



Comment	Response
Resident of Durham	<p>Both the generic Human Health and Ecological Risk Assessment and the Site Specific Human Health and Ecological Risk Assessment (SSHHERA) have been peer reviewed and independent reports from these peer reviewers have been presented to Regional Committee and Council. The peer review process was intended to identify any issues with the assessments. No issues with the figures, methodology or conclusions have been noted.</p>
Resident of Bowmanville	<p>When examining the potential impacts of exposure to particulate matter (PM) on human populations, the emphasis in the SSHHERA was focused on the fine and/or ultrafine fractions of particulate matter including nanoparticles.</p> <p>The results of the SSHHERA indicate that no acute (1-hr or 24-hr) or chronic (annual average) exposures at the maximum ground level concentration exceed the regulatory benchmark for any of the 10 evaluated cases at 140,000 or 400,000 tonnes/year.</p> <p>In addition to the evaluation of individual chemicals of concern, an assessment of chemical mixtures was conducted. There are currently no regulatory benchmarks to evaluate chemical mixtures. Furthermore, the evaluation of exposure to chemical mixtures is complicated by the narrow probability of each chemical in the mixture occurring at one specific location at the same time with a receptor also present at that location and time to be exposed to them.</p> <p>Regardless of these limitations chemical mixtures were evaluated for information purposes only in the risk assessment.</p>
Resident of Whitby	<p>We are aware that 75 Durham doctors have signed a petition and have reviewed the petition. However, we have not had an opportunity to dialogue with these Doctors in order to provide them with information from the SSHHERA which could resolve some of their concerns.</p> <p>With regard to the European doctors, a petition was signed by organizations in the EU that represent 33,000 doctors. The petition discussed the reclassification of “efficient incineration” as a form of recovery, rather than disposal.</p>
Resident of Whitby	<p>Concerned that MOE standards are under review and feels study is based on information which has not been finalized.</p> <p>While some of the Air standards (Guideline A-7 for example) are under review, the SSHHERA was based on the most up-to-date and relevant standards pertaining to potential effects on human and ecological health. However, note that there was no undue risk predicted to either humans or the environment if the facility was to operate at the standards</p>



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		required by the Regions.
Written Question	Was a smaller facility that only incinerated Clarington and Oshawa waste considered? Darlington doesn't need power.	Early in the EA a review and assessment of single versus multiple sites was undertaken. This study found that the potential effects of a single larger facility to serve the needs of Durham and York would be less than the collective effects of multiple smaller facilities located across both Regions.
Resident of Oshawa	Commented on extreme vulnerability of fetus and unborn children due to size and physiological vulnerability during various stages of growth and development. Would like a specific surveillance study to determine effects of incineration on children.	<p>The SSHHERA took into account that the end point of substance toxicity is often fetuses/children. Toxicity numbers used in the SSHHERA took into account special receptors including breast-feeding infants.</p> <p>In regards to biomonitoring, Durham and York Councils have approved of the following:</p> <ul style="list-style-type: none"> ▪ That stack testing for the Facility be supplemented by independent ambient air and soil testing for a minimum of three years at which time its effectiveness will be evaluated; ▪ That independent testing of flora and fauna be considered if in-stack, ambient air and soil test results regularly exceed levels predicted by the SSHHERA; ▪ That stack testing not be supplemented by human biomonitoring, and further that in the future human biomonitoring not be precluded as an option.
Resident of Pickering	What happens if Covanta cannot operate because of exceedances? Where are we left once the money is spent and the facility operator can no longer operate?	If there is an issue that would require a shut-down of the Facility, the MOE would make the order. Covanta would have to take corrective action to address the issue before start-up. There are contractual provisions with Covanta that requires the supply of contingency disposal capacity (landfill) if there are any Facility shut-downs.
Resident of Whitby	How can you ignore 75 doctors in Durham who signed petition stating "as physicians, register opposition to thermal treatment, even if below the legal limit, any addition of toxic chemicals is unacceptable".	<p>Concerns expressed by Durham doctors were received and reviewed. The Medical Officer of Health (Dr. Kyle) engaged peer reviewers to review the SSHHERA and to inform his decision. Based on the outcome of this peer review, Dr. Kyle made a report to Committee and Council that:</p> <ul style="list-style-type: none"> • The final SSHHERA be accepted and submitted to the MOE; • Following EA approval and construction, during operation an environmental surveillance program be implemented with the following principles: <ul style="list-style-type: none"> ○ Continuous and periodic stack testing of chemical emissions including dioxins and furans, that meets or exceeds the more stringent of the Ontario guidelines A-7 and EU directive ○ Stack testing be supplemented by independent ambient air and soil testing



