The Regional Municipality of Durham

To: Joint Works and Health and Social Services Committee

From: Commissioner of Works

Report: 2008-WR-17

Date: May 7, 2008

SUBJECT:

Energy from Waste Emissions and Monitoring

RECOMMENDATION:

THAT the Health and Social Services and Works Committees recommend to Regional Council that:

a) This report be received for information.

REPORT:

Attachment 1: **Table 1: Proposed Emission Limits**

Attachment 2: **Table 2: Monitoring Requirements**

Attachment 3: **Responses to Delegation**

1. BACKGROUND

In 2005, the Regions of Durham and York formed a partnership to proceed with a full Environmental Assessment (EA) process to establish an Energy from Waste Facility (EFW). On March 31, 2006, the Ministry of the Environment approved Terms of Reference for this study.

The following phases have been completed through the environmental assessment process:

a) Selection of the Preferred Technology and
b) Selection of the Preferred Site.

As part of the site selection process, a generic Human Health and Ecological Risk Assessment report was prepared and findings from that report were presented and approved by the Joint Waste Management Group (JWMG), both Works and Health and Social Services Committees and both Regional Councils. The final health assessment for the preferred site will be completed after the preferred vendor has been selected and a Site Specific Human Health and

Ecological Risk Assessment report will be prepared by our consultants. The findings from the Site Specific Human Health and Ecological Risk Assessment report will be peer reviewed and presented to the JWMG and the Joint Works & Health and Social Services Committee prior to final approval by Regional Council in 2009.

In the interim, on April 24, 2008, the Health and Social Services Committee made the following recommendation:

a) "That the queries contained in Ms. Bracken's written submission regarding the proposed Energy from Waste Facility Emissions Criteria in Report No. 2008-WR-16 from the Commissioner of Works be forwarded to Works Department staff with a request that a report be prepared in response to these queries and be presented before a Joint Works and Health and Social Services Committee meeting to be held as soon as possible;".

b) AND FURTHER THAT all future Energy from Waste Facility reports related to human health impacts be recommended to a Joint Works and Health and Social Services Committee meeting."

On January 23, 2008, Regional Council made the following recommendations to Works Committee Report No. 2008-WR-7:

a) That the Consultant Team's recommendation, Clarington 01, be approved as the preferred site of the location of the Durham/York Energy-From-Waste Facility for submission to the Ministry of the Environment as part of the Individual Environmental Assessment.

b) That the Joint Waste Management Group of the Regions of York and Durham be requested to agree to protect the health and safety of the residents of Clarington and Durham by incorporating into the design and installation of the EFW facility the most modern and state of the art emission control technologies that meet or exceed the European Union EU monitoring and measurement standards;

c) That the Joint Waste Management Group of the Regions of York and Durham be requested to commit to including in the Request for Proposals and Certificate of Approval, Maximum Achievable Control Technology (MACT) for the emission standards and monitoring of the EFW facility; and

d) That the Region of Durham agrees to continue to support an aggressive residual waste diversion and recycling program in order to achieve and/or exceed on or before December 2010, a 70% diversion recycling rate for the entire Region and that such aggressive programs shall continue

beyond 2010."

2. DISCUSSION

a) On April 18, 2007, Regional Council adopted Joint Finance and Administration and Works Committees Report No. 2007-J-14, endorsing the issuance of a Request for Qualifications (RFQ) to Energy-From-Waste (EFW) technology vendors in order to select a short list of vendors to participate in future Request for Proposals (RFP) for the development and implementation of an EFW facility.

Following the completion of financial and technical evaluations, the following five (5) proponents were pre-qualified:

i) Veolia Environmental Services Waste to Energy Inc.; AMEC/Black & McDonald
ii) Covanta Energy Corporation
iii) WRSI/DESC Joint Venture; Fisia Babcock Environmental GmbH; Kiewit Industrial Company; Morgan Stanley Biomass LLC; Babcock & Wilcox
iv) Wheelabrator Technologies Inc. (A Waste Management Company)
v) Urbaser SA (combined mass burn and gasification submission)

The above noted five (5) proponents were evaluated based on Regional Council approved principles and their ability to meet European Union (EU) and MACT standards.

b) The second stage of the process is to issue the RFP document. The RFP document is currently being prepared by Legal, Finance, Procurement and Technical teams and will be issued, upon Regional Council approval, to the above five (5) vendors who will be asked to design and present their best proposals to meet recommendations made by Regional Council at their January 23, 2008 meeting.

