

## ERO response – 019-1444 & 019-1446

This document is intended to be a response to an application for a renewable energy plant (Biogas / waste processing plant) at 633 Coronation Drive in Scarborough.

We know the ministry has significant resources to accurately review the material submitted by the proponent, and do not claim to be able to review the material except for inaccuracies that the Ministry may not be aware of, because of inaccurate and/or misleading materials supplied in the responses to the ECA application.

Of particular interest in this response is a review of the actual environmental impact this facility would have on the community. To ensure this is an accurate review we have adopted the mission statement from the Ministry, as well as utilizing the guiding principles that the Ministry uses.

Specifically:

From <<https://www.ontario.ca/page/ministry-environment-conservation-parks>>

"Leading to healthier communities and economic prosperity through protecting Ontario's air, land and water|"

And:

### "What we do

- Protect Ontario's air, land, water, species at risk and their habitats
- Tackle climate change
- Manage the province's parks and conservation reserves
- Maintain strong environmental protections while creating jobs
- Use the best available science and research to develop and deliver policies, legislation, regulations, standards, programs and services
- Enforce compliance with environmental laws
- Work with partner ministries, other governments, Indigenous partners and organizations, industry, stakeholders and the public
- Monitor and report to track environmental progress"

## **Executive Summary:**

This report will analyse the submission material that was provided by the Ministry in response to ECA requests - 019-1444/019-1446 with reference numbers 8818-BKDPE7 and 2032-BKDP63 submitted by the numbered company 2683517 Ontario Inc.

As we will show, this submission is insufficient in many ways, there are some details that are deceptive and inaccurate, and some that are not included giving a wrong overall picture of the environmental impact of this proposal.

We will show that this submission will actually negatively impact climate change, will impact Ontario's natural resources (including Lakes, rivers, community parks, residential neighbourhoods). It will break the ministry environmental emissions limits, exceed noise limits and exceed odour allowances.

We also request the Ministry take into account the other governments requests (both municipal and federal levels) in rejecting this site for this proposal, and relocating to a more applicable location away from schools, residences, churches, parks, lakes, rivers and many other urban structures.

As of this writing, there is a petition at <http://www.change.org/westhillhealth> that has in excess of 7,500 concerned citizens opposing this location for this project. There are well in excess of 250 detailed comments and concerns. These have been shared with the various elected officials within the municipality, the province and the federal agencies.

Finally, regarding this ECA approval, the site plans and zoning diagrams included in the various submission documents include a large site that is called '633 Coronation Drive' and includes a site map that goes from Coronation to the rail tracks. This site includes an existing office facility, an existing recycling facility, and other active facilities. None of these other facilities are included in the submission, no emission data, no noise data, no odour data, even though approval is being requested for the entire site. We believe this is a significant concern and should immediately require a redo of this submission. We are not sure how you can ask for ECA approval for the entire site, only put in data for a ¼ of the site, yet plan construction and use of the rest of the site (ie: storage facility, new road builds, weigh stations etc)

Finally, the proponent has confirmed that the proposal is more than a waste transfer facility, that it is in fact a site that takes incoming organic waste materials, using anaerobic digestion and creates a biogas that they call RNG (or Renewable Natural Gas). This is a renewable energy project. It is very similar to the City of Toronto - Disco Road Organics Processing Centre only significantly larger in size (75,000 tons vs the proposed over 450,000 tons). <https://www.toronto.ca/services-payments/recycling-organics-garbage/solid-waste-facilities/renewable-natural-gas/> The City of Toronto, in getting approval for their facility completed an REA approval and with that precedent feel that an REA is more applicable for this facility, especially considering the ECA does not accurately reflect the entire site where approval is being sought.

By allowing/encouraging an REA, it will ensure that the value (if any) of RNG is actually properly reflected, as this forbes article shows [RNG may not be as good as preached](#) that many RNG sites are not truly saving carbon emissions, but are manufactured to ensure that methane/carbon are 'harvested' to

produce the gas required, rather than salvaging it from material that would emit it naturally. Adding to this process the huge carbon footprint of over 200 heavy truck trips per day, the cutting down of over 100 mature trees on the site, the environmental benefits proposed are non-existent, and the emissions from this site are aggregated to an already overly polluted neighbourhood.

