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Ontario

Janet L. Laird, Executive Director
Planning, Building, Engineering and Environment
1Carden Street
Guelph, Ontario
N1H 3A1

Dear Janet:

This letter will serve as a clarification to the inspection conducted by the Ministry of the Environment ("the ministry") in March 2012.

The purpose of the Air Facility Inspection Report ("the report") completed on the City of Guelph Organic Waste Processing Facility, prepared by Provincial Officer Lynnette Armour and dated March 22, 2012, was to make observations, gather information, and compare findings to the conditions of the Environmental Compliance Approval #7435-8QTREQ (ECA). The report is a summary of all observations and information, including information provided by Bill Shields of the City of Guelph as requested by the ministry.

As outlined in the report, the City of Guelph Organic Waste Processing facility (OWPF) experienced equipment and process challenges which lead to odour complaints in the fall of 2011. The City of Guelph stopped the receipt of waste at the end of November, 2011, evaluated and modified its operations and equipment over a period of several weeks in an effort to resolve this issue. Through determination and cooperation with the City's partners and the ministry, it appears that the City has rectified the odour concerns at this time.

The ministry is currently pleased that the odour characteristic of the biofilter has transformed to an "organic" scent after many process changes were implemented by the City including adding wood chips to the material and enhancing the monitoring of various parameters. This transformation is an indication that the changes have helped the biofilter to work effectively. The system appears to be functioning correctly and the ministry has not had a substantiated odour complaint from the community since January, 2012.

The ministry is also satisfied that the acoustical audit will commence this month. This noise evaluation will give the community additional information on sound level in their neighbourhood.

Although the report noted there were fluctuations in the negative pressure within the facility, these fluctuations did not contribute to the odour issues experienced in October-November 2011. We have discussed our recommendation that you apply to amend section 11 of the ECA regarding negative pressure.

The ministry is very pleased to see the OWPF functioning well, with minimal odours. The ministry wants all municipalities to increase waste diversion from landfill, especially organics that can be composted and returned to beneficial use. It is important, however, that this diversion occur without causing adverse effects to the neighbours near the compost site. We ask that you continue to work closely with us to help ensure there are no environmental impacts to the surrounding area.

Yours truly,

Jane Glassco
District Manager

Cc Kevin Noll, MOE
Greta Najcler, MOE

Ontario

Ministry of the Environment
Ministère de l'Environnement

Air Facility Inspection Report

Client:	The Corporation of the City of Guelph, Business/Facility Name: Waste Resource Innovation Centre Mailing Address: 59 Carden St, Guelph, Ontario, Canada, N1H 3A1 Physical Address: 110 Dunlop Dr, Guelph, City, County of Wellington, Ontario, Canada, N1H 6H8 Telephone: (519)767-0598, FAX: (519)767-1660 Client #: 2478-4MZJXE, Client Type: Municipal Government, NAICS: 562920		
Inspection Site Address:	Guelph Organic Waste Processing Facility Address: 110 Dunlop Dr, Geographic Township: GUELPH, Guelph, City, County of Wellington, N1H 6N1 District Office: Guelph GeoReference: Map Datum: NAD83, Zone: 17, Accuracy Estimate: 1-10 metres eg. Good Quality GPS, Method: GPS, UTM Easting: 564736, UTM Northing: 4822550, , LIO GeoReference: Zone: , UTM Easting: , UTM Northing: , Latitude: , Longitude:		
Contact Name:	Bill Shields	**Title:**	Supervisor, Governance & Compliance
Contact Telephone:	(519)822-1260 **ext**2058	**Contact Fax:**	(519)767-1660
Last Inspection Date:	2005/09/07		
Inspection Start Date:	2011/09/27	**Inspection Finish Date:**	2012/03/22
Region:	West Central		

1.0 INTRODUCTION

Ministry of the Environment (Ministry) Provincial Officer Lynnette Armour conducted an air facility inspection at the Guelph Organic Waste Processing Facility (OWPF), located at 110 Dunlop Drive in Guelph, ON (Site) as part of the Ministry's Guelph District pro-active inspections for 2011/12.

The purpose of this inspection is to assess the City of Guelph's compliance with their Environmental Compliance Approval (ECA) formerly referred to as Certificate of Approval (C of A) Number 7435-8QTREQ, and any other applicable environmental legislation.

This inspection consists of a review of Ministry's files, numerous site visits since start up on September 27 2011, review of applicable documentation relating to the ECA, and discussions with the Site Representatives.

The City of Guelph Site Representatives that were contacted during this inspection are Bill Shields, Supervisor of Governance & Compliance, and David Gordon, Organic Waste Processing Facility Contracts Manager. The facility is operated by Aim Environmental and was constructed by Maple Reinders.

Background

The City of Guelph Waste Innovation Centre (WRIC) located at 110 Dunlop Drive in Guelph started operations in November of 1995. The operations at the WRIC consisted of a wet/dry facility which was an organic waste processing facility and a material recovery facility; a waste transfer facility and a household hazardous waste depot.

Environmental non compliance issues are documented in the Ministry's 2005 Air Inspection Report Reference Number 0056-6D5K4L which include generation of offsite odours, non compliance with their CofA conditions, and operation and maintenance issues. In 2006 the organic waste processing facility was closed down due to environmental non compliance issues and structural concerns. In November 2007, the City of Guelph pled guilty and was fined $40,000 for odour offences.

In October 2009, the City of Guelph applied for an air and waste disposal site approval for a redesigned Organic Processing Facility located at 110 Dunlop Drive in Guelph. The Ministry conducted a detailed technical review of the applications to ensure that the operation of the facility would not negatively impact the environment, human health, and to ensure that the design would comply with existing provincial legislation, policy and guidelines. The Approvals for Air and Waste was issued to the Guelph Organic Processing Facility in August of 2010 and the facility opened on September 27, 2011. As mentioned above this inspection only pertains to the Air Approval.

1.1 TARGET SECTOR IN ONTARIO REGULATION 419/05

Is the facility in a target sector identified in Schedule 4 or Schedule 5 of O. Reg. 419/05?

Yes, the facility is in a target sector identified in Schedule 5.

Specifics:
The North American Industrial Classification (NAICS) code for this facility is 5622 for Compost Manufacturing. This NAICS code is listed as a Schedule 5 facility of O. Reg. 419/05 which makes s. 20 of O. Reg. 419/05 applicable to this facility on February 1, 2013. The current ESDM has been prepared in accordance with s.20 of O. Reg. 419/05 using the US EPA AERMOD model.

2.0 INSPECTION OBSERVATIONS

Specifics:
On September 27, 2011 the City of Guelph opened the OWPF that can receive and process a maximum of **up to** 450 tonnes per day and 60 000 tonnes per year of source separated organics (SSO) and amendment material.

