 MPa and 6 MPa?	Yes	Boiler design is <6 Mpa.
34.0	Minimum of 800 mm between each superheater section?		Insufficient detail. No exceptions taken in proposal.
35.0	Maximum continuous rating (MCR) of 426 tpd @ 13 Mj/kg?	Yes	
36.0	Does each proposal include a minimum of one underfire air fan, one secondary air fan or overfire air fan, and one induced draft fan that are equipped with variable frequency drives (VFDs)?	Yes	
C. Air Pollution Control Equipment			

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General Design and Operating Requirements		Response	Comments
37.0	Has the Proposer guaranteed emission levels equal to or less than the values listed in Appendix C-2 of the RFP and Table 4-1 of the Technical Requirements?	Yes	Vendor has guaranteed to MEET the Regions' RFP requirements.
38.0	Has the Proposer provided a means of reducing acid gases, NOx control, mercury and dioxin control, and a high efficiency particulate collection system?	Yes	
39.0	Has the Proposer provided continuous emissions monitors as required in the Technical Requirements, including a continuous dioxins sampling system?	Yes	
40.0	Is the minimum flue gas temperature exiting the acid gas scrubber 150°C?	Yes	
41.0	If a pulse jet type baghouse is proposed, is the net air-to-cloth ratio no greater than 1.2:1 m/min under the maximum flue gas flow conditions w/ one module offline?	Yes	
42.0	If a reverse air type baghouse is proposed, is the net air-to-cloth ratio no greater than 0.6:1 m/min under the max flue gas flow conditions with one module offline?		Not applicable.
43.0	Does the baghouse proposed include a filter bag leak detection system?		Not specified.
44.0	Is the stack designed for an exit gas velocity (each flue) of 15-18 meters per second?		Not specified in original proposal. Clarified in follow-up letter.
D. Ash Handling System			
45.0	Does the proposed facility include separate collection of bottom ash and fly ash (i.e. boiler ash and air pollution control fly ash)?	Yes	Bottom ash handled separately from Fly ash
46.0	Is the system designed for a minimum number of transfer points?		No detail provided.
47.0	Is the bottom ash building designed for a minimum of four (4) days storage for 1,218 tonne per day facility?		No detail provided.
48.0	Proposer has furnished two (2) 50% capacity fly ash storage silos with a combined storage capacity for four (4) days at 761 tonne/day?		No detail provided.
49.0	Has the vendor provided a ferrous and non-ferrous recovery system capable of at least 80 percent recovery of all material greater than 2.5 cm and less than 15 cm?		No detail provided.
E. Power Generation			
50.0	Has a regenerative cycle turbine with multiple extractions for in-plant usage been provided that is designed to accept all of the steam produced by the Facility at MCR?	Yes	
51.0	Have Energy balances been provided for all boilers at MCR (426 tonnes at 13 MJ/kg)?	No	Insufficient detail provided.

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General Design and Operating Requirements		Response	Comments
52.0	Does the turbine-generator has a design backpressure of 127 mm Hg or less at all outdoor ambient dry bulb temperatures?	Yes	Design backpressure of 127 mm Hg (abs) proposed.
53.0	Does the design package include the necessary provisions and space to incorporate a future district heating system, including an overview of the proposed concept to recover thermal energy and an implementation plan describing the plant modifications and equipment required for the future district heating system?		Insufficient detail provided.
54.0	Does the proposed Facility have a means of dumping steam while continuing to process MSW @ MCR?		Insufficient detail provided.
55.0	If a alternative cooling system is proposed, has the vendor proposed a vapor plume abatement type cooling system?		Not applicable.
56.0	Design assumes that the make-up water requirements for the alternative cooling system will be supplied by effluent water from the nearby Courtice WPCP		Not applicable.
57.0	Has at least one (1) 100% capacity electric feed pump and one (1) 100% steam driven feed pump to supply feed water at plant MCR been provided?	Yes	One (1) 100% electric driven boiler FW pump, and one (1) 100% steam driven FW pump.
58.0	Have two (2) 100% or three (3) 50% base Facility capacity vertical turbine canned condensate pumps, motor drives, and associated accessories been provided?	Yes	
59.0	Have a minimum of two (2) full capacity air compressors w/ aftercoolers, two (2) air receivers, one (1) air dryer w/ bypass capabilities, and associated accessories been included in proposed design?	Yes	
60.0	Has a complete, automated electronic inbound & outbound scale system been included?	Yes	
Electrical And I&C Design Requirements			
61.0	Does the proposed design utilizes VFD's on the FD, ID, ACC (if applicable) and SA fans?	Yes	
62.0	Does the proposal include all system metering, controls, and protection required by Hydro One and this independent system operator?	Yes	
63.0	Has a 44 kV transmission line between the Facility step up substation and Hydro One interconnection point been included?	Yes	
64.0	Does the generator design provided meet the specifications listed in section 9.8 of the Technical Requirements?	Yes	
65.0	Is the instrumentation and control system for all equipment integrated into a DCS?	Yes	

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General Design and Operating Requirements		Response	Comments
66.0	Has a real time display of Facility emissions been furnished in the proposed design?	Yes	

* Proposer may propose conditions other than these, subject to the Regions' approval. For any deviations, the Proposer shall have demonstrated operating experience at the proposed conditions and provide information on facilities that utilize the proposed technology.

9.2.2 Evaluation of Submissions

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

The Region engaged KPMG to monitor from a fairness perspective, the RFP Process from its commencement to the announcement of the preferred proponent. KPMG's approach to monitoring the fairness of the evaluation process was based on a set of fairness principles that KPMG had developed describing the foundation of a fair process. KPMG's role was solely that of an observer to the RFP process (see Section 9.2.1.3 for more details).

A multi-disciplinary evaluation committee evaluated the four proposals and the committee consisted of representatives from Durham Works and York Transportation and Works Departments and the Durham Finance Department. Technical consultants, HDR Corporation, and financial consultants, Deloitte & Touche LLP, assisted the evaluation team in their deliberations. Staff from Durham Purchasing and Legal Services provided day to day advice, guidance and assistance to the evaluation team. In order to ensure absolute confidentiality and to maintain the integrity of the process, all staff and consultants involved in the process signed confidentiality agreements.

A participation agreement was signed by each of the qualified proponents that set out the terms and conditions for access to the Data Room and confirmed their agreement to abide by the provisions of the procurement process, including the RFP.

RFP information (such as addenda to the RFP, questions from potential respondents together with the answers from the Regions) was provided to qualified proponents via the Region's Data Room. Access to the Data Room was limited to members of proponent team members, consultants and advisors that had signed the Participation Agreement.

Questions and answers were posted to the Data Room. As questions were received, they were reviewed by the Procurement Team Leader and distributed to technical, legal and/or financial personnel to draft a proposed answer. Draft answers were reviewed by the Procurement Team Leader for clarity, completeness and consistency. Questions and answers were then assembled periodically but on a frequent basis into question and answer sets, and posted to the Data Room. In total, 91 Request for Information Forms were submitted and Addenda 1 through 35 were issued (see Table 9-5 for Addenda).