2.1 Generic Principles of a Request for Proposal (RFP)

Maximum Achievable Control Technology "MACT" is a term used in North America and is described as being specific to industry sectors and emission limits. MACT standards are designed to result in the selection of technology that results in the reduction of emissions to a maximum achievable degree, taking into consideration the cost of reductions and other factors. The technologies likely to be proposed in response to the Region's proposed emission limits represent MACT.

- The RFP is structured to ensure that proposals meet the best of EU and Ontario A7 standards, as per Table 1 entitled "Proposed Emission Limits" (Attachment 1). Staff will recommend revised lower HCL limit to that of the EU standard of 9 mg/Rm^3 following JWMG, Works Committee and MOE discussions.

- In the RFP, provisions will be made for continuous sampling of dioxins in addition to stack testing as defined by EU2000/76/EC and MOE A-7 guidelines, as per Table 2 "Monitoring Requirements" (Attachment 2).

- In the RFP, the Region is requesting that the selected vendors provide proposals that demonstrate their ability to meet MACT.

- The proposed air emission limits, including A-7, have been developed based on the MACT principle and Council's direction to meet EU emission limits.

Guideline A-7 "Combusting and Air Pollution Control Requirements for New Municipality Waste Incinerators" prepared by the Ministry of the Environment and revised in February 2004, is the most current regulatory standard in Ontario. Guideline A-7 was developed on the basis of MACT, human health considerations and approaches taken by other jurisdictions. In all cases, the limits are below those that would be established based solely on protection of human health and the environment.

2.2 The RFP will be evaluated to determine the best proposal based on technical and life cycle cost. The Regions will then have discussions with the Ministry of the Environment and the vendor to define the specific Certificate of Approval (C of A) emission limits. The C of A will establish all operating principles, including, but not limited to emission limits, regulatory monitoring, regulatory testing, frequency of testing and the reporting of chemicals used, to the MOE. These are same principles and practices used in the operation of water/wastewater facilities or landfills.

It is standard in the industry that the plant operator is responsible for monitoring and compliance with the C of A. The Regions, as the facility owners, will oversee all monitoring and compliance. Further, the MOE will oversee the vendor and the Regions under the mandatory criteria of the C of A through an independent third party.

The Ministry of the Environment under the provision of the Environmental Protection Act (EPA) also have legal rights to randomly inspect and audit the facility. All monitoring and inspection tests must be performed by a MOE approved testing organization under the supervision of a qualified licensed professional engineer and a MOE accredited laboratory facility.

In anticipation of future potential changes to EU2000/76/EC, MOE A-7 and US EPA emissions, the project team has proposed emission limits below the current standards of all those authorities. Through direct consultation with MOE and our European contacts, it has been confirmed that there are no imminent changes to A-7 or EU 2000/76/EC.

Some recent proposed changes in Europe, to the transportation and power generation sectors have been adopted to address particulate air emissions from aging industry infrastructure. This is predominantly targeting Eastern European nations which have outdated technologies to bring them in line with current Western European and North American limits. This recent announcement has no impact on Waste to Energy (incineration) air emission limits.

On April 24, 2008, Health and Social Services Committee requested that staff provide a response to enquiries from a resident. Any specific delegation questions not specifically dealt with in this report are detailed further in Attachment No. 3.

3. CONCLUSION

The proposed Energy from Waste Facility RFP will require Maximum Achievable Control Technology (MACT) for emission standards and monitoring. Any successful proposal will exceed the more restrictive of EU or Ontario emission standards.

The Site Specific Human Health and Ecological Risk Assessment report, after peer review, will be reported to the Joint Waste Management Group (JWMG) and to a Joint Works and Health and Social Services Committee meeting.