Site operations consist of receiving SSO by waste vehicles entering the OWPF through one of the three bay doors that are equipped with air curtains and off-loading SSO onto the tipping floor, once the bay door is closed. Front end loaders then combine and shred SSO and amendment materials allowed at the Site (as outlined in ECA # A170128), prior to loading this feedstock into one of the four Phase 1 aerated concrete tunnels for composting. The feedstock is then mixed as it is transferred to one of the three Phase 2 tunnels. The feedstock from the Phase 2 tunnels gets screened and is transferred to the maturation hall where the material cures into final compost, and is once again screened and tested to ensure it meets the compost quality criteria.

The air handling system for the OWPF consists of a ventilation system to maintain negative pressure in the building. Air is drawn from the tipping floor and maturation hall which is used as process air in the composting tunnels. Excess air from the tipping floor and maturation hall and the air from the tunnels is directed to one of the three humidifiers (ammonia scrubbers) to an enclosed down flow three cell biofilter with synthetic media, exhausting out of a 47.5 m high stack from grade into the atmosphere.

Odour Complaints

Since start up there have been non compliance issues regarding offsite odour complaints that have been verified by Provincial Officers of the Ministry.

The Ministry received the first odour complaint on November 14, 2011 pertaining to odour noticed on November 11, 2011. Odour was not verified by the Ministry, as it was reported after the fact. However, at this time it was apparent that the City of Guelph's onsite weather station was inaccurate as it was recording the opposite wind direction as reported by Environmental Canada's neighbouring weather station referred to as Guelph Turfgrass. City of Guelph staff eventually agreed that there was interference with the buildings which was affecting the weather station and informed the Ministry that this issue was corrected by moving the location of the weather station. As documented in the Ministry's incident report pertaining to this complaint, the wind direction was in the right direction to reach the house of the complainant, but odour was not verified as the complaint was received after the fact.

On November 20, 2011, the Ministry received three odour complaints. The Ministry responded after hours, but was unable to verify the complaint off-site. During the response there were issues with City of Guelph responding Staff preventing and delaying Ministry Staff with access to the OWPF. The Ministry did eventually access the building to assess it for odour sources, however no operational information was provided to the Ministry. The next day during a meeting, the Ministry clarified with the City of Guelph that any attempts to prevent access and/or information could be considered obstruction of a Provincial Officer and that obstruction is an offence under section 184(1) of the Environmental Protection Act (EPA). Additionally, the responding City Staff member had informed the Provincial Officer from the Spills Action Centre that the City of Guelph is not obligated to disclose any information regarding the complaint to the Ministry for three days. For clarification purposes, the ECA requires the City of Guelph to immediately report any odour complaints, received directly by them, to the Ministry and provides the City of Guelph with three days to file a report regarding the odour complaints. The Undersigned Provincial Officer informed City Staff that the requested information is required to be received forthwith as outlined in their ECA number A170128 conditions 9, 26, and 60 and in section 156 of the EPA. The Ministry did not receive the requested training documents until December 5, 2011 which included a sign off sheet that training had been completed. As per s. 156(1) of the EPA *for administration of this Act or the regulations a Provincial Officer may without warrant or court order at any reasonable time and with any reasonable assistance, make inspections.* During the November 21, 2011 site visit the Undersigned Provincial Officer requested the assistance of the complainants on site. Two of the three complainants were able to attend the site and smelled the air exhaust coming from the biofilter prior to the air being sent up the stack and verified the odour they smelled was what they smelled yesterday (November 20, 2011) offsite.

On November 23, 2011, the Ministry received another odour complaint and verified that the site (being the stack) was the source of the off-site odour complaints. During the field response, the odour appeared to be originating from the site's stack, after the emissions had passed through the biofilters. The Ministry confirmed the odours off-site on residential properties and confirmed the same odour prior to the stack at the sniff ports. The Ministry also went upwind of the site to assess if there were other sources of odour. At the time there were no other odours noted. The Ministry received a total of five odour complaints that were verified on the 23rd of November, 2011

On November 24, 2011, the Ministry followed up with the City and informed them that off-site odours had been verified and sourced to their stack at the OWPF. The Ministry required the City to assess and address their odour emissions. The City provided an Action Plan on November 25, 2011 and suspended the receipt of incoming organic waste until a review of the odour management system was completed. Despite suspension of incoming material, all seven composting tunnels at the site contained organic material at different phases in the composting process.

On November 30, 2011 the Ministry responded to an odour complaint, and once again verified the odour to be originating from the Guelph OWPF. The complainant also verified the odour at the facility's sniff ports to be the same odour noticed off-site.

On December 5, 2011 the West Central Regional Director informed the undersigned Provincial Officer that the above mentioned ten odour complaints would not be referred to the Ministry's Environmental Investigations Branch for potential follow up as the facility was deemed to be in a commissioning stage of operation. This message was also brought forward to the City during a December 9, 2011 meeting to discuss the draft Action Plan and during a Public Liaison Meeting (PLC) held on December 19, 2011.

Further odour complaints were reported to the Ministry on December 22, and 28, 2011; January 26, 2012 (City of Guelph complaint); February 8, 2012, and March 1, 15, and 19, 2012 that have not been verified by Ministry Staff.

At the time of this inspection there have been a total of 17 odour complaints. The City of Guelph have, to date, followed up and provided a report within three business days as required in their ECA condition 24(d).

Action Plan

In response to the odour complaints the City prepared an Action Plan that focused on a review of the air containment system, odour management system, biological system, and operational process.

The air containment system review determined that the blower room (back room) could have the potential to produce fugitive odours. It was designed as a clean area and therefore it was not designed for the air to be processed through the humidifier (scrubber) or biofilter. There had been a strong odour in the blower room from the manhole covers and to avoid fugitive odours this air would now be directed to the odour management system. The acid waste tank was looked at and it was determined that a carbon filter should be added to the vent to ensure no fugitive odours are released. The water holding tank was also looked into and it was determined that, on occassion, there was air leaking from the access hatches and this was resolved by adding additional seals.

The odour management system was reviewed and it was determined that the air flow distribution across the three parallel cells of the biofilter was uneven, resulting in uneven loading of the system. It was also reported that the ammonia sensors were providing erroneous values, which was confirmed by using three different types of absorption tubes and a portable sensor. It was further reported in the Action Plan that the erroneous values were not previously detected due to the fact that Draeger tube and sensor readings were providing similar results, within 1-2 ppm, during commissioning. It was also further mentioned in a teleconference that the Draeger tubes used were expired. As an immediate remedial action it was reported that the sensors were replaced and recalibrated on November 25th, 2011 using known concentrations of pure ammonia. Within 16 hours the sensors were providing erroneous readings attributed to interference of other gases present in the air stream. A program of manual ammonia recording was immediately instituted and the control logic of the acid system that relies on these sensors was modified to ensure a sufficiently low pH was maintained until a permanent solution could be found. The Action Plan also indicated that alternative sensors that would provide reliable readings could not be located. The humidifier (scrubber) performance was also reviewed which was reported in the Action Plan to have a variable ranging from 50 to >95%, which was most likely due to either variable air flow or liquid distribution. Improvements were completed in December to improve the air flow and distribution.

The biological system was reviewed and it was determined through a visual inspection that the system has proper humidity, air flow distribution, temperature, flow rate and consistency. Biofilter media samples were retrieved for a full analysis to determine if there has been any deterioration of the biofilter performance. The sample results are discussed in section 2.6 of this report.