### **Noise Emissions:**

A review of the Secondary Noise Screening Method application highlights a few items that are of concern.

This noise review will investigate each claim and allow an interpretation based on actual data either submitted by the proponent or from easily observable confirmation on or around the proposed site.

The first item of concern is the count of noise sources. The proponent claims there are 10, and labels them as such. As discussed in the summary, the noise considerations only take into account 1/4 of the site being proposed for ECA approval. None of the existing office building, the existing recycling facility, the transfer station, or any existing truck traffic is considered in this noise review. Adding even a marginal amount of noise from these existing buildings will clearly increase the levels of noise generated over the approved limit as required by the ministry.

The following references will utilize site maps provided by the proponent. The first is on page 26, of the 'Traffic' study that was submitted on July 21st, only 2 days prior to the closure of the comment period. The link to that document is here.

[Traffic Study](#)

The other item of interest is the "Coronation Secondary Noise Screening form", provided to the ministry as part of the ERO process, along with the map showing locations for the noise sources and POR's -this map is titled "17C07-00-ES4 \_ Noise Emission Source \_Receptors". Additionally to add GPS coordinates, for accurate distance measurements, the file "ESDM Appendices (specifically appendix A - Drawing set" provided with the submission was used.

Looking at N1 as the source as the source of Truck noise, implies that this location is the only point that will be used for trucks coming/going into the facility. However there are trucks shown entering the facility along the entire north part of the structure, and a look at the diagram included in the traffic study shows trucks entering/leaving to north of Point N5 on the source diagram. Using the ESDM Appendices drawing set document, we can determine GPS points. This clearly means that truck traffic will enter / leave the facility at least 45 meters closer to POR1, and significantly closer if we consider that the trucks will be entering / leaving from outside that location and be backing up (along with backup alarms). There is no acknowledgement of that additional noise outside of the facility - nor is it included in the calculation of noise levels.

Using the various included diagrams, it is estimated that point N1 has GPS coordinates of 43,764332, -79.160707. - The additional N1 source (at the other end of the building we will call it N1a and) GPS coordinates would be 43.764508, -79.160100

GPS coordinates from a GPS device to the closest point on property at 33 Bennett Rd (POR1) is 43.767635, -79.163195

POR2 - again utilizing the ministry guideline of closest part of property line on 112 Beechgrove Drive is at coordinates 43.766000, -79.156136

Using these coordinates alone for both N1 and N1a and distances to POR1, 2 and the new 3 - we have distances of:

N1 to POR1 = 418 M  
N1 to POR2 = 411 M

Looking at the other N1a location we have the following:

N1a to POR1= 427 M  
N1a to POR2 = 359 M

N2 is located close enough to P2 location from the emissions source coordinates. 43.76407, -79.16056

N3a/b to POR1= 449 M  
N3a/b to POR2 = 415 M

N3a/b are close enough to utilize a single GPS location we will use P2 location from the emissions source coordinates. 43.76407, -79.16056

N3a/b to POR1= 449 M  
N3a/b to POR2 = 415 M

N4a/b/c are close enough to utilize a single GPS location we will use P1 location from the emissions source coordinates. 43.76404, -79.16041

N4a/b/c to POR1= 458 M  
N4a/b/c to POR2 = 407 M

N5 is estimated to be: 43.764149, -79.160134  
N5 to POR1 = 459 M  
N5 to POR2 = 381 M

For N6, we get the coordinates of 43.76341, -79.15958

N6 to POR1 = 552 M  
N6 to POR2 = 399 M

Using the coordinates on the emissions report we can determine that N7 is coordinates : 43.76303, -79.16013

N7 to POR1 = 568 M  
N7 to POR2 = 460 M

So we would suggest the distances are better reflected by the following chart:

Source:	N1	N1a	N2	N3a/b	N4a/b/c	N5	N6	N7
A	418	427	449	449	458	459	552	568
B	411	359	415	415	407	381	399	460