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	<p>for a minimum of three years at which time its effectiveness will be evaluated;</p> <ul style="list-style-type: none"> ○ That independent testing of flora and fauna be considered if in-stack, ambient air and soil test results regularly exceed levels predicted by the SSHHERA, ○ Stack testing not be supplemented by human biomonitoring, ○ That environmental surveillance results are communicated to the public in as an accessible, accurate, open, timely, transparent and understandable manner as possible, ○ That an advisory committee be formed; ○ That the Health Department is consulted by the MOE before it finalizes its requirements for the surveillance program; ○ That the Region continue to pursue the goal of 70% waste diversion; ○ That the Region adequately supports the environmental surveillance program, independent environmental testing, public reporting of data, and work of proposed advisory committee. <p>See Report 2009-COW-01 – June 16, 2009 for full text.</p>
<p>Resident of Bowmanville</p> <p>Concerned about amount of truck traffic and emissions from trucks – wants to know how accounted for in studies.</p> <p>Concerned about type and frequency of testing for emissions.</p> <p>Question about operation of facility and timing of testing.</p>	<p>Potential truck traffic during construction and operations was modeled and the results were taken into account in the Air Quality, Noise and SSHHERA assessments.</p> <p>During operations, the Project is expected to generate up to 34 trucks per day at 140,000 tonnes per year (tpy) and 77 daily truck trips in the maximum design capacity of 400,000 tpy. The Facility is expected to generate 18 trucks (inbound and outbound) and 22 cars during the peak hour operating at 140,000 tpy and at 400,000 tpy peak hour traffic is anticipated to be 40 trucks and 22 cars. No traffic control measures are required on the adjacent road network to accommodate traffic during operations of the Facility.</p> <p>The type and frequency of emissions testing will be determined at the CofA phase of the permitting process. It will likely include continuous monitoring of some chemicals at the stack, and others will be periodically tested.</p> <p>Prior to undertaking a stack test, a pre-test plan must be prepared that must be submitted to the MOE for review. Once the MOE has signed off on the plan, the MOE must be notified two weeks before the testing takes place. The MOE may attend the site and view the stack tests at any time during the stack testing period. As part of the documentation that is prepared to present/discuss the results of the stack test, information on the materials that</p>



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		were thermally treated in that period would be submitted.
Written Question	Where is the toxic ash going? Does the EA consider the transfer, etc. of toxic ash? Do you have 30 years of dump left to dispose of the ash?	Under the proposed contract, disposal of the ash will be the responsibility of Covanta, which will be responsible for finding permitted capacity for the appropriate management/disposal of this material. The description of the Undertaking in the EA, considers how the ash will be managed at and transferred from the Facility.
Resident of Belleville	Concerns about the fallibility of risk assessment and room for error during assessment with the number of variables involved in a risk assessment.	The SSHHERA has been undertaken as appropriate by toxicologists that specialize in the study of the potential effects of various chemicals on concern on humans and the ecosystem. An environmental physician is on the review team.
Resident of Newcastle	Wants clarification on difference between options for continuous monitoring.	Continuous emissions monitoring (CEM) at the Facility for various parameters (e.g. oxygen, temperature, SOx and NOx, carbon monoxide) is used to monitor the operation of the system and emissions of key parameters. Fluctuations in the results would indicate potential for process upsets. Results from CEM can also be used as a surrogate to indicate the potential for emissions of other chemicals. Dioxins and Furans (and many other chemical of concern that have been noted) cannot be continuously monitored as the rate of emissions is too low for detection under a CEM approach. The Facility will include a continuous sampling system for dioxins and furans that will sample the stack emissions. The continuous sampling system will have a cartridge that would collect dioxins over a period of up to one month, providing an overview of dioxin and furan emissions during the collecting period.
	Concerned that the phrase “Robust and continuous monitoring” is misleading to the public since only 5 out of 100 are monitored continuously and fails to distinguish between nuisance and nasty chemicals. Nasty chemicals (particulates, metals, and carcinogens which cause serious diseases) won’t be continuously monitored. Some are not monitored at all.	The response above provided an overview of the continuous emissions monitoring (CEM) program. The majority of chemicals of concern are not present in sufficient concentrations to be continuously monitored. The purpose of the annual stack testing is to regularly monitor for the suite of chemicals of concern that are relevant to the Facility. The recommendations for both the CEM and stack testing approach are based on many (1,000s) of technical reports in regards to emissions and appropriate emissions testing requirements for similar facilities. In addition, those chemicals that are continuously monitored act as surrogates for the other chemical emissions.
Resident of Bowmanville	Concerned that peer reviewers will not be able to review reports before deadline set by Council.	The Peer review of the SSHHERA was completed, and a report by Dr. Kyle was presented to Regional Committee and Council as part of the suite of documents brought before Council in regards to the recommendation to submit the EA to the MOE.
	In the Air Quality report, was a 10 km radius considered?	The study area used in the Air Quality Assessment was 30x40 km. For the SSHHERA, the study area used was a 10 km radius from the Facility.