The operational process was reviewed and it was determined that the amendment material in the mix consisted of recycled material that was of carbon origin and the C/N ratio was adequate, however, the carbon was not readily available to the process leading to the potential generation of additional ammonia in the waste air stream. The City of Guelph now receives fresh amendment

material (leaf and yard waste) that is incorporated into the tunnels at a higher percentage.

Approval Amendment

As a result of the findings in the Action Plan the recommended changes required an amendment to the ECA prior to receiving any further waste. An amended ECA was issued on February 10, 2012 for changes to the ammonia monitoring which is now manual; operating the acidification system based on pH instead of ammonia; the addition of a carbon filter to the acid tank; changes to the biofilter monitoring (moisture content, ammonium ions and nitrates in the media); changing the ammonia concentration from 25 ppm to 45 ppm (refer to section 2.6); requirement added to prepare and submit a quarterly review of operational data to the Ministry; and to consult with the PLC prior to submitting any future amendments to the Ministry. An additional amendment is required to be submitted to the Ministry for including the air from the blower room into the odour management system as outlined in the Action Plan.

Prior to the amendment, on January 19, 2012 the Ministry issued a Provincial Officer's Order at the request of the City of Guelph to receive and process up to 75 tonnes of SSO while the Ministry reviewed the application to amend their approval which the City of Guelph indicated they required to prevent the facility's biofilter from freezing. During the time of waste receipt on January 26, 2012, the Ministry received an odour complaint from the OWPF personnel. The odour was not verified by Ministry staff, and it was stated by City of Guelph Staff that the odour was due to an atmospheric inversion.

The City of Guelph started receiving SSO on February 13, 2012 as per their Start Up Plan below in Table 1.

TABLE 1: City of Guelph Start Up Plan

Week of	Tunnel 1	Tunnel 2	Tunnel 3	Tunnel 4	Tunnel 5	Tunnel 6	Tunnel 7
February 12 to 18	New tunnel 75 T SSO 125 T Amend. 125 T Overs Total: 325T	Conditioning	Conditioning	Conditioning	Conditioning	Conditioning	Empty
February 19 to 25	Conditioning	Move to Tunnel 7 New tunnel 100 T SSO 125 T Amend. 150 T Overs Total: 375 T	Conditioning	Conditioning	Screening	Conditioning	New Tunnel from Tunnel 2
February 26 to March 3	Conditioning	Conditioning	Conditioning	Move to Tunnel 6 New Tunnel 125 T SSO 125 T Amend. 125 T Overs Total 375 T	Empty	Screening New Tunnel from Tunnel 4	Conditioning
March 4 to 10	Conditioning	Conditioning	Move to Tunnel 5 New Tunnel 150 T SSO 125 T Amend 125 T Overs Total 400 T	Conditioning	New Tunnel from Tunnel 3	Conditioning	Conditioning
March 11 to 17	Move to Tunnel 7 New Tunnel 175 T SSO 125 T Overs 125 T Amend Total 425 T	Conditioning	Conditioning	Conditioning	Conditioning	Conditioning	Screening New Tunnel from Tunnel 1
March 18 to 24	Conditioning	Move to Tunnel 6 New Tunnel 200 T SSO 125 T Overs 125 T Amend. Total: 450 T	Conditioning	Conditioning	Conditioning	Screening New Tunnel from Tunnel 2	Conditioning
March 25 to 31	Conditioning	Conditioning	Conditioning	Move To Tunnel 5 New Tunnel 225 T SSO 125 T Overs 125 T Amend Total 475 T	Screening New Tunnel from Tunnel 4	Conditioning	Conditioning
April 1 to 7th	Conditioning	Conditioning	Move to Tunnel 7 New Tunnel 250 T SSO 125 T Amend. 125 T Overs Total 500 T	Conditioning	Conditioning	Conditioning	Screening New Tunnel from Tunnel 3

2.1 SITE CONDITIONS

Specifics:

Inadequate practices relating to the operation and maintenance of the OWPF that have been identified during other site inspections, as documented throughout this report, that have or have likely caused adverse effects contrary to Section 14 of the EPA.

2.2 AUTHORIZING AND CONTROL DOCUMENTATION

Does the facility have authorizing or control documentation in place such as a Certificate of Approval (CofA) ?

Yes

Type of Document	Number	Issue Date	Limit*	Notes
CofA (Air)	7435-8QTREQ	2012/02/10	Yes	

*** Limit in Document**

Specifics:
As mentioned above in Section 2.0 of this report, the ECA 7435-8QTREQ was amended on February 10, 2012.

2.3 EQUIPMENT REQUIRING AUTHORIZING DOCUMENT

Does the facility have the required Certificate(s) of Approval?

- ○ **The facility does not have any required Certificate(s) of Approval (Air).**
- ○ **The facility requires an amendment or additional Certificate(s) of Approval (Air).**
- ● **The facility requires an amendment or additional Certificate(s) of Approval (other than Air).**
- ○ **The facility has the required Certificate(s) of Approval (or is not required to obtain them).**

Specifics:
Presently, the City of Guelph has amended their ECA to reflect the changes mentioned in Section 2.0 of this Report. However, a further amendment is still required, as outlined in the Action Plan, when the City of Guelph includes the air in the blower room to be captured in the odour management system.

2.4 LEGISLATIVE NOTIFICATION REQUIREMENTS

Has the facility met all applicable legislative notification requirements for air emissions?

Yes

Specifics:
The Ministry has not received any notifications to date of this report.

2.5 EXCEEDANCE OF A LEGAL LIMIT AND/OR GUIDELINE

Is there information that demonstrates an exceedance of a legal limit and/or guideline for air emissions?

No

Specifics:
The information that is available is the ESDM Report does not indicate any exceedances.

*** Type of Exceedance**

2.6 MONITORING AND REPORTING

Has the facility met its assessment requirements?

No

Specifics:

Source Testing

ECA conditions 2, 12 to 22 relate to source testing. In accordance with ECA condition 13, the City of Guelph submitted a test protocol and pre test information to the Ministry. The Ministry's Standards and Development Branch reviewed the provided information and requested that an addendum be submitted to address the strategy for selecting the sampling port locations. The Ministry then reviewed the addendum to the pre-test plan and accepted the pre-test plan, and the pre-test plan addendum on June 13, 2011.

ECA condition 15 requires the City of Guelph to complete source testing no later than three months after acceptance of the test protocol. The City of Guelph had requested, in a memo dated October 19, 2011, to delay source testing due to potentially colder weather and due to the facility not being at full capacity. The Ministry's Guelph District Office and Standards Development Branch reviewed their request and responded by indicating that the Ministry's position is that source testing should take place three months after the source testing protocol was accepted, which was taken to mean from start up (considering the facility started up three months after the acceptance of the protocol), even if maximum capacity has not been achieved, or if it is conducted during cooler months, because this odour emission information will help the Ministry to have preliminary information on the magnitude of the emissions, the suitability/effectiveness of the odour abatement strategy and to determine the health of the biofilter. It will also help the facility to assess the effectiveness of its odour abatement strategy and will help the District Office respond to the concerns of the residents with actual odour emissions information generated by the facility.