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Table 9-5 Addenda Issued During the RFP Process

Addendum Number	Subject	Purpose of Addendum
1	Appendix C2 – Air Emission Criteria	A clarification of the measurement unit from *g/Rm3 (original RFP) to µg/Rm3 (Addendum #1)
2	Dual vs. Single Line System	The Preferred Proponent was given the option to bid either a dual or single line system.
3	Geotechnical Site Investigations	The Geotechnical Report that was available in the Data Room was the only geotechnical information supplied to the Proponents. Further information required by the Proponent was their responsibility and was to be obtained at their own cost and risk.
4	Airport Zoning Regulations	Direction to the location of additional details regarding Airport Zoning Regulations.
5	Waste Composition Data	The Regions provided two 2007 waste audits for additional information.
6	Revised RFP Closing Date	The closing date for the RFP was amended from January 15, 2009 to February 19, 2009.
7	Facility Capacity and Potential Future Expansion	Clarification regarding the operational date and future expansion scenarios.
8	Heating Values for Municipal Solid Waste	Provided additional clarification and specific revisions regarding heating values for municipal solid waste as the basis for design and guarantee requirements for throughput capacity for the energy from waste Facility.
9	Equipment Orders	The Regions were not prepared to commit funds to, or otherwise assume the risks of, equipment orders made in advance of the issuance of the Notice to Proceed under the Project Agreement.
9A	Revision to Addendum #9	Clarification of the target operational date.
10	Potential District Heating System	Provided additional clarification and specific revisions regarding the Regions' intentions and the requirements of the RFP pertaining to utilization of the Facility as an energy source for a potential district heating system within the future Clarington Energy Park.
11	Early Works Activities	Provided additional clarification and specific revisions regarding delineation of the roles and responsibilities of the DBO Contractor, the Regions and the Region's Consultants in the context of the approvals processes and the Early Works activities associated with development of the proposed energy from waste Facility.
12	Clarification Questions and Answers	Questions submitted by Proponents and answers provided by the Regions regarding renderings of architectural details; availability of sites for construction parking and laydown and for soil removal and storage; location of the visitors' centre; Early Works permits and applications requirements.
13	Canadian Aviation Regulations	Height limitations for Facility and stack.
14	Breakdown of Fixed Construction Price	Form 2A is for information purposes only and is not binding in any way.
15	Revised Schedule	Dates changes for the Issuance of the 2 nd Draft Agreement and Early Works Agreement and the Final Project Agreement and Final Early Works Agreement
16	500 kWh per tonne reference	The reference to 500 kWh per tonne in Section 4.5.1.1.1 of the RFP is a NET number.
17	Water and Sewer Use By-laws	A link to the Region's Water Supply System and the Establishment of Water Rates and Water Charges (By-law 89-2003 plus amending By-laws) and the Establishment of Sewer Surcharge Rates and Sewer Charges (By-law 90-2003 plus amending By-laws) was

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Addendum Number	Subject	Purpose of Addendum
		provided.
18	Technical Requirements – Revision 1	Technical Requirements – Revision 1 was posted in the Data Room.
19	Milestone Payment Schedule	Revised Form 2C provided.
20	Courtice Water Pollution Control Plant Information	Provided a representation of the quantity and quality of effluent from the Courtice WPCP.
21	Handling of Household Hazardous Waste and Radioactive Waste	Further clarification and definition of the Vendor's handling responsibilities with respect to Household Hazardous Waste and Radioactive Waste as defined in the Project Agreement definition for "Hazardous Substance".
22	Communications and Community Relations Plan	Wording in original RFP regarding communications and the community relations plan revised.
23	Minimum Net Continuous Capability at Generator Terminals	The minimum net continuous capability at generator terminals was amended to a 0.85 power factor, KVA.
24	Transmission Capacity for the EFW Facility	Clarification regarding the transmission and breaker capacity.
25	Collection Hoppers	Rotary valves were determined to be acceptable and information was inserted into Section 8.13.1 of the RFP
26	Hydrostatic Tests	Clarification regarding the hydrostatic test pressure in Section 11.3 of the RFP.
27	Appendix 1 Technical Requirements	Proponents may provide comments or recommended changes up to and including December 12, 2008.
28	Region's Water Quality Reports	A link to the Water Quality Reports was provided.
29	Form 4 Performance Guarantees	Revision to Form 4.
30	Form 4 Performance Guarantees	Revision to Form 4. Addendum #30 supersedes Addendum #29.
31	Forms 2A, 3, 3A, and 3B	Clarification regarding annual property taxes and revised Forms 2A, 3, 3A, and 3B.
32	Ineligible Team Members	Identified entities that are not eligible to participate as a member of a Project Team or in the preparation of a Proposal.
33	Odour and Noise Plans	Proponents must present Odour and Noise Control Programs and provide organization charts for identifying key positions and interactions of personnel.
34	Revisions to sections 5.3.3, 5.3.4, and 5.3.5 of the RFP.	Revisions to the Evaluation of Technical Elements (Section 5.3.3), Evaluation of Project Delivery Elements (Section 5.3.4), and Evaluation of Cost and Commercial Elements (Section 5.3.5).
35	Submission of Proposals	Proponents were required to submit one original and ten copies of their proposals. Each copy was to contain an electronic version.

In accordance with the provisions of Section 2.9.2 of the RFP, the Regions considered various questions from Proponents that were marked by the Proponents as "commercial in confidence" and determined based on the nature of the question and the supporting justification whether the question warranted confidential treatment. Where the request to treat the question as confidential was justified, the response was circulated only to the Proponent that had made the inquiry. When the Region did not believe that confidential treatment was warranted, as provided for in the RFP, the Proponent was given an opportunity to withdraw the question and if the question was not withdrawn, the question and the answer were posted to the Data Room.

Commercial in confidence meetings were held with each Proponent to (a) provide the Regions' representatives with familiarity of the designs and concepts proposed by proponents; (b)

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providing proponents with some comments and feedback from the Regions on the general acceptability of particular solutions proponents might have been considering for various aspects of their Proposals, and (c) provide an opportunity to each proponent to raise issues or concerns. An initial meeting was held with each proponent for one day each from October 5 to October 9, 2008, inclusive. A second round of commercial in confidence meetings was offered to the proponents, and four of the teams (Green Conversion, Covanta, Wheelabrator and Veolia) elected to participate. These meetings were held on November 4 and 5, 2008. The Regions used reasonable efforts to distribute to all proponents any new information provided by the Regions to any proponent during the meeting, save and except information that was considered by the Regions to qualify as “Commercial in Confidence” according to the provisions of the RFP Selection Framework.

After closing, but prior to the committee’s evaluation, Durham Purchasing requested confirmation from all qualified proponents that they would sign the Project Agreement substantially in the form provided within the RFP.

9.2.2.1 Evaluation of Mandatory Criteria

RFP Respondents who met the following Mandatory Criteria (Table 9-6) proceeded to the evaluation of Rated Requirements.