Clifford Curtis, P. Eng., MBA,
Commissioner of Works

Recommended for Presentation to Committee

Table 1: Emission Limits

Pollutant	Units [1]	Ontario Guideline A-7	EU Directive 2000/76/EU EU Limits	Proposed Operational Limits
Total Particulate Matter	mg/Rm^3	17***	9*	9***
Sulfur Dioxide (SO_2)	mg/Rm^3	56*	46*	35*
Hydrogen Chloride (HCl)	mg/Rm^3	27***	9*	9* [2]
Hydrogen Fluoride	mg/Rm^3	Not Specified	0.92*	Not Specified
Nitrogen Oxides (NOx)	mg/Rm^3	207*	183*	180*
Carbon Monoxide (CO)	mg/Rm^3	NS	46*	45*
Mercury (Hg)	$\mu g/Rm^3$	20***	46***	15***
Cadmium (Cd)	$\mu g/Rm^3$	14***	Not Specified	7***
Cadmium (Cd) + Thallium (Tl)	$\mu g/Rm^3$	Not Specified	46***	Not Specified
Lead (Pb)	$\mu g/Rm^3$	142***	Not Specified	70***
Sum of (As, Ni, Co, Pb, Cr, Cu, V, Mn, Sb),	$\mu g/Rm^3$	Not Specified	460***	Not Specified
Dioxins/Furans (ITEQ)	ng/Rm^3	0.08***	0.092***	0.06***
Organic Matter (as Methane)	ppmv	100*	NS	75*
	mg/Rm^3	66*	9**	49*

NOTES:

mg/Rm^3 = Milligrams per reference cubic meter.

$\mu g/Rm^3$ = Micrograms per reference cubic meter.

ng/Rm^3 = Nanograms per reference cubic meter.

ppmv = Parts per million on a dry volume basis.

(1) = All concentrations corrected to 11% O_2

(2) = Recommended to replace previously proposed limited of 20

* Daily average value

** Daily average value expressed as total organic carbon

***Stack test

Table 2: Monitoring Requirements

Pollutant	EU Directive 2000/76/EC Monitoring Requirements	Proposed Monitoring Requirements
Total Particulate Matter(1)	Semi Annual Stack Test	Semi Annual Stack Test
Opacity (Indicator of Total Particulate Matter)	Continuous	Continuous
Sulfur Dioxide (SO_2)	Continuous	Continuous
Hydrogen Chloride (HCl)	Continuous	Continuous
Hydrogen Fluoride	Continuous	Continuous
Nitrogen Oxides (NOx)	Continuous	Continuous
Carbon Monoxide (CO)	Continuous	Continuous
Mercury (Hg)	Semi Annual Stack Test	Semi Annual Stack Test
Cadmium (Cd)	Not Monitored	Semi Annual Stack Test
Cadmium (Cd) + Thallium (Tl)	Semi Annual Stack Test	Not Monitored
Lead (Pb)	Not Monitored	Semi Annual Stack Test
Sum of (As, Ni, Co, Pb, Cr, Cu, V, Mn, Sb),	Semi Annual Stack Test	Tests for Individual metals during semi Annual Stack Test
Dioxins/Furans (ITEQ)(2)	Semi Annual Stack Test	Semi Annual Stack Test
Organic Matter (as Methane)	Continuous	Continuous

(1) Continuous monitoring of opacity and fabric filter integrity indicate control of particulate, but semi annual stack testing required for confirmation of compliance with limits

(2) Initial stack testing on a quarterly basis if required.

- *THAT the Joint Waste Management Group of the Regions of York and Durham be requested to agree to protect the health and safety of the residents of Clarington and Durham by incorporating into the design and installation of the EFW facility the most modern and state of the art emission control technologies that meet or exceed the European Union (EU) monitoring and measurement standards.*	*Project Team Mandate 1:* *To protect the health and safety of the residents* *Design EFW to incorporate most modern and state of the art emission control technology that meets or exceeds EU standards for:* • *monitoring* • *measurement standards*
- THAT the Joint Waste Management Group of the Regions of York and Durham be requested to commit to including in the Request for Proposals and Certificate of Approval, Maximum Achievable Control Technology (MACT) for the emission standards and monitoring of the EFW facility.	*Project Team Mandate 2:* *JWMG requested to commit to inclusion of Maximum Achievable Control Technology for emission standards and monitoring of EFW.* *MACT standards are designed to result in the selection of technology that results in the reduction of emissions to a maximum achievable degree, taking into consideration the cost of reductions and other factors. The technologies to be proposed in response to the Region's proposed emission limits represent MACT.*
The Project Team consultants have interpreted those motions to mean that the EFW facility will only be required to meet or exceed current EU standards. Those motions, however, not only request that the emissions criteria meet or exceed the EU standards they demand much more. Those motions specifically state that the EFW facility will have the most modern and state of the art emission control technologies and will include Maximum Achievable Control Technology (MACT) for the emission standards *and* monitoring of the EFW facility.	*The design will incorporate Maximum Achievable Control Technology.*

