

March 17, 2021.

Chair John Henry and Members of Council  
Regional Municipality of Durham  
605 Rossland Road East,  
Whitby ON L1N 6A3

**Re: Staff Comments/Responses at Works Committee & Report 2021-WR-5 DYEC Operations, Long-Term Sampling System Update (for Dioxins and Furans)**

Chair Henry and Members of Council:

On March 3<sup>rd</sup>, Works Committee received Report 2021 WR 5 “for information”.

**Our Requests to Council:**

- 1) That Council NOT accept/support the Works Committee Recommendation to receive Report 2021-WR-5 for information.
- 2) That Council refer Report WR-5 - together with our letter - to staff, directing staff to respond in writing to the concerns raised and specifically to the request that AMESA data be provided as we have described below near the end of our letter in Bullet Points 1 – 4.

**Introductory Comments.**

First, please note this letter is a joint submission from Linda Gasser, Wendy Bracken and Kerry Meydam. We have been actively engaged around incinerator issues from when we first learned about Durham’s plans in spring 2006 (Linda and Kerry) and Wendy became involved in early 2007.

Rather than each of us writing to Council individually, a joint submission summarizes our shared ongoing concerns with multiple issues around AMESA data.

Over the years of our involvement, we have made multiple submissions over the course of the Environmental Assessment (EA) and Certificate of Approval (ECA) phases via delegations and formal submissions to both Durham and the Province. Since EA and ECA approvals were granted, we submitted formal comments on many aspects of incinerator operations including around monitoring plans.

With others, we hosted multiple citizen information events across Durham during periods when Durham had stopped consulting with the public during key phases of the EA.

We also organized a Council Information session at Ajax Town Hall in March 2011, primarily for the benefit of new councillors, so they could better understand what had transpired over the previous five years leading up to EA Approval.

We continue to sit on the Energy from Waste Advisory Committee since 2011. Wendy and Kerry were appointed repeatedly by Clarington Council as their members on the Energy from Waste, Waste Management Advisory Committee (EFW WMAC).

Second, we write to Durham Council, because Durham Region is the majority owner of the DYEC and as such has multiple responsibilities as a DYEC Owner.

Third, it might not be clear for the average reader or anyone searching for information pertaining to Dioxins monitoring, from the Report 2021-WR-5 title, that this report is about the **long term sampling of Dioxins and Furans**.

Fourth, our letter also addresses some staff comments to Works Committee at the March 3<sup>rd</sup> meeting.

Fifth, to understand Durham's obligations as Owner - around Long Term Sampling of Dioxins and Furans in particular, see below the complete text of ECA Condition 7(3). As concerns Report WR-5, note the obligations of "The Owner" under subsection (b).

Sixth, since Report WR-5 was received for information, it may not appear on your Council agenda.

Report at: [https://icreate7.esolutionsgroup.ca/11111068\\_DurhamRegion/en/regional-government/resources/Documents/Council/Reports/2021-Committee-Reports/Works/2021-WR-5.pdf](https://icreate7.esolutionsgroup.ca/11111068_DurhamRegion/en/regional-government/resources/Documents/Council/Reports/2021-Committee-Reports/Works/2021-WR-5.pdf)

March 3 Works Committee Minutes, starting Page 3:

<https://calendar.durham.ca/meetings/Detail/2021-03-03-0930-Works-Committee-Meeting/a40833af-7ab6-42e2-ab51-aced0096e1ee>

You can view the March 3 Works meeting segment with staff comments starting from the 6 minute mark of the meeting to 18:10 at:

<https://www.eventstream.ca/events/durham-region>

DYEC ECA Condition 7(3) states:

## Long-Term Sampling for Dioxins and Furans

- (3) (a) The Owner shall develop, install, maintain and update as necessary a long-term sampling system, with a minimum monthly sampling frequency, to measure the concentration of Dioxins and Furans in the Undiluted Gases leaving the APC Equipment associated with each Boiler. The performance of this sampling system will be evaluated during the annual Source Testing programs in accordance with the principles outlined by 40 CFR 60, Appendix B, Specification 4.
- (b) The Owner shall evaluate the performance of the long-term sampling system in determining Dioxins and Furans emission trends and/or fluctuations as well as demonstrating the ongoing performance of the APC Equipment associated with the Boilers.