As mentioned in Section 2.0 of this Report, in November odour complaints which were verified by the Ministry to be originating from the Organic Facility occurred. In response to these odour complaints the City of Guelph ceased acceptance of source separated organics from November 27, 2011 to February 13, 2012 with the exception of 74.33 tonnes of SSO accepted on January 19, 20, and 23, 2012. During a December 9, 2011 meeting with the City of Guelph and the Ministry, the undersigned Provincial Officer acknowledged that source testing would not be completed in 2011 since the facility was no longer receiving SSO and the timing for source testing would be discussed once the re-start up date was known. This was then followed up with an email dated December 12, 2011 to the City of Guelph.

The OWPF has been accepting SSO at a reduced rate as outlined in Table 1 since February 13, 2012 to April 2012. It is the understanding of the undersigned Provincial Officer that OWPF will be receiving SSO at the maximum available amount (from existing contracts) during the month of May. Therefore, the Ministry will require the City of Guelph complete source testing as outlined in the ECA no later than August 31, 2012.

Acoustic Audit

ECA condition 1 requires that the company ensure noise emissions from the facility comply with limits set in Publication NPC-205. To demonstrate compliance with this condition an acoustic audit shall be completed as required in conditions 25 to 28. Condition 26 requires that a report on the results of the acoustic audit be submitted to the Ministry no later than three months after start up date which was December 27, 2011. On January 10, 2012 an acoustic audit had not been received by the Ministry and was then requested. At that time the City of Guelph and their consultants indicated that they were provided with an extension with the source testing during the December 9, 2011 meeting. The undersigned Provincial Officer has no recollection of this or any documentation that supports this claim. The only way an extension could have been provided is through amending the condition in the ECA, which has not been applied for or approved.

The Acoustic Audit will be completed by the end of April 2012. Follow up to this non compliance issue is documented in Incident Report Reference number 4765-8QDSRW.

Building and Biofilter Monitoring

Biofilter

ECA conditions 3 to 5 relate to monitoring requirements for the biofilter and building. The biofilter parameters outlined in 3(1) (a-e) in the ECA are process air flow through each cell, differential pressure across media bed in each cell, media temperature in each cell, inlet air temperature, and process air relative humidity and these parameters are all measured in the SCADA system every 5 minutes. ECA condition 3(1)(f) requires that the water flow of the biofilter media irrigation water be monitored and it is reported by City of Guelph Staff that this parameter is on the hmi panel in the blower room and on the maintenance inspection sheets. ECA condition 3(1)(g) requires that the moisture content of media in each cell be monitored. During the February 10, 2012 ECA amendment, the condition was changed to include once every 3 months as a minimum. Media moisture content has been completed by a visual inspection and will now be completed by sampling of the media. To date, media samples were analysed and reported on December 19, 2011 which consisted of taking three samples from each cell at 2 inches, and 24 inches deep. The percent moisture ranged from 25.39-40.04% and it was concluded by BIOREM that the moisture levels were acceptable but slightly on the wet side of the range where normal operation range should be 15-30%. ECA condition 3(1)(h) was added during the February 10 2012 amendment and now includes monitoring of ammonium ions and nitrates in the media (once every three (3) months as a minimum). The City of Guelph have indicated that this monitoring will be conducted through media sampling.

Building

ECA condition 3(2)(a-c) requires monitoring of negative pressure, hydrogen sulphide, and ammonia in the building.

Negative Pressure

The OWPF (entire facility) is required to be under adequate negative pressure to prevent air escaping the building and when the man and/or bay doors are opened resulting in fugitive emissions that have the potential to cause an adverse effect. The facility has been designed to have 6 air exchanges per hour to create a large enough pressure differential between ambient outside pressure and air pressure inside the building. Air curtains are installed over the bay doors to help keep the facility under negative pressure. However, as noted in the supporting documentation for the Air Approval, it is was recommended that an airlock be installed as even with significant negative pressure in the building air will still escape. The facility design did not include this recommendation.

ECA condition 3(2)(a) requires that negative pressure be monitored in the building and condition 11 requires that the Company ensure the entire enclosed building is maintained under adequate negative pressure as compared to ambient atmospheric pressure at all times.

On October 5, 2011 the undersigned Provincial Officer noted, during a site inspection and through review of the City's SCADA system, negative pressure has not been maintained at all times which is in violation of their air ECA. At this time the loss of negative pressure occurred at:

- 3.24pm on the 30th of September in the maturation hall
- 10.56am on the 3rd of October in the tipping hall.
- 11.56am on the 3rd of ctober in the tipping hall and the transfer hall
- 12.06pm on the 4th of October in the transfer hall.

When asked for an explanation on this matter, the City of Guelph provided the following:

"that the plant is currently in the commissioning phase of operation and will be until January 2012. During this time various checks and balances are taking place on the system to ensure that the plant runs efficiently and to its design specification. The fans are extracting the same amount of air from the process building. When the doors are shut this gets us to negative pressure. When a door is opened this creates a hole in the building that allows airflow into the building through that door, this will mean the building pressure tries to equal out with outside. It should remain slightly

negative or zero however if there is a change of wind direction or a gust of wind blowing past the inlet of the sensor on the outside of the building it could affect the sensor and mess up the reference. There is a filter on the sensor to try and dampen this effect. The differences to positive have been very minimal and we have checked on our weather station systems that there was a change in wind direction at the times that the building has briefly gone into positive pressure.
Please be aware that 1 Pascal is very small unit of pressure.
We have carried out smoke testing on all the main roll up doors in both the tipping area and the maturation area which shows even when open the air flow is into the building.
We will continue to monitor the situation closely during the commissioning period and rectify any discrepancies that take place.
No odour complaints relating to these time frames have been received by the City."

A meeting occurred on October 14, 2011 with the Ministry, City of Guelph, and their consultants to discuss the loss of negative pressure in the building. After the meeting the City of Guelph provided the Ministry with information on October 28, 2011 and November 17, 2011 stating that :

"At moments when doors are open the static negative pressure in the building (as measured on the wall-mounted monitors) will be lost. The wall mounted pressure sensors measure the inside pressure referenced to the outside pressure. With all doors closed and with the air handling system running this creates a negative pressure. When a door opens the measurement and reference are simply short circuited by the big surface of the open door. The inside connects to the outside through the open door and negative static pressure is lost. This is based on principles of physics. Losing the static negative pressure does not mean the negative air balance in the building will be affected. This air balance will still be negative and air will still be drawn into the building because the air chooses the path of least resistance i.e. through the door and into the building. Numerous tests using smoke have proved this during the cold commissioning phase of the project. Even with all three doors to the tipping area open, air and smoke were still moving inwards, into the building."