On monitoring, the Project Team's report indicates that of the of the hundreds of chemicals of concern being emitted by the incinerator, only NOx, HCl, HF, S02 and CO will be monitored continuously.	*All monitoring must meet A-7 requirements which are set based on MACT criteria. The project team is committed to continuous monitoring of process parameters including temperature, oxygen pressure content, as defined in EU 2000/76 and A-7 which are MACT specified. This continuous monitoring assures ongoing complete destruction of organic chemicals of concern.*
Ladies and gentlemen, this is not the state of the art, maximum achievable technology all were promised and which is essential to the protection of our health.	*The proposed stringent emission criteria set the state of the art and define maximum achievable control technology. Ongoing monitoring and oversight of the process will assure protection of public health and the environment.*
Alexandra Bennett provided a clear list of CEMs –Continuous Emissions Monitors that are available and being used in the best and most modem EFW facilities. They exist and they are out there for many of the toxins. Dioxins/furans and heavy metals are of great concern, yet the Regions' Project Team reports that they will only be doing quarterly or semi-annual stack testing for them. What happens if the pollution control equipment fails somewhere in between? Will high emissions go undetected for six months or longer? That is not acceptable. The accuracy and validity of stack tests is also questionable as operators are given advance notice which could enable setting up for a cleaner burn,	*The proposed facility will incorporate all of the continuous monitoring specified under MOE A-7 and EU 2000/76/EC criteria. The dioxin/furan monitoring used in the Isle of Man facility represents an average sample over a specified period. This technology will be added to our proposed facility in conjunction with regulatory, stack testing.* *Dioxin/furans will also be continually monitored through various other parameters such as combustion temperature, pressure and oxygen levels. Ensuring such operating parameters are above 850° C quarantees complete destruction of these emissions.*
The way the averages are calculated *and extrapolated* is controversial, and, here we have the added controversy in that the Ministry of the Environment does not even do the testing - in Peel the testing is organized by GENIVAR - the very consultants who are promoting incineration in this EA! There is better monitoring technology and we were promised it.	*The firms undertaking the testing must be approved by the Ministry of the Environment and under the supervision of a qualified professional engineer.* *GENIVAR is a reputable, MOE approved independent third party retained by the Region of Peel to oversee, along with the MOE, the independent stack testing of the Algonquin Power EFW facility. GENIVAR is not affiliated or retained by the owner/operator of the Algonquin Power facility.*

The SITA Annual Report 2004-5 for the incinerator facility on the Isle of Man reports their "innovative continuous monitoring system uses a sampling meter to extract dioxins from the flue into a specially prepared cartridge sent each month to a UKAS-accredited laboratory for analysis". (This document \vas first presented by Alexandra Bennett to Clarington Council and it can be found at her website www.precautionaryprinciple.ca) Their public and their politicians insisted on this to protect their people, environment and farm land - we must do the same.

In proposing more stringent limits than either the Ontario A-7 Guideline or the EU 2000/76 Directive, which are based on MACT, the project team has developed a more restrictive emissions criteria.

The same report goes on to say: ""Continuous monitoring of dioxins is set to become a requirement for waste incinerators in the EU. We are providing data collected by SITA Isle of Man to the UK's Environment Agency to support its work to frame emission limits for dioxins". My understanding of continuous monitoring for dioxin is that, while it may not provide for real-time, instantaneous results, it does provide for a much more accurate measure of dioxin emissions for set periods of time. With these systems a cartridge is inserted to continuously sample for dioxins, it is extracted at some point (at the Isle of Man facility it is monthly) and the results are analyzed, at which time a new sampling cartridge is immediately inserted to continue collecting. There is uninterrupted collection which allows for a much more accurate estimate of emissions and the analyzing takes place more frequently so that problems can be detected sooner.