### What are Dioxins and Furans?

US EPA Fact Sheet

<https://archive.epa.gov/epawaste/hazard/wastemin/web/pdf/dioxfura.pdf>

*Dioxins and furans is the abbreviated or short name for a family of **toxic substances** that all share a similar chemical structure.*

*Dioxins and furans are not made for any specific purpose; however, they are created when products like herbicides are made. They are also created in the pulp and paper industry, from a process that bleaches the wood pulp. **In addition, they can be produced when products are burned.***

***Dioxins and furans can enter your body through breathing contaminated air, drinking contaminated water or eating contaminated food.** About 90% of exposure to dioxins and furans is from eating contaminated food. Dioxins and furans can build up in the fatty tissues of animals.*

***There are several sources of exposure to dioxins and furans. If you work in or near a municipal solid waste incinerator, copper smelter, cement kiln or coal fired power plant you can be exposed to dioxins and furans.** Individuals who burn their household waste or burn wood can be exposed as well. Even forest fires can contribute to the creation of small amounts of dioxins and furans. Dioxins and furans have been found in the air, soil, and food. **Dioxins and furans are mainly distributed through the air. However, only a small percentage of exposure is from air. Eating contaminated food is the primary source of exposure.***

### Health Effects of Dioxins and Furans

Information about the many health effects of dioxins and furans were provided on multiple occasions to Durham staff and council over the course of the EA, ECA and since, including in 2013, during monitoring programs development.

The [International Agency for Research on Cancer \(IARC\)](#) -- part of the World Health Organization -- published their research into [dioxins and furans](#) and announced on February 14, 1997, that the most potent dioxin, 2,3,7,8-TCDD, is now considered a [Group 1](#) carcinogen, meaning that it's a known human carcinogen.

A 2003 re-analysis of the cancer risk from dioxin reaffirmed that there is [no known "safe dose"](#) or "threshold" below which dioxin will not cause cancer

In addition to cancer, exposure to dioxin can also cause severe reproductive and developmental problems (at levels 100 times lower than those associated with its cancer causing effects). Dioxin is well-known for its ability to damage the immune system and interfere with hormonal systems.

Dioxin exposure has been linked to birth defects, inability to maintain pregnancy, decreased fertility, reduced sperm counts, endometriosis, diabetes, learning disabilities, immune system suppression, lung problems, skin disorders, lowered testosterone levels and much more. For a detailed list of health problems related to dioxin, read the [People's Report on Dioxin](#)

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Short-term exposure of humans to high levels of dioxins may result in skin lesions, such as chloracne and patchy darkening of the skin, and altered liver function. Long-term exposure is linked to impairment of the immune system, the developing nervous system, the endocrine system and reproductive functions.

<https://www.who.int/en/news-room/fact-sheets/detail/dioxins-and-their-effects-on-human-health>

#### DYEC Monitoring of Dioxins and Furans (D & F)

Keep in mind that the incinerator operates 24/7/365 except when down for maintenance or other reasons.

**Source (aka Stack) Testing** – MECP required only ONE source test per year for compliance. In 2013 Durham residents (including us) petitioned the then Council for quarterly stack testing, which staff had promised in their business case in 2008, with Council eventually agreeing to doing one additional stack test per year -often called the Voluntary Source Test – for a total of TWO Source tests per year

Durham staff have reported to council that since Fall 2016, after the previous two dioxins exceedances, that stack test results have been well below the emissions limit. Durham's consultant at the time, John Chandler, wrote the following on page 4 of his **memo to Mr. Anello dated Nov.22-December 1, 2016:**

*"Preliminary Results of Fall Regulatory Tests"*

*The author has reviewed the preliminary results of the test series. The numbers are well below the required levels of the Approval. It is my opinion there should be no attempt to interpret the data either as it relates to between tests on either unit, or between the units. **It needs to be stated that Environment Canada have stated that the level of quantification, 32 pg TEQ/Rm<sub>3</sub> represents the lowest level that can reasonably be reported with conventional sampling and analytical methods. Moreover, the ASME ReMAP study has suggested that there is considerable statistical variation in sample results at this level.** I await the AMESA data."*

**Ambient Air Monitoring** Sampling for D & F occurs every 24 days (15 times per year)– sample duration 1440 minutes. There are two Ambient Air monitoring stations.