We would also suggest adding the noise emissions from the existing (and new buildings that are not accounted for but show up in the diagrams and do NOT exist today) - including the air conditioning units, existing truck traffic to the existing site, and truck idling for both the entrance and exit weigh scales shown on the truck traffic diagram. It is clear that the use of the weigh scales will require trucks to idle outside of the unit, and this needs to be included in the noise calculations. There is significant precedent including truck noise on and through the facility, the Toronto Zoo Organics project clearly evaluates the noise of trucks passing through the site and this sets a key precedent in a residential area. That report can be found here: [Toronto Zoo Acoustic Assessment with Truck noise considered](#)

If we take into account JUST what was provided, it is clear that the noise levels for the location is already over allowable limits. Putting the above numbers into the secondary noise sheet and doing the calculations comes up with the following totals: 46 and 47 DBA respectively, this is without the extra noise (office/facility and truck noise) from existing facilities, without considering the truck traffic noise from the new trucks entering/exiting from the road, and the time spent on weigh scales both entering and leaving.

Other issues are from the attached manufacturers noise levels, two of the documents are just emails stating an estimate, and stating it depends on the type of material being processed. One such email gave an estimated range, and the proponent chose to take the middle estimate. Clearly this is not a scientific number, especially when the noise levels are already exceeding the allowable limit.

### **Odour Emissions:**

A review of the Odour Assessment using AERMOD highlights several items that are of concern.

The summary states that the proposed digester facility uses a dispersion model with an emission rate of 1,000 OU at each stack. They cite a facility (Seabreeze Agri-Energy in BC) as the source of test emissions that are used to emulate the emissions of the proposed facility.

They claim the OU's in the tests are 100 OU's and therefore the odour data used is representative and very conservative. There are some concerns with this however, the facility in BC is not similar to the one being proposed, it is an electricity generation facility, it is located on a farm, and the feedstock is 40% manure. Additionally the size of this facility is more than 1/10 the size of the proposed facility. Hence the 1000 OU's is actually a concern if that is what is used in the assessment, as that is at the limit and with a different feed stock clearly different odour emissions and quantities will be produced. The

specified odour management specifications says that 4.1% of the methane captured will be emitted to the air, so a significant amount of methane will be emitted not only as a noxious gas (see concerns from the emissions report) but as an odour concern. There is concern that this is making the data fit the result type of modelling.

The secondary noise screening method does a good job of recognizing the impact of truck noise within a site. The problem with the odour report is it is up to the proponent to determine the odours that are emitted, and to only track those. The biggest concern evolves around most of the rotting material brought on site will be arriving by many trucks (up to 200 trips per day), and there is no mention of odours from tarp covered trucks moving this rotting produce, even though it is clear this is an important part of the site operation. Without capturing the impact of the odours from these trucks as they enter/leave the site is an inaccurate portrayal of the overall odour emissions from this facility. The Toronto Zoo odour report clearly identifies odour coming from trucks hauling waste materials, and identifies this as a key odour item. They only have a few trucks per week, not in excess of 100 per day as is identified for this project, so the odour considerations of trucks in this project is significant and the precedent to include this in the report is critical. Copy of the Toronto Zoo Organics processing Odour report is here: [Toronto Zoo Odour Report including truck odour issues](#)

There is also no mention of the odour from truck emissions from idling and arriving/leaving the site, that are clearly a concern for those in the immediate area.

The Odour report uses a dispersion model for odour propagation, but does not consider the odour propagation of the trucks wielding rotting garbage within the neighbourhood as they leave/arrive at the site. This is similar to what should be considered by the noise report and is a critical missing piece of the assessment.

The use of fast acting doors and air curtains is another concern, the proponent does not consider any odours escaping from these doors that will be opening and closing several times per hour every day. Clearly this is not realistic and needs to be added as an odour source.

Additionally, there is no mention of any odour from the use of the flare and/or the PRV. This will emit odours directly into the air, and although there is no intention of using these devices, the flare is used during setup of the facility, and regularly during operation should the gas mix get out of control. The BC site that was used as a comparison facility used their flare for 5 hours last year, so this should be included in an assessment of odour sources.