The statement acknowledges that continuous monitoring of dioxins is not available. The Isle of Man operators use an averaging sampler that extracts a portion of the exhaust gas over a period of time. The cumulative sample is submitted for laboratory testing providing an ongoing record of average dioxins over the monitoring period.

The argument for stack testing focuses on the more rigorous nature of the test set up to sample from statistically relevant parts of the flue. Selection of a professional, independent party to undertake stack sampling will ensure impartial and accurate results Evaluation of continuous monitoring results during the stack test will assure us that the testing takes place during representative conditions.

All samples must be performed to MOE stringent criteria and processed through a MOE accredited lab.

Contrast that with stack testing where samples are taken perhaps only one day a year (as I believe is the case with the Brampton facility), the values taken that day are "averaged", and then that result is extrapolated to estimate what the emissions would be for the whole year. In other words, it assumes that the measurements taken the day of the stack testing represent what happens every other day at the facility. That is a frightening assumption considering how the residual waste stream will vary day to day and hour to hour depending on what you burn and, as there is no sorting on the tipping floor, what you are burning cannot be predicted.	*The project team shared the concern. As an acceptable compromise the Project Team suggested quarterly testing to the MOE. Specific details will be set by the MOE as part of the C of A.*
REMEMBER when it comes to dioxins and furans, there is no safe level of exposure, so the absolute maximum safeguards must be taken.	*The project team agreed with this concept and suggested a dioxin/furan level of 0.06 ng/m³, a level 25 % below the most stringent requirement in A-7 or the EU directive.*
The best thing to do, of course, is to avoid creating them in the first place and say no to incineration. If, however, this Council proceeds, then on this issue they must go with the best available, maximum achievable, state of the art monitoring technology (as promised) and they have not done so in the Emissions Criteria document.	
Another obvious place where the January 23rd commitment is not being met is in relation to the Hydrogen Chloride values. According to the chart provided in the report, the EU standard for Hydrogen Chloride is 9 mg/m3, yet the standard for the proposed facility is more than double that at 20 mg/m3 . The reason given for this exceedance in the Report 2008-WR-16 is that "'strict application of operational limits for Hydrogen Chloride at the EU Directive level may preclude some of the pre-qualified vendors from competing".	*The technology evaluation team believes that little additional benefit will result from a more stringent HCl limit. However, based on discussions, the limits for dioxins, mercury and other acid gas limits proposed are significantly lower than either the EU standard or the Ontario A-7 guideline. The team also believes that all proposed systems will meet the EU daily average operating limits. For the purposes of clarity, the team will propose an amendment to the HCl criteria to reflect EU standards.(see Table 1)*

Particulate matter has also been a major health concern raised. In the Emissions Criteria report, on particulate matter, why haven't the Project Team stipulated limits for the various categories for the size of particulates? Instead all of the various sizes are lumped together under one title: particulate matter. The report should have indicated the percentage of the particulates the filters will be able to screen out for the various sizes of particulates. Vendors should be able to provide the percentage of PM_{10} – $PM_{2.5}$, and $PM_{<2.5}$ that they are capable of screening out and the report should have established criteria limits for each sub category. We now understand that the finer the particle, the more of a health risk it can be. Europe has now taken action on fine particle emissions.

In anticipation of future potential changes to EU 2000/76/EC, A-7 or US EPA emission standards, the project team has proposed emission limits below the current standards. Through direct consultation with MOE and our European contacts, it has been confirmed that there are no imminent changes to A-7 or EU 2000/76/EC. Some recent proposed changes in Europe, to the transportation and power generation sectors have been adopted to address the particulate air emissions from aging industry infrastructure. This is predominantly for targeting eastern European block nations which have outdated technologies to bring them in line with current western European and North American limits. This recent announcement has no impact on Waste to Energy (incineration) air emission limits.