**Soil Monitoring** -now only every three years

**Long-Term Sampling -AMESA system-** continuous sampling over 28 day periods in both boilers. This monitoring is for information, NOT required for compliance.

Dioxins and Furans are NOT monitored via Continuous Emissions Monitoring Systems (CEMS)

#### DYEC Monitoring Results Reporting

**Source (Stack) Test Monitoring:** submitted to Durham Region Works Dept. and Covanta. The most recent report posted (hard to find) is from June 15-18, 2020 test, the related Ortech Report dated August 18, 2020 at:  
[https://www.durhamyorkwaste.ca/en/environmental-monitoring/resources/Documents/AirEmissions/2020/20201013\\_2020\\_Spring\\_Voluntary\\_Source\\_Test\\_RPT.pdf](https://www.durhamyorkwaste.ca/en/environmental-monitoring/resources/Documents/AirEmissions/2020/20201013_2020_Spring_Voluntary_Source_Test_RPT.pdf)

**Ambient Air Monitoring** – according to the Cover Page of 2020 Q 4 Ambient Air Report dated February 9, 2021, this is submitted to Regional Clerk or designate at Durham, with copies going to 3 Works/Waste Dept. staff listed.  
[https://www.durhamyorkwaste.ca/en/environmental-monitoring/resources/Documents/AmbientAir/Ambient%20Air%202020/20210222\\_RPT\\_2020\\_Q4\\_AA\\_ACC.pdf](https://www.durhamyorkwaste.ca/en/environmental-monitoring/resources/Documents/AmbientAir/Ambient%20Air%202020/20210222_RPT_2020_Q4_AA_ACC.pdf)

**Soil Monitoring** – according to cover page of 2020 report submitted to Durham Region lists one Waste staff member, see at:  
[https://www.durhamyorkwaste.ca/en/environmental-monitoring/resources/Documents/Soil/2020/20201026\\_ENC\\_DYEC\\_2020\\_Soils\\_Testing\\_Report\\_MECP\\_ACC.pdf](https://www.durhamyorkwaste.ca/en/environmental-monitoring/resources/Documents/Soil/2020/20201026_ENC_DYEC_2020_Soils_Testing_Report_MECP_ACC.pdf)

**AMESA Long Term Sampling Results: ZERO data from monthly (28-day) sampling periods posted since AMESA installation in Fall 2015.**

A single AMESA number for each boiler (no calculations/underlying data provided) taken over period concurrent with Source Testing campaign has been referenced in past Annual Reports, most recent for 2019 found on page 27 at:  
[https://www.durhamyorkwaste.ca/en/operations-documents/resources/Documents/2019\\_DYEC\\_Facility\\_Operations\\_Annual\\_Report.pdf](https://www.durhamyorkwaste.ca/en/operations-documents/resources/Documents/2019_DYEC_Facility_Operations_Annual_Report.pdf)

ALL monitoring reports, EXCEPT for AMESA sampling data which staff claim goes to Covanta and, which Durham staff have claimed they don't review, ARE provided to Durham Region.

**ALL monitoring results from all surveillance systems, must be reviewed and reported in order for Durham to have a picture of DYEC emissions.**

Background: DYEC & Dioxins and Furans & AMESA LTSS

During the Environmental Assessment, the public requested, and the Ministry of the Environment ultimately required, installation of a Long Term Sampling System (LTSS) for Dioxins and Furans (D & F). This would ensure there would be monitoring over periods beyond the few hours' duration of semi-annual Source Tests. AMESA was in use by multiple incinerators in Europe since 2000. This was NOT new technology.

**Sept-October 2015:** "Acceptance Testing "Source Test – failed for D & F, both boilers.  
**November 2015:** Durham hired an external consultant John Chandler to review AMESA sampling – note this AFTER the Acceptance Testing Stack test exceedances. (Chandler memo June 9.16 Attch. 2 to Report 2016.WR 8)

**December 2015 and January 2016:** Prior to "accepting" Covanta's Acceptance Testing results, the majority of Durham Councillors voted to close TWO council meetings in December 2015 and January 2016. After amending the Project Agreement, and this notwithstanding the Fall 2015 D & F exceedances, Durham Council voted to "accept" and moved Covanta to commercial operations at the end of January 2016.