The City of Guelph have now proposed that they calculate negative air balance in addition to demonstrating negative air pressure in the building. This has been calculated since October 13, 2011 and is calculated by the City of Guelph as follows:

"by comparing the amount of air being exhausted from the building and the amount of air being actively put in to the building. The flow rates of the bio filter fans together results in the total amount of air that is being taken out of the building. Knowing the fans that actively bring air into the building and knowing the capacities of the fans extracting the air from the building, enables us to calculate the air balance. In the SCADA system two values for the air balance are calculated. The air balance amount in m^3/hr and the air balance percentage. The air balance amount is the amount of air in minus the amount of air out. As long as this number is negative more air is taken out of the building than is put in. The air balance percentage is the percentage of air brought in compared to the amount of air taken out."

Through review of the data provided by the City of Guelph for the inspection the following non compliance issues have been noted:

Negative air pressure has not been maintained at all times during the following days during the period between September 27th to February 27th:

- September 27, 28, 30
- October 3, 4, 5, 6, 7, 14, 15, 17, 18, 20, 21, 24, 25, 26, 27, 28, 31
- November 1, 2, 3, 4, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 23, 24, 25, 30
- December 5, 6, 7, 8, 9, 13, 14, 15, 16, 19, 20, 21, 22, 23, 25, 26, 27, 28, 29, 30
- January 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 31
- February 1, 2, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 21, 22, 23, 24, 25, 27

There was also missing pressure readings on September 29, December 21, 22, and 25, February 14, and 22.
Negative Air Balance data was also reviewed since October 13, 2011 to February 27, 2012 during the following days negative air balance was not maintained:

- October 17, 2011, November 20, 25, 29, 2011, and December 2, and 14, 2011.

Table 2: Positive Air Balance

Date (yy:mm:dd)	Time (hh:mm:ss)	Air Balance Amount m^3/hr
2011:10:17	12:07:16	24
2011:11:20	8:36:53	24
2011:11:20	8:51:53	24
2011:11:20	8:56:53	24
2011:11:20	9:31:53	24
2011:11:20	9:51:53	24
2011:11:20	10:31:54	24
2011:11:20	10:46:54	4
2011:11:25	**13:55:04**	**24**
2011:11:25	**14:05:04**	**24**
2011:11:25	**14:15:05**	**24**
2011:11:25	**14:50:06**	**24**
2011:11:25	**15:05:06**	**24**
2011:11:25	**15:25:07**	**24**
2011:11:25	**16:25:08**	**4**
2011:11:29	**17:01:50**	**24**
2011:11:29	**18:46:52**	**24**
2011:12:02	13:13:03	24
2011:12:02	13:43:04	24
2011:12:02	13:58:04	24
2011:12:02	14:23:05	24
2011:12:02	14:28:05	24
2011:12:14	15:44:27	16

Negative Pressure Data provided by the City of Guelph was compared to the Air Balance Calculations for October 17, 2011, November 20, 2011, November 25, 2011, November 29, 2011, December 2, 2011, and December 14, 2011.

For October 17, 2011, November 25, 2011, and December 14, 2011 positive pressure readings were also recorded that are provided in the Table 3 below:

Table 3: Air Balance and Positive Pressure Readings

Date (yy:mm:dd)	Time (hh:mm:ss)	Transfer Hall Pressure	Tipping Hall Pressure	Maturation Hall Pressure
2011:10:17	8:32:54	**3**	-7	-4
2011:10:17	8:37:54	**0**	-5	-7
2011:10:17	11:27:57	**7**	-4	-2
2011:10:17	11:47:16	**8**	-3	-2
2011:10:17	11:52:16	**20**	-20	**8**
2011:10:17	12:02:16	**7**	-4	**6**
2011:10:17	**12:07:16**	**10**	-3	**7**
2011:10:17	12:27:17	**2**	-16	-10
2011:10:17	12:37:17	**1**	-16	-11
2011:10:17	12:42:17	**12**	-8	-2
2011:10:17	12:52:17	**14**	-4	**3**
2011:10:17	14:12:18	**4**	-12	-8
2011:10:17	14:47:19	**2**	-3	-7
2011:10:17	14:52:19	**18**	**0**	**0**
2011:11:25	**16:25:08**	**1**	**1**	**-1**
2011:12:14	11:43:57	**0**	**0**	**-3**
2011:12:14	11:44:00	**0**	**0**	**-3**
2011:12:14	13:09:20	**3**	**3**	**0**

- On October 17, 2011 at 12:07:16 Air Balance was calculated at positive 24 m^3/h and the Pressure in the Transfer Hall was positive 10 and positive 7 in the Maturation Hall.
- On November 20, 2011 there were no positive pressure readings recorded. However, on November 20, 2011 there were 7 positive air balance readings during the time of 8:36:53 to 10:46:54 and the Ministry received odour complaints at 10:24, 10:30, and 10:56.
- On November 25, 2011 a positive pressure reading was recorded at 16:28:08 in the transfer hall and maturation hall and positive air balance was recorded.
- On November 29, 2011, and December 2, 2011 there were no positive pressure readings recorded only positive air balance.
- On December 14, 2011 positive air pressure and positive air balance were recorded throughout the day.

In response to the positive air balance readings on October 17th the City of Guelph indicated this was due to accidentally turning off the exhaust system.

The readings on November 20, 25, and 29 and December 2, 2011 the City of Guelph indicated that there was a communication failure between the BIOREM system and Christiaens system and to prevent a reoccurrence an ethernet cable was replaced.

As mentioned above on November 25, 2011 positive pressure and air balance were recorded at the same time. The explanation provided by the City of Guelph indicated that the fans were not down and the City of Guelph had stopped receiving SSO so there is no reason to believe that the facility was in a positive air pressure situation.

A response by the City of Guelph was not provided for the positive air balance and pressure readings recorded throughout the day on December 14th. However through review of the raw data collected in the City's SCADA system there was missing data on December 14 as the last reading was at 15:44:27 of 16 and the next reading was at 17:11:04 of -110. The SCADA system collects data every 5 minutes.

Ammonia

ECA condition 4 requires that the City continuously monitor and record the concentration of ammonia in the ducting both prior and after the humidification chamber (scrubber) for the biofilter. This condition in the ECA was amended in February of 2012. In reviewing data for this inspection report, ammonia concentrations were requested. Below are the observations made:

- The City of Guelph was unable to provide any ammonia readings prior to and after the humidification chamber for the time period of September 27, 2011 to October 12, 2011 which is in non compliance with condition 4. The City reported that they could have lost this data when changes to the SCADA system occurred regarding negative pressure to calculate the negative air balance.
- There are no ammonia readings prior to the humidification chamber for the time period of October 13th to November 25th, 2011.
- Condition 5 of the ECA requires that the acidification system is continuously operated to spray acid into the humidification chamber as required to ensure the concentration of ammonia leaving the humidification chamber does not exceed 25 parts per million (ppm) of ammonia. The following are the exceedances of 25 ppm recorded:
    - Through review of ammonia readings before the three biofilter cells referred to as BF1, BF2, and BF3 from October 13-31 2011 the following was noted:
        - On October 14, 2011 there were 73 exceedances of 25 ppm of ammonia entering BF1. The concentrations of ammonia were in the range of 26-50ppm, with 28 readings of 50 ppm. There were 45 exceedances of 25 ppm ammonia entering BF3 ranging from 26-42 ppm.
        - On October 15, 2011 there were 75 exceedances of 25 ppm recorded for BF1 ranging from 26 - 50 ppm. There were 39 exceedances of 25 ppm ammonia ranging from 26-44ppm for BF3.
        - On October 16, 2011 there were 186 exceedances of 25 ppm ammonia ranging from

26-50 ppm in BF1 with 54 of these exceedances at 50 ppm. There were 2 exceedances of ammonia for BF2 of 27 and 28 ppm. There were 163 exceedances of ammonia for BF3 ranging from 26 - 45 ppm.