There are 10 emission sources in the ESDM report for gas emissions, (various stacks and ways for gases to escape) yet there are only 2 considered for odour emissions. Are we to believe that all odours only are found in two locations, and that most of the stacks that are releasing toxic gases have NO odour at all. This is highly unlikely and very suspect.

Finally, as with the noise assessment, there is no discussion or inclusion of any odours created by the rest of the site that the application is in place for (only 1/4 of the site is to be used for the organic processing) but the entire site is being used for an ECA approval. There is an existing waste sorting facility on site, with odours in the air already on this 633 location, they need to be taken into account for this proposal. Existing truck traffic, existing odours need to be considered, and added to the odour submission to make a true assessment of the concerns with this project.

## **Emissions:**

A review of the ESDM Assessment using AERMOD highlights several items that are of significant concern. Clearly the most striking is that under normal operations that emissions for GHG (CO<sub>2</sub>) is almost 3 times what is allowed by the ministry. This alone should be a huge reason for not accepting this proposal, and to claim it would be emitted at source anyway, so to not consider it as viable is just wrong and puts the whole ECA process in question.

The purpose of the ECA as we understand it is to evaluate the impact on the environment in a neighbourhood. In order to do that we must first understand the current environmental issues that this proposal will be adding to. We must consider all aspects of this proposal including existing facilities on the ECA application area, we must consider the impact of the extensive number of trucks on the environment and neighbourhood, without including these items it is really just an exercise in futility.

Reviews of other anaerobic digestion emissions reports show that most of the reports also include emissions of CO (not CO<sub>2</sub>) and Ammonia. We realize that the waste material to be used will reflect the chemical base and emissions, but it is considered unwise if some type of ammonia or other organically created gas is ignored and certainly no recognition of Carbon Monoxide must be an oversight.

Similar to the discussion above on including truck odour emissions for an assessment of the odour evaluation, including gas emissions and their impact on the environment is critical, as it was for the noise impact. It is clear that if noise from a truck is considered important and is a critical part of the noise assessment that the emissions from a truck need to be included in this study, you can't have one area being important and the other just ignored. We believe this is not up to the ministry to decide what to include in the evaluation, but it is up to the ministry to ensure that a fair and balanced evaluation takes place, and if it is included in the noise evaluation, clearly it must be included in the emissions evaluation.

Much of the ESDM assessment and the included AERMOD evaluation considers the impact of this facility (not the entire site as it should, since it is the entire site that is requesting ECA approval for). We consider the assessment of only this facility to be inaccurate, as there is already considerable emissions in the area from 7 other chemical plants, and the Highland Creek Water Treatment facility. The concern of local residents is we are not starting with a clean environmental assessment but adding toxic emissions to an already excessively polluted neighbourhood. See the City of Toronto Chemtrac report page 16 [Chemtrac Report 2018](#) which clearly shows that in all of Toronto, the toxic emissions in the area of this proposal are the HIGHEST of any area. There is no more location in Toronto where the toxic emissions are higher and this proposal alone is asking to exceed the CO<sub>2</sub> emissions by 3 times allowed, and many others almost up to the allowed limit.

To actually evaluate the emission report we need to look at the data given, and compare it to the manufactures data and engineering calculations based on that data. Unfortunately, none of the manufactures equipment brochures indicate any of the emission amounts found in this report. It is unclear where this data was created, or how it is verified. It is impossible to confirm the accuracy of the data and hence impossible to confirm the emissions report as a whole. The only emission related data provided within the manufactures data appendix was a design summary, that does not provide details

and highlights that the feedstock used to drive this assessment will impact the emissions and emission quantities.

As we know, there is no assessment of the feedstock other than a generic '60% methane'. Clearly it is impossible to do a detailed emission assessment, The comment that 500PPM is max concentration of H<sub>2</sub>S is unclear where that is proven. TRS is estimated to be emitted at 5 mg/m<sup>3</sup> but no details on how that is determined was provided. The review of attached documentation does not specify any details allowing for that conclusion. Table 3 in the ESDM report and the appendices do not provide details where the data for the calculated emission rates are obtained. The chart states from above average to highest data quality is used, but without understanding the input digestive, it is clear that emissions are not really accurate and without the data supporting those emission or concentration rates from the proposed equipment, its clear that it is average at best data quality.