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	Was the effect to Lake Ontario considered? The dotted line ended up at the shoreline. What is the deposition of toxins in Lake Ontario? What about communities taking drinking water from Lake Ontario?	Lake Ontario was not considered as a specific receptor, however the watersheds leading into Lake Ontario were considered. The highest rate of deposition of parameters emitted to the air would be in the watersheds. Given the large surface area and volume of water in Lake Ontario, any low level concentration of chemical deposit would not be measurable in this waterbody, thus no effect is anticipated on Lake Ontario or on drinking water obtained from Lake Ontario.
	Did you consider wind?	Yes, wind was considered in the Air modeling. The primary reason for using the CALPUFF model used to estimate the concentrations of air emissions in the vicinity of the Facility was that this model takes wind into account.
Resident of Bowmanville	In May, July 2008, NOx exceeded ambient air quality and particulate matter was greater than Canada wide standards. During the establishment of the baseline, an exceedance was already found. Why is the facility being built?	The NOx exceedance was noted in an interim report submitted in September 2008 and at that time a commitment was made to investigate this data more thoroughly. Subsequent investigation determined that at the time of the high NOx readings, the air conditioner in the monitoring shed malfunctioned which affected the measurement instrumentation. The measurements during the malfunction period were therefore subsequently invalidated. With this correction, all valid NO ₂ measurements were below the regulatory criteria. Fine particulate matter measurements were below the Canada Wide Standard.
	Isn't the ambient air monitoring based on 3 years of data?	The rationale for the approach used to determine ambient air conditions is explained in the Air Quality Assessment report. Ambient monitoring was conducted for a period of 15 months. The length of the measurement period allowed for both short-term (hourly and daily averages) and long-term (annual average) levels to be quantified. This approach provided the best representation of air quality levels as actual measurements were taken in the vicinity of the site.
	Concerned that the facility will meet new standards – wants the facility to meet the lowest standards. Concerned that the MOE standards are changing and that dioxins are nearly double in the old A-7 guidelines. If we can meet the lower standards, why are we not?	The air emissions standards for operations, set out in the RFP that would have to be met by the Facility, are in most cases set at a level lower than the A-7 guidelines. The operational air emissions requirements have been set at limits that represent the maximum achievable control technology that can be used in the air pollution control system.
Resident of Courtice	Chart in one of the reports notes E. Gwillimbury and Clarington 01 emissions. There is a huge disadvantage in Clarington airshed vs East Gwillimbury. Why are both rated as “neutral” in summary of site advantages and disadvantages when they're	The chart that was quoted presented emissions listed in NPRI for facilities located within the area around the sites. The NPRI data was only one data source used in the study. As part of the EA, we conducted ambient air monitoring and found air quality was generally quite similar in the area around each of the sites. The area around Clarington 01 did have increased SO ₂ levels compared to East Gwillimbury.