- On October 17, 2011 there were 60 exceedances of ammonia entering BF1 ranging from 26 - 46 ppm. There were 3 ammonia exceedances entering BF2 ranging from 28-30 ppm. There are 106 exceedances of ammonia ranging from 26 - 46 ppm in BF3.
- On October 18, 2011 there were 38 exceedances of ammonia in BF1 ranging from 26- 31 ppm. There were 36 exceedances of ammonia entering BF3 ranging from 26- 38 ppm.
- On October 20, 2011 there were 95 exceedances of ammonia entering BF3 ranging from 26-34 ppm.
- On October 21, 2011 there were 17 ammonia exceedances entering BF1 ranging from 26-35 ppm. There were 147 ammonia exceedances entering BF3 ranging from 26 - 40 ppm.
- On October 22, 2011 there were 141 ammonia exceedances entering BF3 ranging from 26 - 39 ppm.
- On October 23, 2011 there were 34 ammonia exceedances entering BF3 ranging from 26-30 ppm.
- On October 24, 2011 there were 65 exceedances of ammonia entering BF3 ranging from 26-33ppm.
- On October 25, 2011 there were 67 exceedances of ammonia entering BF3 ranging from 26- 50 ppm.
- On October 26, 2011 there were 29 exceedances of ammonia entering BF1 ranging from 26- 28 ppm. There were 26 ammonia exceedances entering BF2 ranging from 26 - 30 ppm. There were 108 ammonia exceedances ranging from 26- 46 ppm.
- On October 27, 2011 there were 21 ammonia exceedances entering BF3 ranging from 26-28 ppm.

- Through review of ammonia readings before the three biofilter cells referred to as BF1, BF2, and BF3 from November 1-30 2011 it was noted the following:
  - On November 4, 2011 there were 21 ammonia exceedances entering BF3 ranging from 27 - 33 ppm.
  - On November 5 there were 4 ammonia exceedances entering BF1 ranging from 26 - 30 ppm.
  - On November 6 there were 41 ammonia exceedances entering BF1 ranging from 26 - 42 ppm.
  - On November 12 there were 63 ammonia exceedances entering BF3 ranging from 26 - 31 ppm.
  - On November 13 there were 203 ammonia exceedances entering BF3 ranging from 26 - 50 ppm
  - On November 14 there were 106 ammonia exceedances entering BF3 ranging from 26 - 44 ppm.
  - On November 15 there were 93 ammonia exceedances entering BF3 ranging from 26 - 47 ppm.
  - On November 17 there were 7 ammonia exceedances entering BF3 ranging from 26 - 28 ppm
  - On November 18 there were 2 ammonia exceedances entering BF3 ranging from 26 -27 ppm.
  - On November 19 there were 6 ammonia exceedances entering BF3 ranging from 26 -29 ppm.
  - On November 24 there were 15 ammonia exceedances entering BF3 ranging from 26 -39 ppm.
  - On November 25 there were 122 ammonia exceedances entering BF1 ranging from 28 - 50 ppm. There were 31 ammonia exceedances entering BF3 ranging from 26 - 50 ppm.
  - On November 26 there were 288 ammonia exceedances ranging from 39 - 43 ppm. There are a total of 288 readings per day as they are taken at five minute intervals. There were 5 ammonia exceedances entering BF3 ranging from 30 -42 ppm.
- As a general observations there were numerous 0 ppm ammonia readings in BF1 for the

month of November until November 25th, when the sensor was replaced. Also there were never readings above 50 ppm, which may be the upper concentration limit of the ammonia sensor. Additionally, SCADA readings are to be taken every 5 minutes which would be a total of 288 readings per day. The number of readings ranged greatly indicating readings were not taken every 5 minutes as the system is set up to do. There were days when there were only 192 readings taken, which would only be approximately 2/3 of the day.

On November 25, 2011 the City of Guelph had agreed to cease the receipt of any further source separated organics until the Action Plan and any resulting recommendations were completed. At this time there was SSO in all seven tunnels. Through the Action Plan, the Ministry was informed by the City of Guelph that the ammonia sensors were inaccurate. The City of Guelph started taking manual measurements of ammonia prior and after the humidification chambers (scrubber) of the three biofilters (BF1, BF2, and BF3). The data also showed the efficiency of the scrubber. These manual ammonia measurements were taken during the time period of November 27, 2011 to January 19, 2011 anywhere from once to three times per day. In this time period the following readings were noted:

Biofilter 1 (BF1)

- The concentration of ammonia entering BF1 during this time period ranged from 0 - 180 ppm ammonia. Ammonia concentrations exceeded 25 ppm on November 27 and 30th, December 4, 5, 8, 9,16, 21,26, and 28th, January 1, 5, 6, 9,and 16th.
- The efficiency of the ammonia scrubber ranged from 16.67% to 100%
- There was no data collected on December 12 and 13th.

Biofilter 2 (BF2)

- The concentration of ammonia entering BF2 during this time period ranged from 0 - 220 ppm ammonia. Ammonia concentrations exceeded 25 ppm on November 27, 28, 29, 30, December 5, 7, 8, 9, 12, 13, 26, 28, 29, January 1, 6, 10, 12, and 16.
- The efficiency of the ammonia scrubber ranged from 20% to 100%
- There was no data collected on December 15th

Biofilter 3 (BF3)

- The concentration of ammonia entering BF3 during this time period ranged from 0 - 240 ppm ammonia. Ammonia concentrations exceeded 25 ppm on November 27. 28, 29, 30, December 4, 5, 6, 7, 8, 9, 12, 16, 20, 28, January 1, 5, 10, and 16.
- The efficiency of the ammonia scrubber ranged from -33.33% to 100%.
- There was no data collected on December 6, 7, 8, and 9.

During the time period of January 20, 2012 until the ECA amendment was issued (February 10, 2012) the City of Guelph collected ammonia readings in accordance with Provincial Officers Order Number 3176-8QNRCD-1 that allowed the City to receive 75 tonnes of source separated organics to prevent their biofilter from potentially freezing as requested by the City. The ammonia readings were taken manually after the humidification chamber (scrubber) and after the biofilter. Ammonia concentrations after the scrubber on January 20, 23, 26,and 27 were 30 ppm, 50ppm, 40 ppm, and 50ppm respectively. SSO was received at the facility on January 19, 20, and 23, 2012.