Table 9-6 RFP Mandatory Requirement

Stage 1: Mandatory Requirement	
Criteria	Description
Closing Time	To be eligible for consideration, the Proposal had to be received on or before the Closing Time at the delivery address

9.2.2.2 Evaluation of Rated Criteria

The assessment criteria utilized in the evaluation process of the Technical Elements were developed in consultation with the technical advisors to ensure that the EFW facility selected could be considered “best in class”. The individual component scoring was based on the extensive experience of the technical advisors.

The assessment scoring for each component of the Technical Elements cannot be judged in isolation of one another as they are interconnected and reliant on each other to demonstrate a viable design and operation. The assessment is therefore not a selection of components chosen from various proposals to create a facility from basic principles. The principles used to guarantee a viable and “best in class” facility were as follows:

- a. Stating guarantees in a form without substantive details in overlapping areas of the evaluation was deemed insufficient to support a “best in class” assessment. In some cases, the lack of completeness in the submission could not back the guarantee claims made;
- b. The evaluation criteria and process was designed to ensure that there were adequate ‘checks and balances’ in the evaluation to ensure a uniform, integrated facility design was submitted. The RFP was designed to ensure that a bid with one or two good features did not ‘win’ by skewing the scoring;

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- c. Category weightings were determined based on the actual measurability of the criteria. Where actual quantitative design details could identify clear advantages, those criteria were given higher weightings. Other criteria, where evaluation was more qualitative than quantitative, were given lower weightings such as Air and Water versus Noise and Odour. The latter two categories are more based on qualitative 'plans', allowing for more subjective review than the actual measurable air and water categories; and,
- d. Two key areas of consideration in the RFP were the Operation and Maintenance and Facility Design. These two areas are significantly related to annual operating performance of the facility and the credibility of the environmental guarantees offered in the Environmental subsection.

A holistic evaluation of the facilities is only possible at the main category level as listed below:

- a. Technical Elements total points available: 45
- b. Project Delivery Elements total points available: 20
- c. Cost & Commercial Elements total points available: 35

Any attempt to evaluate the selection of a "best in class" facility at an intermediate level discounts the application of the evaluation principals. The interconnectivity of the facility components also precludes determining the environmental impacts of the EFW based on a component scoring. The compatible and viable design, operation, maintenance and monitoring are critical to validation of guarantees in the proposals. The assessment process also guarantees the best overall environmental performance through realistic guarantees, proven design, reliable operation, preventative maintenance, confirmatory monitoring, quality assurance and when necessary timely emergency response.

The above evaluation principals were validated given that the winning Covanta proposal presented a "best in class" facility substantiated by an assessment whereby they earned the highest overall score, the highest score in each of the three categories and achieved the greatest number of first place rankings in the individual components.

Scorings of the proposals was based upon a maximum of 100 points. A breakdown of the individual criteria, provided to the proponents, is provided in Tables 9-4 and 9-5. Prior to the evaluation process the Evaluation Team and the Fairness Monitor (KPMG) "locked-down" the detailed scoring factors that would be applied during the evaluation. In addition, the Evaluation Team and KPMG agreed that the proposal with the highest aggregate score would be recommended to the respective Regional Councils.

The evaluation of the four proposals utilized templates with prescribed scoring based on the submission narratives, forms and models. Each assessment component was scored out of ten possible points and multiplied by the weighting as illustrated in the following sub-sections.

9.2.2.3 Technical Considerations

On Wednesday, May 28, 2008 Durham Regional Council passed a resolution requiring the successful proponent to ensure that the design and installation of the Thermal Treatment Facility incorporated the most modern and state-of-the-art emission control technologies. These technologies were required to:

- Meet or exceed the lower of the Ontario Guideline A-7 and European Union (EU) air emission monitoring and measurement standards;
- Commit to Maximum Achievable Control Technology (MACT) for air emission standards and monitoring;
- Include provisions or continuous sampling of dioxins in addition to stack testing, as defined by EU2000/76/EC and MOE A-7 guidelines;
- Demonstrate the ability to design, build and operate a Thermal Treatment Facility of 140,000 tpy of operating capacity at project start-up, based upon:
 - Durham Region providing 100,000 tpy of post-diversion waste commencing at project start-up;
 - York Region providing 20,000 tpy of post-diversion waste commencing at project start-up; and,
 - Surplus capacity totalling 20,000 tpy of operating capacity to be shared equally between the two Regions;
- Demonstrate an ability to accommodate future expansion (scalability) as required to accommodate post-diversion residual waste volume growth up to maximum capacity of 400,000 tonnes per year; and,
- Demonstrate an ability to meet the requirements of up to a 25-year design, build and operate contract, with terms and conditions to be set out within RFP documentation.

As directed by Regional Council, the RFP was issued based on discussions with the Province at the time regarding air emission criteria and power purchase principles and with the understanding that the project must support Durham's aggressive residual waste diversion and recycling program, to achieve and/or exceed, on or before December 2010, a 70% diversion rate for the entire Region, with these programs continuing beyond 2010.

The RFP and subsequent addenda required proponents to meet the Council resolutions and additionally provide:

- A single or dual line system with a minimum of 90% operational availability;
- A zero process water discharge facility; and
- Maximum energy production both as superheated steam used to generate electricity and potentially district heating for use in the Courtice WPCP and the Clarington Energy Park.

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Any district heating outside of the Energy Park could be considered on the basis of a larger area district heating feasibility plan.

A total of 45 points were assigned to Technical Elements.

Of the 45 Technical Element points, up to 25 points were allocated to environmental considerations. The RFP required all proponents to provide guarantees that they would meet the air emission table limits adopted by Durham Council. The evaluation matrix assigned additional points to any proposal with lower air, water, odour and noise emissions; a demonstrated plan for ease of Facility expansion with minimum process disruption; superior management of ash; and a greater energy production and recyclable material recovery;

Design, Construction and Operational Considerations accounted for up to 15 Technical Element points. Evaluation focused on provision of guarantees for process availability with an expectation that the Facility would operate continuously for a minimum of 90% of the time. Proposals were also evaluated on the ability to accelerate the required construction schedule and guarantee the projected time lines. Evaluators assigned additional points for continuous operation above 90% or for a shorter construction timeframe. This category examined the robustness of the proposed system; the technical feasibility of the proposed process equipment; and that the proponent had proposed only proven, reliable Air Pollution Control Equipment. Evaluators appraised proposed Facility operations and maintenance plans to ensure that plans provided for annual maintenance and, multi-year maintenance including major equipment replacement and maximum residual value at the end of the contract. The evaluators also awarded points for high quality Environmental Management Systems compliant with ISO 14001:2004; Health and Safety Plans and Training Plans.

The final five (5) points in the Technical Elements were awarded for innovations in Environmental Performance, Design, Construction and Operational Considerations.

The above three categories could not be considered in isolation as environmental considerations would impact the design, construction and operational considerations along with potential innovations. Within the technical elements section, the Covanta proposal scored top marks in more individual sections than any of the other proposals. This is reflected in the overall scoring and ranking of the four proposals. There were instances where the successful proponent did not score the top marks for an environmental section but for reasons of net environmental benefits, increased or unknown risk, design and operational reasons, the Covanta proposal was rated the best overall. The RFP evaluation process does not recommend individual components of the EFW facility but the entire proposed package. Each proponent's system components are integral to the whole and operate most efficiently within the know configuration.