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	Concerns about reliability of results of monitoring due to equipment malfunctions.	Measures were put in place to ensure that the ambient air monitoring program would collect reliable data, including monitoring of the temperature in the enclosure. The machine was calibrated and checked on a weekly basis. Data collected during the malfunction was invalidated. We are confident that the data used in the Air Quality reports is correct.
	What happens if Covanta's equipment malfunctions?	The proposed CEM system will allow for very quick response to any equipment malfunctions. Note, the results of the CEM are proposed to be publicly available as real time information, and Facility monitoring results are proposed to be presented to the advisory group that is proposed by the Regions. Should there be an upset condition, appropriate actions in accordance with the Facility operations and/or contingency plans would be required.
Resident of Courtice	Is there a safe level of exposure to any known carcinogen?	In risk assessment those chemicals that have the potential to cause cancer are not considered to have a "safe" dose. This means that there is some probability, however remote that one could get cancer from any exposure to a carcinogen. However, in Ontario the MOE has set an acceptable probability of getting cancer from exposure to each chemical at a very conservative rate of 1 person exposed in 1,000,000 populations, over the lifetime of the facility. Ontario has the most conservative approach for allowable cancer exposure in Canada.
	If there was an exceedance, could you shut down quickly?	Generally, if there were an exceedance of a parameter monitoring either through the CEM or Stack Monitoring, remediation including a shut down (as required) would be rapid. Procedures to address exceedances would be included in the permitting documents prepared for the Environmental Protection Act (EPA) approvals.
Resident of Bowmanville	Concerned that Facility has two weeks notice of testing by MOE.	There is a procedure that must be followed for stack testing. Prior to undertaking a stack test, you have to prepare a pre-test plan that must be submitted to the MOE for review. Once the MOE has signed off on the plan, you must notify the MOE two weeks before the testing takes place. The MOE may attend the site and view the stack tests at any time during the stack testing period.
	There is not mention of C02 – are there no concerns about global warming?	In regards to global warming and CO ₂ , the Air Study did examine the direct effects of emissions from the Facility. However, the bigger picture of GHG emissions was examined in the Energy and LCA study. Once the offsets from energy generation, metals recovery and avoided landfill emissions are factored in, the Facility would have a total net decrease in GHG emissions.
	Concerned that Vendor is more concerned	The contract with Covanta as well as the EPA approvals will include provisions to ensure



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	about profit that operating safely.	safe operation of the Facility.
	Why not become the best recyclers in Canada? Why not make materials that can be recycled and do away with non-recyclable materials.	It is assumed that Durham and York will achieve 60% diversion by 2014 and 75% diversion over the course of the next 30 years. This is a reasonable goal and comparable with performance in other jurisdictions with the same type of diversion systems. Notwithstanding diversion performance, there is still residual waste that requires management, which will be addressed by the proposed Facility.
Resident of Durham	Concerned about effects of emissions from trucks during construction on children playing soccer nearby.	The Air and SSHHERA studies modeled emissions during construction including truck emissions, and did not find any risk associated with this emissions source on the soccer fields. During the construction phase, emissions will be monitored to ensure that the predictions are accurate.
	Concerned about construction overruns – will increase the amount of traffic due to time concerns, budgets which will increase emissions.	See response above.
Resident of Ajax	Concerned about the number of projects with the same risk of cancer – is there an increase in cancer with every project?	Similar to the response above, the MOE only allows a 1 in 1,000,000 probability of getting cancer from exposure to each cancer causing chemical from individual facilities. Therefore, even the combined exposure to the same chemical from multiple industries would not result in an increased cancer risk or rate in Ontario citizens.
Resident of Courtice	Concerned about number of environmental violations by Covanta. Wants to know if Covanta provided the Region with this information and was it considered in your reports?	Covanta will be required to meet the performance guarantees as set out in the contract with the Regions as well as the provisions of the Air and Waste Certificates of Approval.
	Was non-compliance factored into safety?	As a conservative assumption, the Air and SSHHERA studies assumed that approximately 20% of the time, the Facility would be outside operating limits (start-ups, etc). The EA process is very conservative. Additional safety provisions are required to factor in upset conditions. The actual operational and upset limits will be set as part of the Air and Waste approvals through the MOE.
Resident of Toronto	Wanted to know if Study Team worked on the risk assessment for Halton?	The Halton study was a literature review, not a SSHHERA. Two of the members of the SSHHERA Study Team for this project were the authors of the Halton literature review.
	The MOE has no limit for benzene. How is it factored into the study?	Benzene is listed as a carcinogen. In the SSHHERA we looked at the US EPA guidelines for benzene limits and it was evaluated as both a carcinogen and a non-carcinogen. The risk to exposure was less than 1 person exposed in 1 million population.
	Since the MOE doesn't regulate benzene, how	Benzene limits can be included in the permits for the Facility by the MOE.