**May 2016:** staff reported there had been a massive D & F exceedance in Boiler 1.

Again, the public requested the AMESA results for the sampling periods since AMESA had been installed. These were not provided by Durham.

What is important for Durham councillors to know is that council and the public were told on multiple occasions that if there were operational issues at the incinerator, that these would be picked up by operators. They weren't in May 2016. Council and the public were also told that if something went wrong at the incinerator, MoE would shut it down. After the May 2016 exceedance, MoE did not request Covanta to shut down – they asked them to develop an Abatement Plan. Covanta did not shut down voluntarily.

That massive exceedance went undetected until the source test – none of the continuous monitors indicated any problems. It is unclear how many hours, days, weeks or months went by with the facility emitting in exceedance.

Days later, Boiler 1 was shut down for several months at the request of the Owners, while Durham's consultants and Covanta investigated. There was no "smoking gun". HDR's findings were summarized in Report September 30<sup>th</sup> 2016 INFO-25 – Abatement Plan Update.

**September 2016:** after the findings of Closed Meetings Investigator Amberley Gavel, who in his report had determined that portions of those two closed meetings could and should have been held in open session, were made public, Council directed staff to release all documents that were not deemed to be "privileged" and therefore confidential.

**May 2018** – Ambient Air exceedance for D & F

**May 2019:** Wendy Bracken filed two Freedom of Information requests with Durham, both requesting a variety of documents around AMESA, *including "lab analysis showing the sampling results, from the AMESA cartridge samples collected in both boilers, for all sampling periods from start up to April 30, 2019"*.

Some requested documents were released later in 2019. Some of these have raised more questions about Durham's "management" of AMESA sampling. However, NONE of the monthly sampling data or related analyses have been released to date.

There was a stunning revelation at the September 24, 2019 EFW WMAC meeting, when Durham staff responded to Wendy Bracken's questions at that meeting about AMESA.

**December 4, 2019** – in her delegation to Works Committee, Ms. Bracken reported that:

**“At the September 24, 2019 EFW-WMAC meeting Mr. Anello advised that the AMESA monthly cartridge lab results go to Covanta and Durham does not review them as the results are “meaningless”.**

**October 23, 2019:** at the PIC meeting for the Incinerator throughput expansion to 160,000 tonnes per year (tpy), all three of us were present. Through conversations the three of us had with York, Durham and Covanta staff, we learned that York staff HAD audited AMESA data and Durham staff claimed to have reviewed none, until your Mr. Anello added that he did in fact look at some data around Durham’s Ambient Air Exceedance for D & F. Note - This latter D & F Ambient Air exceedance was not mentioned by Ms. Siopis at the meeting March 3<sup>rd</sup> – she only recalled AA exceedances for particulate.

If it were true that Durham staff did NOT review the AMESA data, who employed or retained by the majority DYEC Owner i.e. Durham region, did, so that Durham as the owners would be meeting ECA Condition 7(3)b specifically?

There were a series of letters from Durham Legal staff from December 2019 through 2020, to the Information and Privacy Commissioner adjudicator over the course of Wendy Bracken’s appeal of Durham’s denial of some requested documents, including AMESA sampling related data.

### **Council should review Durham’s submissions to the IPC.**

Clarington Council in particular should be concerned as they are the host community and directly impacted by incinerator operations, as would Oshawa residents.

As you read what follows, please keep in mind ECA Conditions 7 (3) as described above, and the OWNERS (Durham and York Regions) obligations.

While AMESA results are not required for COMPLIANCE purposes, they are required to monitor Covanta’s operations AND to meet the OWNERS’ obligations in 7(3)b.

Your former Works Commissioner explained on June 15, 2016 in Report WR-8, after the big May 2016 exceedance:

***“The objective for the installation and testing of the AMESA system is to generate additional Dioxins and Furans data to monitor the performance of the plant and its APC system. In addition, the Owners expect that after further investigation the AMESA system will be used to monitor Dioxins and Furans between the scheduled stack tests. This will provide for an additional mechanism to better protect the public”.***

### **Council is Ultimately Responsible**



COUNCIL is ultimately responsible for ensuring that ALL monitoring results are reviewed by staff AND reported to both council and the public AND posted on the DYEC website accessible to all, promptly.