There are comments that the flare will not be used, however in discussions with the proponent they indicated that flaring is required during startup, and will last for a few weeks (of constant flaring). Additionally it will be used on occasion during emergencies, and the Seabreeze site they cite as a similar (but significantly smaller) facility have about 5 hours of flare use last year - just in normal operations. Clearly it is expected that the flare will be used, and the emissions from them must be taken into account.

Clearly an environmental impact assessment must take these extraneous emissions into effect, especially considering the location within a residential neighbourhood.

### **Conclusion -**

Since this proposed site will be the biggest anaerobic digestion / biogas facility in all of Canada, and one of the biggest in all of the world, there are concerns not only with the day to day operation, but with the event if something does go wrong. The proponent stated that this type of facility does not have the ability to have explosions, the gas composition does not allow it, and if the worst happens it would only be a burn-off of the gases. While the burning scenario is very concerning considering the impact of those emissions would have on the environment a simple search showed that explosions do happen, and have happened quite regularly. See attached. [Anaerobic digestion explosions](#). Additionally, the company designing this facility is CH4, they have on their website a question asking if biogas is explosive, and their answer is yes. Clearly this is a concern. Link to their faq's is here, and the question is a couple from the top. [Proposal Design company confirming biogas is explosive](#). Finally the operation guide provided as part of the proposal includes an operation activity associated with fires/explosions. Clearly it is possible and is a concern.

The operation guide also discusses power outages, anyone in the area knows that a power outage is likely at least once per year in the area. Since there is no generator proposed, the use of battery will be used for starting and keeping a flare ignited to burn off gases. What happens if the flare battery runs out of power – will the PRV be utilized? This is clearly a concern, and will cause excess emissions on a regular basis at every power failure. Additionally, what happens if during the power failure, the truck entrance doors are not fully closed and sealed, will emissions be able to escape? Significant concerns from such a large facility in a residential neighbourhood without backup power.



This is also a concern with the Sunrise Propane facility from about 15 years ago, where there was an explosion and significant impact to local residents and facilities (and this facility was over 700M from the closest home - not within 250M). We recognize that propane and NG are somewhat different, they are still both highly combustible and neither facility is applicable to be within a residential community.

Clearly with the location of this site, the addition of over 10,000 Tonnes of GHG (CO<sub>2</sub>e) gases from truck traffic, the addition of over 40,000 Tonnes of GHG (CO<sub>2</sub>e) gases emitted from the Anaerobic Digestion facility (according to the ESDM summary report), the removal of 100 mature trees to locate this facility will remove the ability to take away 3 Tonnes of GHG per year, and will not produce over 1.5 Tonnes of Oxygen per year - this facility is far from an environmentally positive proposal. By collecting waste materials from all over Ontario, processing it within a residential neighbourhood in Toronto, and releasing all those toxic gases into this community, is clearly not a good environmental, business, community, or political decision.

This report has shown that all 3 components of the ECA application do not meet ministry standards. The noise emissions, without additional truck data or additional noise from existing facilities within the ECA application area is exceeding ministry requirements. The Odour emissions, do not take into account all stacks where odours occur, do not take into account any emissions from trucks (as does the Zoo Odour assessment) and clearly will impact the neighbourhood in a significantly negative way. The Emission study is clearly a concern, not only is truck emissions not included, but the manufacturing data that is quoted in the document does not support any of the data used in the calculations. There is not emission or concentration data included in the appendix of the equipment as suggested, so these calculations cannot be challenged. Alone, the proponent admits to exceeding ministry limits on one toxic emission by almost 3 times the limit for 'normal' operations.

This site, being within 250 M of residential areas, within 350 M of a school, within 200 M of a park, within 50 M of the waterfront trail is clearly not the right place for this project. We agree this may be worthwhile, we are just objecting to the location, clearly with all the concerns outlined in this and all the other submissions to the ministry there is no way this project can be approved. It is much better located in a safer area away from residential areas, just like almost all Anaerobic Digestion/Biogas creation facilities around the world are located.

Thank you for your time and energy supporting the community to find this project not viable for the location that is being proposed.