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Table 9-7 Technical Elements (Total of 45 Points)

<p>Air – RFP Form 4 Section 8 – points awarded based on number of pollutant elements and the degree of reduction below with guaranteed emission limits below those defined in Table 4-1 of Appendix 1 and Appendix C-2 of the RFP.</p> <p>Weighting – 0.6</p>	<p>0 - Does not meet Technical Requirements – Appendix C2. 1-4 Not applicable 5 - 10 Meets minimum emission requirements of Appendix C2 and Guarantees Table in Form 4 of RFP submission.</p> <p>The vendors may score additional points in the evaluation by providing Environmental Performance Guarantees in addition to the requirements specified in Appendix C2 for the following air contaminants:</p> <ul style="list-style-type: none"> • Total Particulates • Oxides of Nitrogen (or NOx); • Sulfur Dioxide (or SO₂); • Hydrogen Chloride (or HCl); • Hydrogen Fluoride (or HF) • Carbon Monoxide (or CO) • Mercury • Cadmium • Lead • Cd+ Th • Sum of As, Ni, Co, Pb, Cr, Cu, V, Mn and Sb) • Dioxins and • Organic Matter. <p>Each of the above-mentioned air contaminants shall be weighted equally in the scoring, according to the following criteria:</p> <p>Additional Points</p> <p>0.096153846 points 0-20% additional reduction of the specified air contaminants below the limits specified in Appendix C-2 .</p> <p>0.192307692 points 21-35% additional reduction of the specified air contaminants below the limits specified in Appendix C-2.</p> <p>0.288461538 points 36-50% additional reduction of the specified air contaminants below the limits specified in Appendix C-2.</p> <p>0.384615385 points >50% additional reduction of the specified air contaminants below the limits specified in Appendix C-2.</p>
<p>Water – points awarded based on decreased use of potable water for facility processes – e.g., less reliance on purchased potable water for process make-up water.</p>	<p>This evaluation only deals with process water for the facility and does not cover internal office use water.</p> <p>0 - Has process effluent from plant combustion process. 1 - Zero process discharge with potable water use only for the entire facility. (i.e. no attempt to include any alternative water supply). 2-4 - Zero process discharge with up to 50% of process water requirements from sources other than potable water (eg. storm water, WPCP effluent). 5-7 - Zero process discharge with greater than half (51% or more) of process water requirement from other sources. ie minimal reliance on purchased potable water. 8-10 - Zero process discharge with 80 - 100% use of alternative water sources beyond potable water for process water.</p>

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<p>Weighting – 0.35</p>	<p><u>SCORING GUIDELINES</u></p> <p>0 – Does Not Meet 1 – Just Meets Minimum Requirements 2-4 – Progressing Towards Expectations 5-7 – Meets Expectations 8-10 – Exceeds Expectations</p>
<p>Ash management – points awarded based on bottom ash quality and increased diversion through the beneficial reuse and/or stabilization of process residues (i.e. less reliance on landfill and greater marketability of bottom ash up to and including and process guarantees). Substantive evidence required to support claims.</p> <p>Weighting – 0.3</p>	<p>0 - Ash quantity and quality does not meet the specifications (Form 4, Section 4) and no fly ash management plan. 1 - Long-term landfill contract for bottom ash disposal in-place and management plan for fly ash handling and disposal. 2-4 - Beneficial reuse of between 50% and 75% of bottom ash. Management plan for fly ash handling and disposal. 5-7 - Beneficial reuse of between 50% and 75% of bottom ash AND 100% fly ash stabilization. 8-10 - Beneficial reuse of 76% to 100% of bottom ash AND 100% fly ash stabilization.</p> <p>Beneficial reuse – lowest benefit is use as daily landfill cover at standard tipping and disposal cost rates; increased points if proponent provides guaranteed preferential pricing for bottom ash as daily landfill cover; highest benefit is use as other marketable products – ie asphalt – must be able to substantiate use through existing examples, sample test analysis data</p> <p><u>SCORING GUIDELINES</u></p> <p>0 – Does Not Meet 1 – Just Meets Minimum Requirements 2-4 – Progressing Towards Expectations 5-7 – Meets Expectations 8-10 – Exceeds Expectations</p>
<p>Odour – points awarded based on comprehensive detailed plans for i) odour control during both construction and operation phases. Defined process for managing (receiving, logging,</p>	<p>Potential sources of odour. Mitigation measures Regulatory Controls</p> <p>0 - Odour control plan not provided or odour control plan fails to meet minimum requirements set out in RFP Section 4.5.3.1.14 and Tech Spec. 1- Plan meets minimum requirements of the technical specifications. (ie negative air pressure in bunker and tipping floor; proper doors and enclosures, etc as per Tech Spec requirements.) 2-4 Generic plan with more details. (not only meets the Tech Spec requirements but moves towards odour control during scheduled and unscheduled shut downs for the entire facility. 5-7 Tailored generic plan (ie. more project specific) version with details as per 2-4 scoring. Plan clearly reflects MOE requirements</p>

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<p>investigating and resolving) complaints. Weighting – 0.125</p>	<p>for typical waste management facilities with specific reference to incineration – plan takes into account odour control during shut downs, seasonal variations/effects, day-to-day operations. 8-10 Detailed plan and process with annotated Table of Contents, describing how the operator deals with MOE regulators and public complaints. Integrates odour control plan with facility operations protocol, equipment and system controls. Descriptive procedures for tracking, analyzing, assessing, reporting and mitigating odour control concerns. <u>Addendum to ask for Odour Control Plan in RFP Section 4.5.3.1.14</u></p>
<p>Noise – points awarded based on comprehensive detailed plans for i) noise control during both construction and operation phases and ii) defined process of managing (receiving, logging, investigating and resolving) complaints. Weighting – 0.125</p>	<p>Potential sources of noise. Mitigation measures Regulatory Controls 0 - Noise control plan not provided or noise control plan fails to meet minimum requirements set out in Section 4.5.3.1.15 and Tech Spec 4.4.14. 1- Plan meets minimum requirements of the specifications. No separation of construction versus operation phases of project – simply acknowledges local and provincial minimum noise level requirements and time constraints. 2-4 Generic plan with more details. Identifies separate plans for construction and operations phases of project. Identifies requirements of Technical Specifications for facility construction. 5-7 Tailored generic plan (ie. more project specific) version with details as per 2-4 scoring. Clear distinction of noise related concerns during construction and operations phases. Clearly identifies processes and plans for minimizing noise during daily operations; design incorporates noise mitigation techniques (building enclosures, berms, insulation, and other noise mitigation features). 8-10 Detailed plan and descriptive processes with annotated Table of Contents for both Construction and Operations phases identifying how the operator will deal with MOE regulators and public complaints. Descriptive procedures for tracking, analyzing, assessing, reporting and mitigating noise control concerns. Plan recognizes and takes into account the interaction with the future prestige Energy Park plan as opposed to a heavy industrial area. <u>Addendum to ask for Noise Control Plan in RFP Section 4.5.3.1.15</u> <u>Section 4.5.2.2.7 already requests a Nuisance Plan to be submitted under this clause for the Construction Phase</u></p>
<p>Energy Recovery – points awarded based on energy recovery above the minimum design criteria – e.g. higher electrical generation while still meeting the minimum district heat requirements. Weighting – 0.5</p>	<p>0 - Does not produce net minimum 500 kW hours per tonne required and cannot meet district heat requirements as per Tech Spec. and Form 4. 1- Just meets minimum net 500 kW hours per tonne and provides an acceptable plan for district heat requirements as per Tech Spec. and Form 4. 2-4 - Minimum net electrical guarantee between 501-600 kW hours per tonne and provides an acceptable plan for district heat requirements as per Tech Spec. and Form 4. 5-7 - Net electrical guarantee between 601-700 kW hours per tonne and provides an acceptable plan for district heat requirements as per Tech Spec. and Form 4. 8-10 - Net electrical guarantee more than net 700 kW hours per tonne and provides an acceptable plan for district heat requirements as per Tech Spec. and Form 4.</p>
<p>Recovered Materials</p>	<p>0 - Does not meet the Tech Specs for the metal recovery systems. No or unacceptable Marketing Plan.</p>