Staff and Covanta had almost four years from ECA approval in June 2011 through to start up in 2015 to figure out AMESA. They've had over five years operational experience since AMESA was finally installed in the fall of 2015.

Chair Henry and Councillors –who of you thinks it's a good thing that Durham taxpayers have paid for AMESA equipment, five years' worth of sampling, lab analyses, consultants' reports, flying in manufacturers staff to help troubleshoot, numerous meetings between staff, Covanta, consultants, MoE – yet have NOT been provided with the sampling results for the sampling periods since 2015?

York staff audited some AMESA data and they are a minority owner, whose community is not directly impacted by DYEC emissions.

Can Council think of a single valid reason WHY Durham staff should not review AMESA data, data that was collected for specific purposes as required in ECA Condition 7(3) and for purposes as described by your previous Works Commissioner.

Why has Durham allowed Covanta to control sampling data that monitors their operations?

How much money has been spent to date on AMESA related activities, that Durham staff stated they don't even review?

Not only does Council have an obligation to know about and understand the monitoring results, you should also be aware whether or not your staff carry out their duties in a way that meets Owners' obligations in the ECA.

Council has a duty of oversight, especially relevant here with a private, for profit company operating a facility emitting highly toxic pollutants. Dioxins and furans emission problems have been a major issue for incinerator companies.

When you look at some of the AMESA Work Plans released through the information request, Covanta appears to be running the show as pertains to AMESA data. Though Durham taxpayers are paying the freight, Durham has allowed the fox to be in charge of the hen house.

As some of you know, Covanta has experienced multiple "issues" at their incinerators. Who is monitoring Covanta to ensure that any changes they "recommend" and that may be adopted, would be appropriate and in the public interest?

Recall that Council approved submitting an application for a throughput increase at the incinerator to 160,000 tonnes per year (tpy) and has authorized staff to develop a Terms of Reference for the physical expansion of your incinerator to 250,000 tpy. Council must address the AMESA sampling issues now.

At Works March 3<sup>rd</sup> a councillor asked whether AMESA was widely used. Staff indicated that there were some in Europe, a few in each country – perhaps leaving the impression with some that it's not widely used.

Durham's consultant at the time wrote a memo to Mr. Anello dated November 22, 2016, "Observations on Sampling", writing on page 3:

*..... noted that there are 60 installations in Belgium with no legal requirement from the EU. In 2006 in Italy the local authorities started to require the units and there are 80 in operation. **As of 2010** France started to require the units and there are 250 installations in that country. There are 60 installations in other European countries, 30 in Asia and 5 in Canada.*

Durham residents knew and know that long term sampling of D & F was widely used, and continues to be, especially in Europe.

Works Commissioner Siopis described the WR -5 report as "a good news story".

This staff report would no doubt be seen as VERY good news by Covanta, the incinerator operator, whose operations AMESA is intended to monitor, and who would be aware that Durham staff claim they are not reviewing it, and would know that the public would in fact be provided with only select data that is under Covanta's control at the present time, according to your staff.

This report is terrible news for Durham taxpayers and residents as well as for the incinerator host community. Durham has multiple obligations to Clarington through the Host Community Agreement.

Durham can't monitor trends over periods (as per condition 7(3)b ) and/or take any action that might be warranted, including alerting Council to issues, if not undertaking their own review of the sampling data.

Your monitoring will never be the "best of the best", as a Works Committee member asked staff, if your staff are not reviewing all of it and not making the results and underlying data available to the Owners and general public.

**From Works March 3 minutes:** *"In response to a question from the Committee with regards to whether the Municipality of Clarington will be made aware of Report #2021-WR-5 of the Commissioner of Works, staff advised that they would summarize the information and forward it to them directly".*

Works Commissioner Siopis responded when Councillor John Neal asked if this information would be communicated to Clarington, that staff had not intended to specifically communicate this information to the incinerator Host Community! She indicated a summary could be provided.

This summary to be provided to Clarington must also be provided to ALL Durham councillors and accessible to the public, whether via information report or memo, so that there is an accessible record of this staff “overview”.