As mentioned in Section 2.0 of this report under the subtitle Action Plan, the City of Guelph applied for an amendment to change Conditions 4 and 5 that relate to ammonia. Below are the amended ECA conditions:

4. The Company shall monitor, record and keep in a log the concentration of ammonia manually, every six (6) hours, minimum 3 times per day from Monday to Friday, and every eight (8) hours, minimum 2 times per day on Saturdays (excluding statutory holidays) or at a frequency as agreed or directed by the District Manager at:

(1) the inlet and outlet (just before the process air enters the biofilter) of each of the three (3) humidifiers (three (3) ammonia scrubbers); and

(2)after the Biofilter at all 3 cells.

5.The Company shall:

(1) continuously monitor, record and keep in a log the pH and conductivity of the recirculated liquid for the acidification system.

(2) continuously operate the acidification system that sprays acid into the three (3) humidifiers (three (3) ammonia scrubbers) prior to the Biofilter.

(3) notify the District Manager in writing when rolling arithmetic average concentration (weekly) of ammonia leaving any of the three (3) humidifiers (three (3) ammonia scrubbers, just before the process air enters the biofilter) exceed 45 parts per million.

In Section 2.0 of this report and in the Action Plan it was indicated that the ammonia sensors became inaccurate which is reported to be caused by the different gases in the air stream. Therefore, the City of Guelph have gone to manual monitoring of ammonia. In addition, the amended condition 5(1) requires the City of Guelph to monitor and record the pH and conductivity of the recirculated liquid for the acidification system. The rationale for recording the pH and conductivity is to ensure proper operation of the chemical scrubber as there is a correlation between the amount of sulphuric acid and ammonia. The current pH set point to control ammonia is 3.0, with an operating range of 2.5 to 4.0. Conductivity of the recirculated fluid is also monitored to provide an indication of the level of ammonia. Low conductivity/low salt content relates to low ammonia while high conductivity/high salt content relates to high ammonia concentrations.

pH of the recirculating fluid has always been measured. Data has been provided of the pH of recirculated liquid of the three humidifiers (scrubbers). Through review of the pH data the following was observed:

- There were no pH readings prior to October 13, 2011
- From October 13-31, 2011 pH in the three humidifiers ranged from 7-9
- During the month of November 2011 the pH ranged from 0 to 10. Humidifier #2 recorded a pH of 0 between November 2 to 21, 2011 as the pH probe broke and the City was waiting for a replacement.
- On November 23, 2011 the acid system dosing levels were set lower to remove ammonia
- During the month of December 2011 the pH ranged from 0 - 8
- During the month of January 2012 the pH still had a range of 0-8, but had an average pH of 3
- During the month of February 2012 the pH still had a range of 1 -7, but had an average pH of 3

Condition 5(3) has been amended from requiring that the ammonia concentration in the air does not exceed 25 ppm prior to the biofilter to requiring written notification when the rolling arithmetic average concentration (weekly) of ammonia exceeds 45 ppm prior to the biofilter.

Through further discussions, BIOREM provided the following information to the Ministry *"To protect the biological environment from the build up of ammonium ions and nitrates, BIOREM recommends keeping the average inlet concentration of ammonia below 45ppm. At normal pressure and temperature, this corresponds with approximately 30 mg/m3."*

Note on Conversion:

X_{ppm} = (Y mg/m^3)(24.45)/(molecular weight)

Molecular weight of NH3 = (14.01)+(1.008)*3 = 17.034

ppm calculation for 30mg/m^3 = 30*24.45/17.034

= **43.06ppm**

In other BIOREM documentation 25 ppm ammonia is referenced. BIOREM further provided clarification to the Ministry indicating that "*for a conservative design, the proposed operational set point for the Guelph Facility has been set at 25ppm. Short term excursions above this range to an average of 45ppm are acceptable and are not anticipated to cause damage to the microbiology. In this context, short term is defined as under 7 days."*

It should be further noted that the City of Guelph ECA has also been amended to include analysing the media for ammonium ions and nitrates.

During the week of February 13 - 18 2012 manual concentrations of ammonia were taken three times per day and average concentration of 2.06 ppm ammonia going into BF1, 1.82 ppm entering BF2, and 2.00 ppm entering BF3. The highest recorded concentration for this time period is 15 ppm.

During the week of February 21-25 2012 the average concentration of ammonia entering BF1 was 0.43ppm, 0.71ppm entering BF2, and 0.5 ppm entering BF3. The highest recorded concentration of ammonia was 3 ppm.

As noted above, during the month of February the average pH of the recirculating fluid in the humidifier (scrubber) was maintained at approximately 3.

Ammonia and Hydrogen Sulfide in the Building

Ammonia and Hydrogen Sulfide readings are taken in the building. Ammonia readings appear to be taken daily with the exception of weekends and statutory holidays. The readings are taken in the tipping floor, transfer hall, shredding area, maturation hall and the blower room. The highest concentrations of ammonia are as follows:

- February 6, 2012: 19 ppm in the Tipping Floor
- November 23, 2011: 17 ppm in the Transfer Hall
- February 21, 2012: 22 ppm in the Shredding Area
- February 2, and 6, 2012: 25 ppm in the Maturation Hall
- January 6, 2012: 16 ppm in the Blower Room.

Has the facility met its reporting requirements?

No

Specifics:

As mentioned throughout this report there are several reporting requirements studies/assessments, monitoring data that have not been met with the exception of the ESDM that was submitted to the Ministry during their application process for their ECA.

2.7 OPERATIONAL AND MAINTENANCE REQUIREMENTS

Has the facility met its operating/maintenance requirements?

No

Specifics:

Condition 7 requires that the facility and the equipment is operated and maintained at all times. In particular Condition 7(1) requires the following:

(*1*) *Prepare and submit to the District Manager, not later than three (3) months before the Start-up Date of the Facility, and update, as necessary or as a minimum annually, a Manual outlining the operating procedures for the Facility that relate to noise, as well as the operating procedures and a maintenance program for the Equipment in accordance with good engineering practice, including:*

(a) routine and emergency operating and maintenance procedures recommended by the Equipment suppliers, including operating procedures for the Facility that relate to noise during Equipment malfunction, power outages, by-passes and other emergency or abnormal operating conditions and procedures for notifying the Ministry of such events,

(b) frequency of monitoring of the parameters for the Biofilter and building as required in Condition 3 above,

(d) procedures for any record keeping activities relating to the operation and maintenance of the Equipment and noise related activities at the Facility,

(e) all appropriate measures to minimize noise emissions from all potential sources, including but not limited to a contingency plan to deal with the storage of incoming materials when the Facility is shut down.

In accordance with Condition 7(1) on April 28, 2011 the City of Guelph provided the Ministry with a copy of their operations and maintenance manual. Sections 12, 13, and 14 pertain to Records and Reporting, Emergency Procedures, and Maintenance Plan respectively.