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<p>Management – points awarded based on improved methods and efficiencies of recovery and comprehensive marketing plans, up to and including potential guaranteed floor pricing.</p> <p>Weighting – 0.1</p>	<p>1 - Has a ferrous recovery system for bottom ash and a Marketing Plan to sell recovered material.</p> <p>2-4 - Has a ferrous and non-ferrous recovery system and a Marketing Plan To sell each individual recovered material.</p> <p>5-7 - Guaranteed floor price for some materials and recovery of some additional materials (eg. some presort for selected recyclable materials) and supporting Marketing Plans for each item.</p> <p>8-10 - Comprehensive recovery of pre and post materials. Guaranteed floor price for all materials.</p>
<p>Capacity and Expansion Capability – points awarded based on ease of incremental expandability to ultimate 400,000 tpy Facility capacity.</p> <p>Weighting – 0.4</p>	<p>0 - Initial plant designed to less than 140,000 tpy capacity or does not show expansion capability to minimum 250,000 tpy and to ultimate 400,000 tpy. On-site utilities are not scalable to ultimate 400,000 tpy.</p> <p>1 - Initial Plant designed to 140,000 tpy meeting the specified requirements with expansion capability designed to meet the first expansion to a minimum 250,000 tpy. On-site utilities are scaled to 400,000 tpy ultimate phase however Ultimate 400,000 tpy facility not clearly or only conceptually identified.</p> <p>2-4 - Expansion plans to meet the first expansion to the minimum 250,000 tpy requires minimal modification of the building envelope with shutdowns between two to six months. On-site utilities designed initially or scalable to meet ultimate 400,000 tpy facility.</p> <p>5-7 - Clearly detailed plans for the expansion to the minimum 250,000 tpy facility indicating no process interruptions beyond regularly scheduled shutdowns (ie. Less than two months). On-site utilities designed initially or scalable to meet ultimate 400,000 tpy facility.</p> <p>8-10 - Detailed site plan for expansion from 140,000 tpy to 250,000 tpy to 400,000 tpy which accommodates traffic, storm water management, avoids teardown, describes the efficiency of the phased implementation program and an approach to streamlined approvals.</p>
<p>Guarantees – points awarded based on the extent that the reduced project Construction Period Guarantee (Form 4 Section 1) and increased points for greater Guaranteed Facility Availability guarantee (Form 4 Section 7).</p>	<p><u>GUARANTEES</u> (Reduce project length and greater availability.)</p> <p><u>Schedule</u> (Construction activity schedule as per Form 4 with relative scoring based on detailed/validated justification of the timeline)</p> <p>0 - Do not provide construction duration guarantee</p> <p>1-3 Construction duration that goes beyond 34 months from Notice to Proceed</p> <p>4-5 Construction duration >32 to 34 months.</p> <p>6-7 - Construction duration 30 to 32 months.</p> <p>8-9 - Construction duration 28 to <30 months.</p> <p>10 - Less than 28 months.</p>

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<p>Weighting – 0.1</p>	<p>Availability (Availability as per Form 4 with relative scoring based on detailed/validated justification)</p> <p>0 - Less than 90% availability. 5 - At least 90% availability. 6-7 - 90% to 92% availability. 8-9 - 92.1% to 94% availability. 10 - Greater than 94% availability</p>
<p>Facility design – points awarded based on the extent that the facility design proposal exceeds the minimum Technical Requirements, and for additional details/clarity of the design concept – i.e., level of detail in the basis of design and in required drawings.</p> <p>Weighting – 0.7</p>	<p>0 - The Facility design does not meet the minimum design criteria set forth in the Technical Requirements and bidder fails to provide the minimum required information and drawings required in Form 5 of the RFP. 1 The Facility design meets critical (i.e. facility throughput and environmental performance) required design criteria set forth in the Technical Requirements and Form 5, any information missing is either not applicable or inconsequential 2-4 The Facility design meets critical (i.e. facility throughput and environmental performance) and most of the other required design criteria (including reliability and energy recovery as a minimum) set forth in the Technical Requirements and Form 5, any information missing is either not applicable or inconsequential 5-7 The Facility design meets critical (i.e. Facility throughput and performance) and the majority (eg. 85%-90%) of the required design criteria set forth in the Technical Requirements and Form 5, and any information missing is either not applicable or inconsequential. 8 – 10 The Facility design exceeds the minimum design criteria set forth in the Technical Requirements using proven technologies/methods with an emphasis on maximizing one to all of the following performance parameters: 1) facility throughput; and/or 2) reliability; and/or 3) energy recovery; and/or 4) environmental performance.</p>
<p>Facility operations and maintenance – points awarded based on the level of detail and extent to which Annual, Five Year and Life Cycle O& M plans meet or exceed the Technical Requirements and generally accepted industry standards.</p> <p>Weighting – 0.6</p>	<p>Refers to RFP Section 4.5.3 (Generic through to detailed and comprehensive plans that include facility annual, five year and life cycle maintenance plans to be submitted as Appendices 28, 29A and 29B)</p> <p>0 - Missing or substantially incomplete Operations and Maintenance Plans provided so not meet the requirements set out in the RFP and the Technical Requirements (Reference Appendices 28, 29 A&B). 1-4 The O&M plan meets critical proposal submission requirements (4.5.3.1/.1 to .9) and requirements as set forth in the Technical Requirements and Form 3, any information missing is either not applicable or inconsequential 5-7 The O&M Plan meets the general industry standards of care for main elements of the facility (listed below) and plan is sufficiently detailed to demonstrate a credible plan integrated with the overall proposal 8-10 - The O&M Plan that exceeds the minimum requirements set forth in Section 4.5.3 of the Technical Requirements and the current industry standard, including a detailed maintenance/capital replacement plan for the facility AND minimizes project costs and maximizes revenues. (in particular, 4.5.3.1 / 10 / 11 / 13).</p> <p>Based on HDR’s evaluation of how well the submission meets or exceeds the Technical Requirements Appendix Includes but not limited to:</p>

