



January 23, 2015

Ms. Janice Atwood-Petkovski
City Solicitor
City of Hamilton
21 King Street W., 12th Floor,
Hamilton, ON L8P 4W7

**Subject: Proposed Energy from Waste Facility, Hamilton, ON
Environmental Assessment Process
Our Project 151-00702-00**

Dear Ms. Atwood-Petkovski,

WSP Canada has been retained by the City of Hamilton to conduct a peer review of the Port Fuels & Materials Services, Inc. Energy-from-Waste Environmental Assessment. This letter provides the results of our preliminary review.

1. PROPOSED PROJECT SCALE

The project proposed by Port Fuels & Materials Services, Inc. ("PFMSI or the proponent") is to construct an Energy-from-Waste (EFW) facility with a total capacity of 200,000 tonnes per year of incoming materials. The EFW facility would receive and process up to 170,000 tonnes per year of non-hazardous waste by utilizing the Gasplasma process. In addition, the facility would receive up to 30,000 tonnes per year of non-hazardous waste using a conventional direct plasma process to divert from landfill. Based on the current proposal information presented by PFMSI, the maximum daily quantity of waste to be processed by the Gasplasma system would not exceed 1,200 tonnes per day and the direct plasma system would not exceed 220 tonnes per day.

Waste accepted at the facility for the Gasplasma system is to be sorted to remove incompatible wastes and recyclables. The facility is proposed to generate up to 20 MW of electricity to be used internally or sold to the electrical grid.

The Gasplasma process converts the inorganic portion of the waste to a fuel gas which can be used for producing electricity. Gasplasma converts remaining solid inorganic material into a product called Plasmarok. Plasmarok is a vitrified aggregate material that is currently marketed by Advanced Power Plasma to be used commercially (e.g., construction material).

WSP Canada Inc.
1425 Cormorant Road, Suite 300
Hamilton, ON L9G 4V5

Phone: 289-239-0100
Fax: 289-239-0109
www.wspgroup.com



2. APPLICABILITY OF THE ENVIRONMENTAL SCREENING PROCESS

The MOECC developed the Environmental Screening Process for those waste management projects that have predictable environmental effects that can be readily mitigated. These projects are subject to the *Environmental Assessment Act* (“Act”) but proponents of these projects are not required to develop an individual environmental assessment (EA) provided they meet the requirements of the Environmental Screening Process. However there are provisions in the Screening Process to elevate projects to an individual EA.

The proposed undertaking is the construction of an EFW facility, which is designated under Ontario Regulation 101/07 (the “Regulation”) as an undertaking which is subject to the requirements of the Act. Some undertakings, however, have been designated under Part III, Section 11 of the Regulation as exempted from Part II of the Environmental Assessment Act (EAA) subject to fulfilling the Environmental Screening Process. In this case, the proponent has indicated that the proposal would be considered an exempt undertaking subject to the Environmental Screening Process because it falls into the category of undertaking described in section 11(1), paragraph 2: a thermal treatment site that does not use coal, oil or petroleum coke as a fuel for thermal treatment and that produces EFW.

The Environmental Screening Report indicates that the thermal treatment facility processes nonhazardous waste streams for two systems:

- A “Gasplasma System” with a waste stream which includes non-hazardous IC&I waste, construction and demolition (C&D) waste, Refuse Derived Fuel (RDF), biomass, biosolids, tires, Municipal Solid Waste (MSW) and other non-hazardous waste streams.
- A “Direct Plasma System” with a waste stream comprised of residual metals for recovery and disposal of inorganic materials (contaminated soils/sludges).

While Port Fuels & Materials Services, Inc. has concluded that the proposal meets the definition of an exempted undertaking, subject only to the Environmental Screening Process under section 11 of the Regulation, as part of a detailed technical review WSP would verify these facts to confirm the proponent’s conclusions with respect to the applicability of the Environmental Screening Process to the proposed project.

In addition to the requirements of the *Environmental Assessment Act*, the project will require additional environmental and related approvals under other applicable legislation including approvals under the *Environmental Protection Act*.



3. GENERAL REVIEW OF THE ENVIRONMENTAL SCREENING REPORT

The Environmental Screening Process is outlined in the *Guide to Environmental Assessment Requirements for Waste Management Projects (March 2007)*. Part B of the Guide outlines the requirements that must be met to satisfy the Environmental Screening Process (ESP). Based on this, the Environmental Screening Report (ESR) prepared by PFMSI was reviewed against Part B of the Guide at a higher level to determine whether the steps outlined in Part B have been met.

Based on a review of the Environmental Screening Report completed by PFMSI, WSP has concluded that, required steps outlined in Part B of the Guide have been followed. A more detailed review would still need to be completed to determine the completeness of the studies and analysis undertaken, whether sufficient monitoring and/or mitigation measures have been identified, and whether or not the professional judgments provided with respect to the potential environmental impacts of the project and their significance are supportable.

4. PRELIMINARY FINDINGS AND RECOMMENDATIONS

Part B, Step 1 requires issuance of a Notice of Commencement. PFMSI did release a Notice of Commencement however WSP still needs to confirm that the Notice was published twice in a newspaper, as required.

Recommendation: Confirm with PFMSI the dates that the Notice of Commencement was published.

Part B, Step 6 requires that studies be conducted and the potential environmental effects be assessed. The proponent (PFMSI) determines the level of analysis that must be completed to assess the potential environmental effects. For each of the “yes” responses on the Screening Criteria Checklist (conducted as part of Step 3) PFMSI is required to conduct necessary data collection, studies and analysis to understand the basis, extent, duration, inter-relationships and magnitude of potential effects. The proponent has reported these steps as complete; however, more detailed review is required to arrive at a conclusion on the adequacy of the assessment work completed.