Council seems to have accepted that staff provide you with less information than in the past, about increasingly complex and expensive projects, projects which in the case of the incinerator, directly impacts public health and the natural environment. There are financial impacts to be concerned about as well - Durham reported the highest disposal costs of all municipalities reporting to MBN Canada for 2019.

#### **From Report WR 5 Section 3.2 e) and f)**

*e. All AMESA records required by ECA conditions 14(3) through 14(8) will be held at the Facility and will be available for MECP inspection. **Monthly data shall be summarized and presented in the annual ECA report.***

*f. AMESA results for the previous year will be reported as part of the Annual Report as required by ECA Condition 15, commencing with data collected during the 2020 calendar year. **AMESA trends of validated data will be presented as a 12-month rolling average** together with analysis to demonstrate the ongoing performance of the APC Equipment. A summary of non-routine maintenance completed on the AMESA system will be presented as part of the Annual Report.*

Those Annual Reports include little information other than what was explicitly required by MECP.

ONE year's worth of select data, massaged into meaninglessness, when NO monthly sampling data has been reported over the last five years, is completely unacceptable.

**It was Covanta who suggested providing the “rolling averages”.**

See Extract from November 4, 2018 Work Plan:

*“ The improvement of data quality to date and the variability of monthly data suggests that a longer reporting period may be appropriate to review AMESA monthly data moving forward. As a result,*

***Covanta proposes that a 12 month rolling average begin to be utilized to evaluate the trend of dioxin emissions. “***

AMESA data requested

Below find a description of the data that should be made available to Council and the public, posted to DYEC website, going back to when sampling started in 2015 to the present:

1. Data for individual months/collections should be detailed in Annual Report – a rolling average is inappropriate here and virtually useless. Councillors should be asking themselves – why would you accept a rolling average reported once a year, for data that you need monthly (28 days)?
2. The AMESA cartridge data should be posted online and include: the mass of dioxins/furans collected in each monthly sample and their toxic equivalencies, the volume sampled, give the concentration calculated as well as the dates and duration of each sample.
3. The underlying raw data and analysis should be posted online as well as the validated data set. Lab reports must be provided to the public for transparency and accountability. Other publicly funded monitoring reports attach the underlying data and lab analysis – this should not be any different. If any data was invalidated there should be rationale provided for its deletion and that rationale should be publicly available and part of the reporting as it is for other publicly funded monitoring.
4. We request that Council direct staff to review the monthly data as it comes in with copies of all AMESA data going to both Durham and Covanta. Durham should be conducting an objective and a separate review from Covanta. Durham staff should not depend on Covanta to update them, as may currently be the case.

The practices documented and described by staff indicate an inappropriate amount of responsibility and control has been given to the private sector operator, Covanta.

Once-a-year reporting out of a single statistic (“12-month rolling average”) of “validated” AMESA data proposed in the Report would render the information near meaningless for the public, Host Community and Council as it would not be apparent if certain months were worse, or indicated problems, and defeats the stated purpose of informing monthly trends.

Without providing the monthly data it impossible to be aware and react to monthly trends in a timely manner. A primary objective of the AMESA is to provide some information on dioxin and furan emissions over the six months between stack tests.

Furthermore, Report #2021-WR-5 FAILS to align with the two strategic goals the same report alleges to adhere to in Section 4.1 a. and b.

If your staff don't look at the data and don't report out the meaningful **monthly data**, you are not aligning with those strategic goals **of protecting the environment (Goal 1.3)** and of **"continuous quality improvement and communicating results"** (Goal 5.3), but instead are **taking actions *contrary* to those goals**.

The data requests described above are reasonable, effective and within your authority. **They increase transparency and accountability and provide necessary safeguards.**

#### Closing Comments

Our concerns relating to AMESA sampling data not being provided, and not being reviewed by Durham staff, were brought forward by Wendy Bracken on December 18<sup>th</sup>, 2019 to Regional Council, as well as to Works Committee on December 4<sup>th</sup>, 2019.

#### Our Requests to Council:

that Council NOT accept/support the Works Committee Recommendation to receive Report 2021-WR-5 for information.

that Council refer Report WR-5 - together with our letter to Council - to staff, directing staff to respond in writing to the concerns raised and specifically to the request that AMESA data be provided as we have described above in Bullet Points 1 – 4.

Thank you for your attention.

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