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	<ul style="list-style-type: none"> • Buildings, grounds, structures and infrastructure • Electrical systems and instrumentation • Mechanical equipment, pumps etc • Mobile equipment • Lab / monitoring and sampling equipment • HVAC • Communication • Computer equipment • Control facilities
<p>Innovation - Points awarded based on innovation elements based on degree of identification and control of risks; environmental, economic, and social benefits; added value and demonstrated ability within the proposal to actually implement.</p> <p>Weighting – 0.5</p>	<p>0 - No innovations beyond scope of the contract.</p> <p>1 - Innovative, but unproven and no commercial benefit. Plan is sufficiently well elaborated to confirm high likelihood of implementation within time frame of the project.</p> <p>2-4 - Innovative and proven technology with identified and controllable risks and minor commercial or environmental benefit; Plan is sufficiently well elaborated to confirm high likelihood of implementation within time frame of the project.</p> <p>5-7 - Innovation would provide minimal risk and moderate economic or social/ environmental benefit. Plan is sufficiently well elaborated to confirm high likelihood of implementation within time frame of the project</p> <p>8-10 - Innovation would provide virtually no risk and substantial economic or social/ environmental benefit. Plan is sufficiently well elaborated to confirm high likelihood of implementation within time frame of the project</p> <p>WPCP effluent use by facility Advantageous market plan for fly-ash Advantageous market plan for bottom-ash New process for air pollution control with lower capital and operational cost Any innovation that would lessen flow thru costs or operating costs</p>

9.2.2.4 Project Delivery Considerations

The principals of Project Management ensure that a Plan-Do-Check system has been implemented with sufficient checks and balances to ensure a facility is designed, built and operated in an efficient and effective manner to optimize output while protecting the environment and the safety of the employees and the community.

Twenty (20) points were assigned to Project Delivery considerations: Up to six (6) points were assigned to Schedule and Cost Control systems, including information on: project management; project milestones; budget forecasting; and, cost control measures.

An additional six (6) points could be assigned based on construction impact controls including Quality Assurance (QA)/Quality Control (QC); construction impact mitigation; environment, health and safety and community relations plans.

Up to two (2) points were assigned to Team Organization and Qualifications and the review included assessment of documentation relating to the proponent's project management qualifications, the accountability framework, corporate experience and track record on similar projects.

The final six (6) points available under Project Delivery related to the proponent's plan to facilitate approvals and examined the proposed time allocation and schedule for obtaining all necessary approvals and permits including the CofAs from the MOE.

Within the project management section, the Covanta proposal scored top marks in more individual sections than any of the other proposals. The Covanta proposal provided the best combination of personnel qualifications and management plans necessary to design, build and operation the EFW facility.

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Table 9-8 Project Management Elements (Total of 20 Points)

<p>Critical path management – points awarded based on comprehensive details and reasonableness of plans for maintaining construction schedule and meeting schedule guarantee</p> <p>Budget forecasting and cost control measures – points awarded based on comprehensive detail of plan for maintaining cost control and meeting milestone targets</p> <p>Weighting – 0.6</p>	<p>SCHEDULE AND COST CONTROL</p> <ul style="list-style-type: none"> • Critical path management • Budget forecasting and cost control measures • Contingency Plan <p><u>Refers to RFP Section 4.5.2.2 and Form 4 Schedule Guarantee</u></p> <p>0 - Missing or substantially incomplete plans that do not meet the requirements of the proposal Submission Requirements.</p> <p>1-4 Provides systems and plans as specified in Submission Requirements but do not provide sufficient details and/or clear linkages to milestone payment schedule and schedule guarantees. Minimal or no contingency / alternative plans identified.</p> <p>5-7 Provides systems and plans as specified in Submission Requirements that are clear and consistent and linked to milestone payment schedules and schedule guarantees. Provides industry accepted software with proven experience; identifies general “contingency” plan to minimize impacts on schedule, budget and performance; such as currency risk, labour requirements; licensing, but with minor inconsistencies.</p> <p>8-10 Provides systems and plans as specified in Submission Requirements that are clear, consistent and specific to the project and their proposal. The systems and plans are linked to milestone payment schedule and schedule guarantees. Provides industry accepted software with proven experience; identifies critical elements of the plans and presents comprehensive and consistent alternatives to minimize impacts on schedule, budget and performance; such as currency risk, labour requirements; licensing,</p> <ul style="list-style-type: none"> • Cost management & control System • “Contingency” plan specific Management Plan • Plan and schedule for Early Works • Budget forecast needs to align to schedule. • Cost control adds robustness to the overall plan. • Give sufficient detail, so we are comfortable.
<p>METHODS – (6 Points) Points awarded based on comprehensive detail in each of the following plans and their integration within the submission:</p> <ul style="list-style-type: none"> • Quality Assurance/Quality 	<p>METHODS</p> <ul style="list-style-type: none"> • Quality Assurance/Quality Control Plans • Construction Impact Mitigation, Complaint Mitigation Methods • Environmental and Management Plan consistent with ISO 14001 • Health and Safety Plan (including emergency management) • Community Relations Plan <p>0 - Unacceptable Plan.</p>

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<ul style="list-style-type: none"> • Control Plans • Construction Impact Mitigation, Complaint Mitigation Methods • Environmental and Management Plan consistent with ISO 14001 • Health and Safety Plan (including emergency management) • Community Relations Plan <p>Weighting – 0.6</p>	<p>1-4 Plan meets minimum requirements of the specifications. No breakout of construction and operations. Minor variances between other proposal elements and plans. (e.g. includes mention of pre-sort)</p> <p>5-7 - Generic plan with more details specific to the proposed facility. Identifies breakout of construction and operations.</p> <p>8-10 - Detailed plan that integrate fully with the project and other elements of the submission including plans/schedules/methods. Detailed construction/operation phase.</p>
<p>Team Organization and Qualifications Points awarded based on completeness and clarity of organizational plan, roles and responsibilities</p> <ul style="list-style-type: none"> • Project management qualifications • Experience and track record • Accountability framework <p>Weighting - 0.2</p>	<p>TEAM ORGANIZATION AND QUALIFICATIONS</p> <p>Refers to RFP Section 4.7</p> <p>0 - Has not included requested information as per 4.7.3 and 4.7.4 or information is incomplete or unacceptable because it does meet the minimum requirements.</p> <p>1 Provided information requested:</p> <ul style="list-style-type: none"> • Organizational Structure for design-build and operation phases (two charts but no link) • Confirmation that there is no change in the proposed teams from the RFQ or subsequent approved requests for changes • Confirmation that there is no change in the key personnel proposed in the RFQ or subsequent approved requests for changes • Confirmation that disclosed information request is provided (as per 4.7.3) <p>2 Demonstrated and clear links between the team members and the major components of the two phases (design–build and operations)</p> <ul style="list-style-type: none"> • Clear lines of authority consistent with a project of similar scope and magnitude
<p>Permits/Approval Plan Points awarded based on demonstrated understanding of Early Works Agreement schedule and plan; increased points for clarity and input in the</p>	<p>PERMITS AND APPROVALS PLAN</p> <p>This is an evaluation of their Early Works Agreement details, Appendix 24 of Project Agreement and Section 4.5.2.2.9 of the RFP</p> <ul style="list-style-type: none"> • Permitting Schedule • Coordination with Project Schedule