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	could the facility be shut-down?	
	Dr. Pengally says NOx in MOE regulations is not protective of health.	In regards to NOx, we looked at both limits from the MOE and those for other jurisdictions. The World Health Organization (WHO) limits are more stringent than those of the MOE were also considered in the final report.
	Concerned about the additive effect of fine PM and oxides of Nickel by siting an EFW. May not be acceptable to the health of the public in the area.	<p>The results of the SSHHERA indicate that no acute (1-hr or 24-hr) or chronic (annual average) exposures at the maximum ground level concentration exceed the regulatory benchmark for any of the 10 evaluated cases at 140,000 or 400,000 tonnes/year.</p> <p>In addition to the evaluation of individual chemicals of concern, an assessment of chemical mixtures was conducted. There are currently no regulatory benchmarks to evaluate chemical mixtures.</p> <p>Furthermore, the evaluation of exposure to chemical mixtures is complicated by the narrow probability of each chemical in the mixture occurring at one specific location at the same time with a receptor also present at that location and time to be exposed to them.</p> <p>Regardless of these limitations chemical mixtures were evaluated for information purposes only in the risk assessment.</p>
Resident of Sudbury	Concerned about infrastructure – who is responsible for infrastructure repairs to roads and highways?	Provisions and allocation of responsibility for roads and highways will be addressed in the agreement with Covanta and the Host Community Agreement with Clarington.
Resident of Ajax	Concerned about nanoparticles and how they are assessed.	<p>When examining the potential impacts of exposure to particulate matter (PM) on human populations, the emphasis in the SSHHERA was focused on the fine and/or ultrafine fractions of particulate matter including nanoparticles.</p> <p>The results of the SSHHERA indicate that no acute (1-hr or 24-hr) or chronic (annual average) exposures at the maximum ground level concentration exceed the regulatory benchmark for any of the 10 evaluated cases at 140,000 or 400,000 tonnes/year.</p>
Resident of Bowmanville	Conventional toxicology gives poison to rats. LD50 when lower concentrations have more subtle effects (i.e., endocrine disrupters, lowering IQ by 5%). Have you considered effects at the picogram level?	Each chemical has different effects and therefore different levels at which an effect could result. Some Toxicology studies are conducted to determine the dose at which various sub-lethal effects occur (such as those asked). Then the dose below which no effects were recorded (NOEL) forms the basis of the acceptable dose. However, additional safety factors are added, which typically range from 100 to- 10,000 fold, that lower the acceptable dose even further. This ensures that the acceptable level is set at a conservative value that is well below any effect threshold. In this SSHHERA, we applied an additional 5 fold safety factor to these levels, which is consistent with MOE policy.



