

EPA Application Form

7.1.2 – Emissions Compliance Report

Organisation Name: *

Starrus Eco Holdings Limited

Application I.D.: *

LA005501

For inspection purposes only. Consent of copyright owner required for any other use.

TABLE OF CONTENTS

	<u>PAGE</u>
1. INTRODUCTION.....	3
2. AIR.....	4
3. NOISE	6
4. STORM WATER MONITORING.....	8

*For inspection purposes only.
Consent of copyright owner required for any other use.*

1. INTRODUCTION

This attachment summarises the most recent emissions monitoring undertaken at the Acorn Composting facility and discusses the emissions compliance with relevant emissions limit values set out the Licence.

*For inspection purposes only.
Consent of copyright owner required for any other use.*

2. AIR

The existing licence requires SEHL to carry out PM₁₀ and odour monitoring of the biofilter and bioaerosol and dust deposition monitoring at specified locations around the site. The reports on the PM₁₀, odour and bio aerosol monitoring completed by Odour Monitoring Ireland Ltd in 2019 Odour are in Appendix 10 of the EIA submitted as Attachment 6.2.1 of the current application. These are the most recent monitoring reports available.

PM₁₀ monitoring of the biofilter is conducted twice annually. The 2019 monitoring, took place in April and July and the results are in Table 2.1, which also includes the statutory 24-hour average ambient air concentration level limit (50 µg m⁻³) specified in the Air Quality Standards Regulations 2011 (S.I. No. 180 of 2011). The levels were well below the statutory limit.

Table 2.1 Particulate Monitoring Results

Monitoring Event	April µg m ⁻³	July µg m ⁻³	Limit µg m ⁻³
Biofilters	9	11	50

The odour monitoring of the biofilters is carried out quarterly and includes a range of odorous compounds (amines, hydrogen sulphide, ammonia and mercaptans) and odour units. In addition, SEHL monitors the condition of the biofilter and its performance efficiency.

The results of the monitoring completed in 2019 are in Table 2.2. The Table includes the limits specified in the EPA licence for ammonia, hydrogen sulphide and mercaptans and the results of the efficiency performance. The odorous compounds were all well below the emission limits and the % odour removal is at the higher end of the performance efficiencies for biofilters (70-99%)¹.

Table 2.2 Odour Monitoring Results - 2019

Parameter	Q1	Q2	Q3	Q4	Limit
Average Odour OUe/m ³	3388.5	3660	3953	3660	–
% Odour Removal	94	94	93	94	–
Total Aliphatic Amines (mg/Nm ³)	1	1.02	1.04	1.16	–
Hydrogen Sulphide (mg/Nm ³)	0.04	0.05	0.07	0.09	<5
Ammonia (mg/Nm ³)	1.2	1.3	1.5	1.6	<50
Total Mercaptans (mg/Nm ³)	<0.1	<0.1	<0.1	<0.1	<5
Bed Media pH	7.1	7	7.3	7.4	–
Moisture (% w/w)	50	50	50	50	–
Total Viable Counts (CFU/Kg)	6.6*10 ⁵	6.6*10 ⁵	6.6*10 ⁵	6.6*10 ⁵	–

¹ Best Available Techniques (BAT) Reference Document for Waste Treatment (2018)

The bioaerosol monitoring is carried out at three on-site locations (Loc Bio1, Loc Bio2 and Loc Bio3) annually. The results for 2019 are Table 2.3. The EPA licence does not specify emission limits for bio aerosols.

Table 2.3 Bacteria Monitoring Results - 2019

Location	Aspergillus Fumigatus (CFUm ³)	Mesophilic Bacteria (CFUm ³)
Loc Bio1	<3	357
Loc Bio2	<3	1060
Loc Bio3	<3	1073

The levels of bioaerosols in the ambient environment range from 0 to 400 CFU m⁻³ for *Aspergillus fumigatus* and 79 to 3204 CFU m⁻³ for Total bacteria. *Aspergillus fumigatus* was not detected and the mesophilic bacteria was at the lower end of the range.

SEHL carries out dust deposition monitoring at four on-site locations (DD1, DD2, DD3 and DD4) three times annually. The three monitoring events took place in April/May, May/June and June/July 2019. The results are Table 2.4, which also includes the dust deposition limit (350 mg/m²/day) specified in the EPA licence. All of the results were below the deposition limit.