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<p>four areas below:</p> <ul style="list-style-type: none"> • Permitting schedule • Coordination with project schedule • Understanding and experience with local approval requirements • Minimized reliance on Regional Staffing resources <p>Weighting - 0.6</p>	<ul style="list-style-type: none"> • Understanding and Experience With Local Approval Requirements • Degree of Support Required From Regions <p>0 Failure to identify critical known approvals through to Notice to Proceed (Early Works Agreement).</p> <p>1-4 Identified critical known approvals shown with realistic timeline estimates.</p> <p>5-7 Identified critical known approvals shown with realistic timeline estimates and contingency plan. Plan illustrates knowledge of requirements for various permit and approval categories and the operator's role in obtaining each permit.</p> <p>8-10 Identified critical known approvals shown with realistic timeline estimates and contingency plan. Plan reflects different requirements for various permit and approval categories and the operator's role in obtaining each permit. Additionally, the plan indicates that the proponent has made contacts with important Regulatory Agencies. Timelines are evaluated with linkages between approvals and pressures on approvals identified. Plan provides realistic scheduling of work to acquire approvals. Early Works work plan provides schedule and dates. Demonstrated experience with Canadian/Ontario and local approval processes with appropriate jurisdictions in projects of a similar scope and complexity. Minimizes input required from Regions</p>
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9.2.2.5 Cost and Commercial Considerations

The RFP required proponents to provide a detailed computer model that allocated capital and operating costs through the lifecycle of the contract, consistent with RFP requirements and the submitted proposal, and including detailed capital, operating, maintenance and lifecycle costs as well as performance guarantee.

A total of 35 points could be assigned to Cost and Commercial Considerations:

- Up to five (5) points were assigned based upon the Evaluation Team’s assessment of the integrity of the financial model and reasonableness of cost inputs; including consideration of whether the Model was consistent with RFP requirements, the proposal submitted, and with benchmarks based upon projects of a similar scope and nature;
- Up to 20 points were assigned for the value for money components including the magnitude of the Net Present Value (NPV) cost, timing of cash flows, and the sensitivity of costs to the Regions;
- The final 10 points under Cost and Commercial Elements were assigned based upon the financial capacity and condition of the project guarantor, acceptance of construction inflation, and other guarantees provided within the proposal.
- The Proposals were evaluated by the Evaluation Committee in two stages. First, Proposals were reviewed on a preliminary basis to determine whether compliance with the mandatory requirement was achieved (stage 1). Second, those Proposals that passed the stage 1 evaluation were then evaluated on a substantive basis as more particularly described below.

The evaluation of Cost and Commercial Elements was completed based on a collective assessment of evaluation factors to determine a single collective score under each element of RFP “Section 4.6 Part 3 – Cost and Commercial Consideration,” (i.e., RFP Section 4.6.1 Capital and Operating Costs, Section 4.6.2 Value for Money, and Section 4.6.3 Guarantees). Because the assessment included qualitative and quantitative analyses, the lowest priced proposal was not necessarily awarded the highest score. Since it was assumed that all proposals would meet minimum requirements, proposals which exceeded minimum requirements were awarded the highest scores.

Table 9-9 RFP Substantive Requirement - Cost and Commercial Elements

Stage 2: Substantive Evaluation – Cost and Commercial Elements	
Criteria	Description
Cost and Commercial Elements (Total of 35 points)	
Capital and Operating Costs (5 points) Evaluation Factors: <ul style="list-style-type: none"> • Reasonableness of all cost inputs, including methodology and approach used to determine Unitary Major equipment Repair and 	Considerations: <ul style="list-style-type: none"> • A qualitative assessment of the factors will be completed on a collective basis by assessing the degree to which capital costs, maintenance costs, life-cycle costs and operating costs including in the Model are consistent with: <ol style="list-style-type: none"> 1. RFP requirements; 2. Proposal details; and 3. Projects of a similar scope and magnitude.

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Stage 2: Substantive Evaluation – Cost and Commercial Elements	
Criteria	Description
Facility Refurbishment Costs <ul style="list-style-type: none"> Integrity of the Model 	
Value for Money (20 points) Evaluation Factors: <ul style="list-style-type: none"> Magnitude of NPV costs to the Regions Timing of cash flows and costs to the Regions Sensitivity of costs to the Regions 	Considerations: <ul style="list-style-type: none"> An assessment of the factors will be completed on a collective basis by assessing the stability and magnitude of both nominal and NPV costs, including: <ol style="list-style-type: none"> Comparison to the lowest NPV Proposal; Comparison to the lowest Total Annual Operating Fee; Degrees of fluctuation in nominal and NPV costs due to sensitivity analyses; and, Impacts to value for money considerations, based upon alternative/innovative options provided by the Proponent (only considered where a new and complete model is provided for any and each alternative proposal as per section 4.6.2.4).
Guarantees (10 points) Evaluation Factors: <ul style="list-style-type: none"> Financial capacity and condition of the Project Guarantor Construction inflation Other guarantees 	Considerations: <ul style="list-style-type: none"> A qualitative assessment of the factors will be completed on a collective basis by assessing: <ol style="list-style-type: none"> The condition and capacity of the Parent Guarantor; The degree to which the Proponents construction costs are fixed in the Proposal; and The degree to which the guarantees in Form 4 will benefit the Regions.

9.2.2.6 Fairness Monitor Review of RFP Process

KPMG's role was solely that of an observer to the RFP process. KPMG provided oversight throughout the process, including the evaluation, to ensure fairness, consistency and that the evaluation adhered to the pre-determined evaluation criteria. KPMG was involved throughout the entire Thermal Treatment Facility procurement process in order to assure both Regional Councils and the bidders/vendors that an open, fair, consistent and accountable process was conducted.

KPMG's work was based on the following:

- Discussions and meeting with the Region staff and advisors to discuss the RFP documents, procurement process, evaluation and related matters;
- Review of the RFP document prior to issue;
- Review of the RFP Selection Framework and the Process and Principles for Evaluation of RFP-604-2008 Proposals;
- Review of the evaluation process, including the evaluation criteria and evaluation tools;
- Review of addenda, and questions and answers issued prior to the RFP deadline;
- Review of clarification questions issued to Proponents during the evaluation;
- Review of the evaluation reports, and;

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- Attendance at certain events and meetings, including all commercial in confidence meetings, the evaluation briefing session, the RFP closing and compliance review, and select meetings of the Evaluation Team (including meetings to develop and finalize the evaluation criteria and supporting scoresheets and meetings to assess the Proposals and reach final consensus scores).

KPMG's Methodology to Assess Fairness

KPMG's approach to fairness monitoring was based on a set of fairness principles that are described above in Section 9.1.2.6. The fairness principles used by KPMG in the RFQ process are the same as those that were used in the subsequent RFP process.

Conclusions

Based on its approach and information available, KPMG indicated in a letter to Regional staff containing the above information that KPMG is satisfied that the RFP process was fair to all Proponents.