In particular Section 12, Records and Reporting, outlines that physical parameters of the biofilter be monitored through the SCADA system and that the City of Guelph conducts a weekly inspection. The frequency of monitoring the parameters for the Biofilter is not outlined as required in condition 7(1)(b). Furthermore, according to the Operations and Maintenance Manual, to ensure the scrubber is operating efficiently, the operator monitors regular testing of ammonia and pH levels. It does not appear as though the operator monitored the ammonia and pH levels through review of available records since pH was not monitored in Humidifier (Scrubber 2) between November 2 to 21 as the pH probe broke and the City of Guelph was waiting for a replacement, ammonia was not measured prior to the humidifiers (scrubber) from start up to November 25, 2011 and after the humidifiers from start up to October 13, 2011, there were many exceedances of 25 ppm ammonia since start up, there were many occurrences of 0 ppm of ammonia, and the SCADA system was not continuously (every 5 minutes) monitoring ammonia.

Section 14.6 of the Operations and Maintenance Manual outlined the spare parts inventory that indicates that spare parts will be stored dependent on how critical the equipment or component is to the operation. Furthermore, spare parts are also mentioned in the Fugitive Odour Management Plan that states the following:

" *The equipment built into the design of the OWPF was selected based on its ability to operate in a composting environment, however the simplicity of the process leads to this equipment being of simple design and readily available. Therefore, spare parts for routine replacement items are stored on site or readily available from nearby suppliers. The redundancy described earlier also provides more time for such unexpected replacement."*

It is reasonable to believe that a pH probe would be an item that would be either stored on site as spare parts and is easily replaced and therefore would not take 19 days to replace. An explanation has also not been provided why pH was not monitored from start up to October 13, 2011 and why a replacement probe took so long to obtain.

Condition 7(2) requires that the City of Guelph prepare and submit a Fugitive Odour Management Plan to the Ministry three months before Start-up Date. The Fugitive Odour Management Plan was provided in August 2011. However, the plan is required to be updated to reflect the changes in the process that have occurred in the Action Plan.

2.8 RECORD KEEPING REQUIREMENTS

Has the facility met its record keeping requirements?

No

Specifics:

ECA condition 30 pertains to record retention which states:

30. The Company shall retain, for a minimum of two (2) years from the date of their creation, all records and information related to or resulting from the operation, maintenance and monitoring activities required by this Certificate. These records as well as the Manual shall be made available to staff of the Ministry upon request. The Company shall retain:

(1) all records on the maintenance, repair and inspection of the Facility and Equipment,
(2) all records of the monitored parameters as required by this Certificate,
(3) all records of fan failure such that there is no process air flow through the Biofilter,
(4) all records on the daily, monthly and annual quantities of incoming organic feedstock and compost on the maturation area,
(5) all reports of the Source Testing ,
(6) all measures taken to minimize odour emissions from all potential sources, and
(7) all records on environmental complaints, including:
(a) a description, time and date of each incident to which the complaint relates,
(b) wind direction at the time of the incident to which the complaint relates, and
(c) a description of the measures taken to address the cause of the incident to which the complaint relates and to prevent a similar occurrence in the future.

Furthermore, section 12.3 of the Operations and Maintenance Manual indicates that all records, monitoring data and reports required will be maintained at the site for a minimum period of three years or as required by the Certificate of Approval in a hard copy format AND as an electronic record. The records include:

- All records on the maintenance, repair and inspection of the Facility and Equipment;
- All records of the monitored parameters as required by this Certificate;
- All records of fan failure such that there is no process air flow through the biofilter;
- All records on the daily, monthly and annual quantities of incoming organic feedstock and compost on the maturation area;
- All reports of the Source Testing;
- All measure taken to minimize odour emissions from all potential sources, and
- All records on environmental complaints.

The Ministry has been provided with copies and/or has seen copies of these records. Through review of provided information/records there are occurrences of missing monitoring records as required by the ECA that have been mentioned throughout this report, those being negative pressure and ammonia records.

2.9 BEYOND COMPLIANCE

Are there any Beyond Compliance Projects being implemented at the facility?

No

Specifics:

The undersigned Provincial Officer does not have any knowledge of any beyond compliance project(s) being implemented at the facility.

3.0 REVIEW OF PREVIOUS NON-COMPLIANCE ISSUES

Previous non compliance issues are documented in the Ministry's 2005 Air Inspection Report Reference Number 0056-6D5K4L which include generation of offsite odours, non compliance with their CofA

conditions, and operation and maintenance issues. In November 2007, the City of Guelph pled guilty and was fined $40,000 for odour offences pertaining to the WRIC.

This inspection report documents non compliance issues which include generation of offsite odours, non compliance with ECA conditions and operation and maintenance issues.

4.0 SUMMARY OF INSPECTION FINDINGS (HEALTH/ENVIRONMENTAL IMPACT)

Was there any indication of a known or anticipated human health impact during the inspection and/or review of relevant material, related to this Ministry's mandate?

No

Specifics:

Was there any indication of a known or anticipated environmental impact during the inspection and/or review of relevant material ?

Yes

Specifics:

It is reasonable to believe that Guelph's operation and maintenance of the Equipment has caused or permitted the discharge of odourous contaminants to the natural environment which have caused or likely caused adverse effects contrary to Section 14 of the EPA.

Was there any indication of a known or suspected violation of a legal requirement during the inspection and/or review of relevant material which could cause a human health impact or environmental impairment ?

Yes

Specifics:

Numerous suspected violations of legal requirements have been documented throughout this inspection report that resulted in, or are directly related to, the discharge of odourous contaminants to the natural environment that have caused or likely caused adverse effects contrary to Section 14 of the EPA.

Was there any indication of a potential for environmental impairment during the inspection and/or the review of relevant material ?

Yes

Specifics:

Numerous operational issues which result in, or are likely to result in, the discharge of odourous contaminants to the natural environment are causing or likely to cause adverse effects.

Was there any indication of minor administrative non-compliance?

Yes

Specifics:

Records were not kept as required.

5.0 ACTION(S) REQUIRED

The City of Guelph shall comply with all of the requirements in the ECA; non compliance issues have been noted throughout this report pertaining to Conditions 4, 5, 7, 11, 25, 26, and 30. Failure to comply with the ECA is a violation of s.186(3) of the EPA.

1. Comply with the conditions in the ECA

6.0 OTHER INSPECTION FINDINGS

It is reported that the outside Acid Storage Tank is double walled with barriers on the one side, but there is no additional containment around the tank. It is recommended that containment around the outside Acid Storage Tank be assessed to improve the likelihood of spills being

contained.

7.0 INCIDENT REPORT

Applicable
7116-8SJKFF

8.0 ATTACHMENTS

PREPARED BY:
Environmental Officer:
Name: **Lynnette Armour**
District Office: **Guelph District Office**
Date: **2012/03/22**
Signature

REVIEWED BY:
District Supervisor:
Name: **Greta Najcler**
District Office: **Guelph District Office**
Date: **2012/03/30**

Signature:

File Storage Number: SIWEGUDU210

Note:
"This inspection report does not in any way suggest that there is or has been compliance with applicable legislation and regulations as they may apply to this facility. It is, and remains, the responsibility of the owner and/or the operating authority to ensure compliance with all applicable legislative and regulatory requirements"