On April 14, 2008, a new EU air quality directive was approved which sets EU-wide limits on fine particle emissions ($PM_{2.5}$) for the first time ever. How does the Emissions Criteria rate for the various sized particulate? The Project Team must break down the particulate emissions into categories and explain. And please never lose sight of the fact that the toxic nano-particles will evade even the very best filters and that those emissions will not be monitored nor are they regulated. And don't forget about the several hundred other chemicals, many of which are unidentified with undetermined toxicity, that do not even appear on the Emissions Criteria report and which will go unmonitored and unregulated.

The EU air quality directive suggests a "thematic" approach to reduction of PM2.5 and other priority air pollutants but does not revise the already stringent EU 2000/76 standard. Staff have proposed even more stringent requirements.

The Regions' Team is using EU standards that are from the year 2000. They will be ten years old by the time this facility will be built and will be outdated - they do not represent the maximum achievable control and monitoring technology being realized by the best state of the art facilities nor do they look at where standards are being improved.	*The EU standards from 2000 represent an ambitious forward looking goal, setting limits for air pollution components that re-set the "state of the art" in air pollution abatement. These standards represent emission levels that will not contribute to impairment of the environment, and in many cases such as particulate emission represent emission levels that are lower than existing ambient air quality.* *Through consultation with our European counterparts, staff confirmed that there are no imminent changes forthcoming.*
The Regions appears to wish to gloss over these Emission Criteria they have set as they have not provided time for public consultation, yet these criteria are one of the MOST CRUCIAL parts of this study - they determine what we will be breathing and ingesting for the next 35 plus years. The analysis of the emissions criteria requires experts.	*The project team has presented the air emission criteria to the Joint Waste Management Group who have recommended them to Durham Works Committee. Both forums have engaged public input. The Generic Risk Assessment completed in 2007 demonstrated that the siting of the proposed facility, operating at the Ontario Guideline A-7 limits in Durham/York will not present an unacceptable risk to the surrounding population and environment. Any scenarios modeled in the Generic Risk Assessment where the facility may present an unacceptable risk do not exist in the immediate area surrounding Clarington 01.* *The Site Specific Risk Assessment to be completed in 2008/09 will be based on actual receptors around the facility and on actual guaranteed emissions levels supplied by the vendors to confirm these results.*
The public deserves proper consultation. We need to know how the emissions criteria compare to other incinerators on the whole - are we setting the stage to get a low-end, middle or high-end model? How do the Project Team's criteria compare to the world's most modem and state of the art facilities' emissions? Where is the rationale for each of the criteria listed in the report? Are these criteria health-based? (and, if so, who was consulted).	*High-end.*

If limits exceed EU guidelines, but not *A-7* guidelines, who will prosecute? How enforceable are the criteria? All of the details and the supporting information must be given. It is IMPERATIVE that the Emissions Criteria get the utmost scrutiny for its obvious health and environmental impact on the residents of Durham Region. I respectfully request that you consider making the following recommendations to Regional Council:	*The issue of compliance enforcement (i.e. "prosecution") focuses on the limits set in the Certificate of Approval and not on the provincial guideline. MOE will require that the EFW facility perform according to the proposed limits and will include these as limits in the Certificate of Approval. The MOE would be the prosecuting authority under the EPA if the Cof A is violated.*
1. that all further reports relating to human health impacts of the EFW be sent to Health and Social Services committee for information when released for review and comment;	*Agree.* *This will be part of the peer review process in 2009 after completion of the site specific human health and risk assessment report and presented to Joint Works and Health and Social Services Committee and Council.*
2. that Health and Social Services recommends to Regional Council to NOT accept the Works Recommendation to adopt Report 2008-WR-16 and, RATHER, recommend instead that Report 2008-WR-16 be referred back to Joint Waste Management Group to the May 13th meeting and request JWMG to direct the Project Team consultants to review the proposed limits, and provide supporting rationale/details for the EFW Emissions Operating limits and how they meet the commitments made in the Durham Council resolution of January 23rd and how they would be protective of human health;	*The project team has suggested modification of the HCl parameter. This modification to be the proposed emission limits in Table 1 has been revised to 9 mg/RM^3 to reflect adherence to EU.*