Table 2.4 Dust Deposition Monitoring Results - 2019

	April/May mg/m ² /day	May/June mg/m ² /day	June/July mg/m ² /day	Deposition Limit mg/m ² /day
DD1	136	102	36	350
DD2	127.58	68.94	106.97	350
DD3	74.03	33.64	57.62	350
DD4	136	102	36	350

3. NOISE

The EPA licence requires SEHL to carry out annual noise surveys to assess the impacts associated with its operations. The licence also specifies noise limits that must be complied with, which are 55 dBA at noise sensitive locations (NSL) during daytime hours (08.00 to 22.00).

The nearest NSL, as defined by the EPA² are the residential properties on the L4101, 300 m to the east (NSL1) and 432 m to the north-west (NSL2). The noise levels measured at the two locations since 2010 are presented in Table 3.1.

The day and night time noise levels at both locations regularly exceed the day time limit of 55 dBA. The dominant day and night time noise sources at both locations is road traffic on the L4101, although this is not as frequent in the night time

In the July 2019 survey, noise from the facility was not audible in the day time, with the exception of faint intermittent noise from fans and a diesel engine. No tonal or impulsive noise was audible. Noise from the facility was not audible during the night time.

For inspection purposes only.
Consent of copyright owner required for any other use.

² EPA document *NG4 Guidance note for noise: Licence applications, surveys and assessments in relation to scheduled activities* (2016).

Table 3.1: Noise Survey Results 2010-2019.

Location	Date	Day L _{Aeq 30 min} (dB)	Day L _{90 min} (dB)	Night L _{AF10 30 min} (dB)	Night L _{90 min} (dB)
NSL1	Aug-10	56.9		44.9	
	Dec-10	54.1		45.0	
	Mar-11	42.2		41.9	
	Jun-11	63		59	
	Aug-12	63	44	57	39
	Aug-13	62	45	55	39
	Jul-14	64	40	56	41
	Aug-15	67	38	52	36
	Sep-16	64	38	53	36
	Sep-17	65	41	59	33
	Jul-18	65	41	59	33
Jul-19					
NSL2	Aug-10	48.8		42.0	
	Dec-10	53.0		44.2	
	Mar-11	42.3		37.9	
	Jun-11	62		55	
	Aug-12	62	43	55	39
	Aug-13	58	42	53	38
	Jul-14	61	36	55	40
	Aug-15	66	50	55	50
	Sep-16	62	36	54	41
	Sep-17	61	38	60	30
	Jul-18	61	38	58	32
Jul-19	64	37	62	35	

4. STORM WATER MONITORING

Rainwater run-off from the northern section of the compost building and the paved northern yard discharges to a field drain at the northern site boundary via a silt trap and oil interceptor. The drain flows to the west and joins an unnamed tributary stream of the Breaghagh River. The tributary joins the river approximately 750 m west of the site. Roof water from the southern section of the compost building discharges directly to a drain along the western site boundary. This drain flows to the south to join the Ballyley River.

Schedule C of the EPA licence requires SEHL to monitor the storm water discharge to the northern drain (SW1) for ammonia and suspended solids, with the results reported to the EPA. In addition, the EPA carries out independent monitoring. Table 3 in Appendix 7 of the EIAR submitted as Attachment 6.2.1 of the current application shows the results of the monitoring undertaken from 2018 to the beginning of 2020. The table includes Warning and Action Trigger Levels that were prepared in 2015 at the request of the EPA. The EPA licence defines a Trigger Level as a parameter value, the achievement or exceedance of which requires certain actions to be taken by the licensee

The purpose of the Trigger Levels is to provide for early detection of likely contamination problems so that appropriate that intervention measures can be put in place (e.g. shut off discharge, stop leaks etc). It is not an emission limit value (ELV) or an Environmental Quality Standard (EQS) as prescribed in the European Communities Environmental Objectives [Surface Waters] Regulations 2009 (SI No. 272 of 2009), as amended and should not be relied on as such³. There have been occasional exceedances of the trigger levels and, when these occurred, SEHL informed the EPA.

Monitoring of the roof water discharge to the drain at the west of the site was undertaken on one occasion in February 2019. The results for ammonia and suspended solids (0.6 mg/l and 13 mg/l respectively) were well below the Trigger Levels.

³<https://www.epa.ie/pubs/advice/licensee/Licensee%20Guidance%20on%20the%20setting%20of%20trigger%20values%20-%20Final%20.pdf>