The Guide also states that based on the studies conducted, the proponent can also provide a preliminary level of discussion on how the project can satisfy municipal, provincial and federal requirements related to waste management activities as well as concerns brought up in the consultation activities. This preliminary level of discussion has been done by PFMSI and included in the ESR. The City also has an interest in ensuring that, to the extent this discussion has been presented, the description of provincial and federal requirements and response to public concerns is accurate and complete. Working with City staff, this would form part of WSP’s proposed detailed review.



***Recommendation:** A review should be conducted to assess the adequacy of the technical studies conducted to ensure that potential environmental issues, municipal requirements and concerns raised during the EA Screening public consultation process have been adequately addressed. If this has not been completed sufficiently there is the opportunity for an elevation request to require further studies be undertaken or an increased level of detail in the existing studies to be provided.*

Throughout the ESR, PFMSI has indicated that the proposal can be supported based on information from an existing plant located in Swindon, U.K. which utilizes the proposed technology. It appears that the level of study chosen was based in part on the premise that the proposal utilizes an existing, proven, technology. This premise requires further review for two reasons.

First, while the MOECC has issued a Certificate of Technology Assessment (December 2014) under the New Environmental Technology Evaluation (NETE) program, this certificate is not intended to signify approval of a facility that relies on the technology or the appropriateness or adequacy of the application of the technology in the circumstances of a specific proposal or location. Second, our preliminary review of the Swinton plant indicates that there appear to be some significant distinctions between that facility and the one proposed in this case including the following:

- The Swinton facility is a pilot system and not a commercial application of the technology or process.
- The Swinton pilot system operates periodically for customer trials and for research with new waste streams.
- The Swinton pilot system operates under a special license from the UK Environmental Agency as an R&D facility and not as a waste processing facility.
- The Swinton pilot unit was originally located in a rural area but both the pilot project and offices were required to relocate to an industrial area of Swinton.
- The Swinton pilot unit does not operate 24/7 but may operate for several consecutive days depending on the requirements of the specific trial.
- The Swinton plant is sized for 2 tonnes per day, which equates to about 625 tonnes per year – significantly less than the currently proposed plant in Hamilton (200,000 tonnes per year).
- Currently it is not known whether the Swinton pilot plant comprises all or only some of the system components proposed by the proponent.

The currently proposed process combines two different technologies (Gasplasma and direct plasma). It is our understanding that the PFMSI proposed system would be the first commercial implementation of this type in the world. The potential impacts to the environment and surrounding community may not have been appropriately assessed as there is currently no similar scale operational system using this technology. There has only been a pilot system that does not operate on a full time basis.



***Recommendation:** A detailed review of the proposal, and the adequacy of assessment through the Environmental Screening Process is recommended in this case given that there is no known full scale commercial energy-from-waste facility plant in operation which utilizes the proposed technologies.*

Part B, Step 7 requires development of impact management measures (including mitigation measures) related to the potential negative environmental effects that were identified in the Screening Criteria Checklist. In addition, a discussion on the monitoring requirements related to the potential negative environmental effects is also required.

Within the ESR, PFMSI has identified various commitments and mitigation measures and this is summarized in Section 8.0 of the ESR. In addition to this, there are more specific discussions on the mitigation measures within the various Appendices to the ESR.

***Recommendation:** The recommended detailed review should include a review of the adequacy of proposed commitments, monitoring, and impact management /mitigation measures to determine whether additional commitments, monitoring and/or mitigation measures are required.*

One important component of the proposed impact management program is the Contingency and Emergency Response Plan (CERP). The CERP is proposed to be completed following commissioning and would include the following information:

- List of persons responsible for the Site, including contact information
- Description of fire protection, control system, and emergency procedures
- Description of safety devices and maintenance procedures
- Training of Site personnel
- Site plan including location of all emergency equipment

***Recommendation:** The City should be part of the process for developing and reviewing the CERP and this commitment should be included as part of the ESR.*

PFMSI also indicates that it would join the existing Hamilton Air Monitoring Network. The final approval instruments for the facility would include an air quality monitoring plan and this would include reporting annually to the MOECC. Based on analysis completed to date the proponent does not anticipate installation of another monitoring station. Additional monitoring and/or reporting requirements may be appropriate. It is noted that air quality impacts of the facility have been identified as a significant issue by numerous residents throughout the consultation process.

***Recommendation:** The detailed review should include consideration of the adequacy of the proposed air quality monitoring program and the potential need for additional monitoring and reporting requirements.*


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Throughout the environmental screening process, PFMSI conducted consultation activities which included additional meetings with the Keith Community Hub Association and the Sherman Hub Community Planning Team. Based on these consultation activities a Community Liaison Committee (CLC) was established following the first Public Meeting. PFMSI has made a commitment for the CLC to remain actively involved during construction and operation of the facility.

Recommendation: The City should consider participating on the CLC or, at a minimum, requesting of receipt of information related to the ongoing CLC activities in order to track any community concerns and PFMSI consultation efforts.

Yours truly,
WSP Canada Inc.


FOR Pat Becker, MES
Environmental Assessment & Planning
Project Manager



David A. MacGillivray, M.A.Sc., P.Geo., P.Eng.
Hamilton Operations Manager
Senior Engineer, Environment