3. that Durham Region should hold a Public Information Session on the EFW Emissions operating limits and monitoring/sampling protocols to explain to the public how these would be protective of human health and the natural environment, solicit public input on these and provide a Q& A session, (or perhaps that would go as a request to Durham Region to request that of the JWMG - I am not sure of the correct procedure) I would also ask you to consider that Health and Social Services request their own review and obtain expert independent peer reviewers to determine the adequacy of Emissions Criteria in 2008-WR-16 to protect the health of Durham residents and whether it meets the state-of-the-art and MACT commitments made in the January 23rd resolution for emissions control technology and monitoring.	*Public consultation as prescribed in the Terms of Reference Full EA has been consistently followed.*
Thank you for your time and consideration.	
Some of the Issues/Questions Which Need to Be Addressed By a Peer Review Team	*Review by a peer review team is not required or beneficial.*

1) Which facilities are considered to be state-of-the art and what are the emissions and monitoring standards for those facilities?	*Comparative sites (Brescia, SYSAV. Amsterdam, Isle of Man, all comply with the most current state of the art emissions and monitoring standards Yes*
2) How do the Project Team's criteria compare to the most modern and state of the art facilities' emissions?	*The proposed limits will require technology similar to that in place at these and other modern facilities. Our proposed limits are at or below EU limits*
3) Do the criteria satisfy the requirement resolved by Durham Regional Council on January 23, 2008 that the facility will have the "most modem and state of the art emission control technologies" and "Maximum Achievable Control Technology (MACT) for the emission standards and monitoring of the EFW facility?	*Yes.*
4) Again, how do the emissions criteria compare to other incinerators on the whole - are we setting the stage to get a low-end, middle or high-end model?	*High-end model: Majority of the components will come from European based facilities.*
5) Who will be doing the monitoring?	*That will be determined through public tender following completion of C of A.*
6) We are all aware of the huge conflict of interest that GENIVAR has as they are currently the consultants who arrange the contractors / monitoring for Peel Region.	*GENIVAR is a reputable, MOE approved independent third party retained by the Region of Peel to oversee, along with the MOE, the independent stack testing of the Algonquin Power EFW facility. GENIVAR is not affiliated or retained by the owner/operator of the Algonquin Power facility.*
7) How will the testing be arranged and how will it be conducted? If limits exceed EU guidelines, but not A-7 guidelines, who will prosecute?	*All monitoring and testing must be done through an MOE approved contractor and accredited laboratory. The limits will be defined in the C of A and will be better than A-7 and EU 2000/76/EC. The CofA limits establish prosecutable limits.*
8) How enforceable are the criteria?	*Extremely; prosecutable under Provincial Environmental Protection Act.*

9) On particulate matter, why haven't they stipulated limits for the various categories for the size of particulates? The report should have indicated the percentage of the particulates the filters will be able to screen out for the various sizes of particulates. Vendors should be able to provide the percentage of PM_{10}, $PM_{2.5}$, and $PM_{<2.5}$ that they are capable of screening out and the report should have established criteria limits.	*It is reasonable to request that vendors provide information on the performance of their systems relative to the PM 10 and PM 2.5 criteria.*
10) Where is the rationale for each of the criteria listed in the report? Are these criteria health-based (and if so, who was consulted)?	*A-7 and EU limits are based on MACT and no risk to human health. Our proposed limits are equal to or better than either standard.*
11) Will this facility be ISO 14001 certified?	*The operating contract will require the Design Build Operator to produce an ISO 14001 compliant Environmental Management System within 2 years of start up. Additional requirements will apply to health and safety plans and other operational concerns.*
12) There are European standards for sampling agricultural products for dioxins and other chemicals of concern and that should be considered part of their monitoring standards. The Project Team's report does not address this monitoring issue. What are the current Ontario standards and what would have to be done to meet the European standards?	*The operation of the EFW facility will assure combustion temperatures and residence times well in excess of those required to destroy dioxins and furans. Further source separation and recycling measures will eliminate the majority of materials of concern before they reach the facility. This type of front end processing is superior to most European operations. Bio-monitoring is not considered to be necessary.*