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	Tables 7.3 and 7.4 on page 125 states there are unspecified health effects of lead, mercury, methyl mercury, silver, etc. What does unspecified health effects mean?	The use of the term ‘unspecified’ health effects was intended to refer to a variety of potential effects. The information in this table was clarified in the final SSHHERA report.
Resident of Orono	The C of A contains operating limits which cannot be exceeded. Dr. Ollson said the Facility would have to meet the new MOE limits if approved. If the EFW gets EA approval, and EPA approval, and new limits are not set, the EPA standards could only meet standards that are in effect today. The current operating limits are not as stringent. Where do we get assurance from grandfathering? Only if Facility is expanded or operations are changed in some way, then they could change the levels in the C of A.	The RFP included the requirement that the successful Vendor ensure incorporation into the design and installation of the Facility of the most modern and state-of-the-art emissions control technologies in order to meet or exceed the European Union (EU) monitoring and measurement standards and commit to maximum achievable control technology for emissions standards and monitoring. The result is that the Facility would have to meet emissions limits that are the lower of the EU or MOE limits. We will be working with the MOE to set the limits in the permits for the Facility. The MOE could change emissions requirements during the operating period for the Facility. It is common for Regulations that involve changes to current standards, to also include provisions as to how and when these changes would apply to existing Facilities.
	MOE said the C of A would be in effect unless there was an expansion or the C of A was opened. Is it possible the EFW could be approved at the current A-7 and continue to operate until a possible expansion would occur?	The method of addressing future changes in potential emissions requirements set by the Province has yet to be finally determined. In many cases the C of A has general provisions that require compliance with both current and successor regulations. In addition, it is also common for regulatory change to provide very clear provisions as to when and how revised regulations will apply to existing facilities. The Director of the MOE has the authority to amend the C of A.
	There is continuous emission monitoring technology available for a number of industries. How transferrable is the technology to the incinerator?	The CEM provisions included for the Facility are those most suitable for a thermal treatment plant. The CEM used in other industries may not be applicable as they are based upon different operating parameters.
Resident of Port Perry	Commented that Peel Region has the highest stillbirth rate in the GTA. Concerned there is a connection with incineration.	We have not reviewed the data specific to the Peel Region on stillbirth rates. However, the SSHHERA took into account that the toxicological end point of exposure to chemicals is often fetuses/children. Toxicity numbers used in the SSHHERA took into account special receptors including breast-feeding infants.
Resident of Bowmanville	Wants to know who to ask about increased biomonitoring.	In regards to monitoring, Durham and York Councils have approved of the following: <ul style="list-style-type: none"> ▪ That stack testing for the Facility be supplemented by independent ambient air and soil testing for a minimum of three years at which time its effectiveness will be evaluated.



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		<ul style="list-style-type: none"> ▪ That independent testing of flora and fauna be considered if in-stack, ambient air and soil test results regularly exceed levels predicted by the SSHHERA. ▪ That stack testing not be supplemented by human biomonitoring, and further that in the future human biomonitoring no be precluded as an option.
	Wants to know if Study Team recommended biomonitoring?	The monitoring program approved by Durham and York as noted above, considered the results of the SSHHERA, the results of the peer review and the concerns expressed by residents in Durham and York.
Written Question	Question regarding using continuous monitoring to monitor by-products of incinerations. Would like to see random sampling used for monitoring and suggests could be done by an independent party.	<p>Major stack chemical emissions will be continuously monitored including SO₂, HCl, HF, CO, and NO_x as well as other operating parameters such as O₂, NH₃, moisture and opacity. The purpose of the annual stack testing is to regularly monitor for the suite of chemicals of concern that are relevant to the Facility. The recommendations for both the CEM and stack testing approach are based on many (1,000s) of technical reports in regards to emissions and appropriate emissions testing requirements for similar facilities. In addition, those chemicals that are continuously monitored act as surrogates for the other chemical emissions.</p> <p>Random sampling is not normally practical due to the complex nature of the procedures and the need to have operation staff involvement. Third party verification of test results is by the regulatory authority in this case the MOE.</p>
Written Question	Comment about using smaller scale facilities to facilitate ramping up and down to accommodate garbage load. Feels that smaller regional plants would reduce transportation costs and associated pollution and would also keep the disposal close to where it's produced making people more responsible and accountable leading to reduced garbage production.	Early in the EA a review and assessment of single (large) versus multiple (smaller) sites was undertaken. This study found that the potential effects of a single larger facility to serve the needs of Durham and York would be less than the collective effects of multiple smaller facilities located across both Regions.
Written Question	Concerned that physicians are against this project and wants environmental and air emissions monitoring and human bio-monitoring.	We are aware that 75 Durham doctors have signed a petition and have reviewed the petition. However, we have not had an opportunity to dialogue with these Doctors in order to provide them with information from the SSHHERA which could resolve some of their concerns.



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		<p>In regards to biomonitoring, Durham and York Councils have approved of the following:</p> <ul style="list-style-type: none">▪ That stack testing for the Facility be supplemented by independent ambient air and soil testing for a minimum of three years at which time its effectiveness will be evaluated;▪ That independent testing of flora and fauna be considered if in-stack, ambient air and soil test results regularly exceed levels predicted by the SSHHERA; <p>That stack testing not be supplemented by human biomonitoring, and further that in the future human biomonitoring not be precluded as an option.</p>
Written Question	Please comment on the British Report of 2008.	Due to the lack of direction as to which report is referred to, we are unable to comment.