9.2.3 Recommended Preferred Vendor

Based on its consensus evaluation, the evaluation team unanimously recommended Covanta Energy Corporation (Covanta) to Regional Councils as the preferred proponent. Covanta not only achieved the highest aggregate score, but also achieved the highest score in each of the three elements outlined in the RFP (technical; project delivery; and cost and commercial considerations).

Covanta is proposing to be the single source, full service contractor to design, permit, build, startup, commission and operate the Facility for the Regions of Durham and York. Covanta is the largest provider of thermal treatment services in North America with 35 operating facilities in the United States, including 24 that were designed and built directly by Covanta. Covanta would serve as the overall project coordinator with the responsibility for directing the design, engineering, procurement of equipment, and construction of the new Facility. The Covanta Team includes: Aecon Group, Inc. (Construction Services); Sigma Energy Solutions (Engineering); McMillan Associates (Architects); CH2M Hill (Environmental Consultant); and Miller Waste Systems (Waste Disposal/Transportation). Martin GmbH (Martin) will serve as Covanta's thermal treatment technology partner. Martin supplied the technology that is currently used at 22 of Covanta's facilities, as well as numerous facilities in Europe.

The following outlines key components of the Covanta proposal:

- APC, including a Flue Gas Treatment Design that includes: Covanta's proprietary Very Low NO_x (or FLNTM) system (further described below); a Selective Non-Catalytic Reduction (SNCR) system with aqueous ammonia injection for additional NO_x control; powdered activated carbon (PAC) injection for mercury and dioxins control; a spray dryer absorber (SDA) for acid gas control; and a fabric filter baghouse for particulate heavy metals removal.

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- Dual boiler system with a design capacity of 140,000 tpy, incorporating continuous emissions monitoring systems and dioxin samplers for both systems with flue gas trains fed into a common flue.
- Zero process water discharge to sewer with water sourced from municipal supply. Captured rainwater would be used for site irrigation and the plan incorporates the use of drought-tolerant species to minimize irrigation needs.
- Bottom ash and stabilized fly ash sent for landfill disposal in New York. Corporate wide material recovery and marketing division to maximize revenues from recovered non-ferrous and ferrous materials. Covanta has provided a letter from Miller Waste guaranteeing long-term disposal capacity over the life of the contract.
- Odour on the tipping floor would be controlled by a ventilation system that draws air from outside at all times through the receiving area and above the waste storage pit and finally directed to the combustion units for use as combustion air. Dual combustion systems offer the additional advantage of minimizing shut-down times for the odour control system since at least one system would operate all of the time.
- Noise during regular operations mitigated by confining all operations to enclosed areas. Covanta would limit construction activities that create noise to comply with local noise by-laws and would implement a community complaints system to address local concerns during both construction and operational phases.
- Energy recovery is optimized for both electricity generation and potential future district heating scenarios. Covanta has proposed a 20 MW generator capable of maintaining some electricity output even if one boiler unit is shut down. The turbine generator incorporates an extraction turbine as well as physical space for the heat exchangers, pumps and other required equipment for the future district energy system. Covanta provided the highest net electricity production and performance guarantees of any vendor, with and without a future district heating system.
- Expandable Facility with an initial capacity of 140,000 tpy would be provided by dual 70,000 tpy boiler units. Covanta provided a clear plan delineating expansion in from the initial capacity of 140,000 tpy to a final capacity of 400,000 tpy. The final expansion includes additional process buildings and an additional stack. Covanta has sized the utilities (water, sewer, gas, and electric) for the ultimate 400,000 tpy Facility.
- Guarantees from Covanta included the shortest construction period of all proponents and 90% plant availability.
- Facility Design meets or exceeds critical design criteria and Covanta's proposal meets critical throughput and environmental performance requirements.
- Operations and Maintenance plans included detailed plant management charts and provided comprehensive details relating to waste handling; environmental monitoring; power generation; contingency operations; and a preventative maintenance plan to facilitate operation and provide for the turn-over of the plan in an acceptable condition at

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the end of the operating term. Covanta also provided a financial model to support these plans.

- Construction planning and critical path analysis indicated a potential process start-up date by the end of 2013, dependent upon the completion of the EA and EPA processes.
- Innovations include – Covanta's proprietary VLN™ System that reduces the formation of NOx emissions by staging combustion and reducing the amount of Excess Air required in the furnace. This also reduces parasitic electricity demands. The proposed high pressure/high temperature boiler design results in higher steam cycle efficiency enabling Covanta to maximize energy recovery.

The Covanta proposal received the highest score under Cost and Commercial considerations and included:

- Provision of a detailed financial model including capital, maintenance, life-cycle, and operating costs deemed consistent with the RFP requirements and with benchmarks based upon projects of a similar scope and nature. The detail and costing were supported by rationale that demonstrated consistency with accepted industry practices, including provision of adequate backup documentation;
- The lowest total annual operating fee, highest available electricity revenues and the lowest overall project NPV;
- The lowest construction price and a commitment to accept adjustments for inflation commencing April 30, 2009 and up to the Notice to Proceed (NTP) date, that would be indexed based upon independent third party data from Engineering News Record for (Toronto, Ottawa) as follows: 0% of the Construction Cost Index (CCI); 30% of the Material Cost Index (MCI); and 70% of the Building Cost Index (BCI).;
- Corresponding to the best technical guarantee for energy recovery, Covanta provided the highest annual revenues, primarily from electricity sales (based upon an assumed 8 cents per kilowatt hour (kWh)). Electricity revenues remain the highest with and without consideration of future district heating requirements; and,
- Sensitivity analysis performed on the Covanta financial submission demonstrated that the Covanta proposal would remain the lowest cost proposal under each sensitivity scenario investigated as defined within the RFP documentation.

Covanta's submission includes a commitment to:

- A Total Annual Operating Fee of \$14.67 million (as of February 19, 2009), excluding consideration of revenues from electricity or ferrous and non-ferrous recoveries;
- An electricity production guarantee of 767 kilowatt hours per tonne of waste (kWh/T) and a guarantee of 90% Facility availability; and,
- A Construction Price of \$235.76 million (as of February 19, 2009).

The Covanta electricity production and availability guarantees noted above result in approximately a minimum of \$8.59 million in annual electricity revenues to the Facility,

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assuming a fixed power purchase price of 8 cents per kWh/T. Any increase in waste throughput beyond 140,000 tpy would increase annual power production.

9.3 Confidentiality and the Procurement Process

The conclusion of the evaluation team recommending Covanta as the preferred proponent is described, along with a summary of the assessment of Covanta's bid. It is noted in this Section that in each of the three elements outlined in the RFP (technical, project delivery and cost and commercial considerations), Covanta scored higher than the other bidders and that the fairness monitor indicated that the process was fair to all bidders.

In preparing for the submission of the EA every effort has been made to include as much information as possible. There are, however, other factors that place limits on the nature of the information that is capable of being disclosed in these particular circumstances.

An integral component of the process of public procurement in Canada is the need to keep strictly confidential information that is integrally related to the evaluation of the bids apart from the fact that Covanta placed first in the three elements outlined in the RFP. To make further disclosure would put the procurement process in jeopardy.