Unit 15
Melbourne Business Park
Model Farm Road
Cork

O'Callaghan Moran & Associates
ENVIRONMENTAL MANAGEMENT FOR BUSINESS

E:info@ocallaghanmoran.com
www.ocallaghanmoran.com
T: 021 434 5366

ANNUAL ENVIRONMENTAL REPORT

FOR STARRUS ECO HOLDINGS LTD.

SARSFIELDCOURT, CORK

LICENCE NO. W0136-03

JANUARY 2016 – DECEMBER 2016

Prepared For: -

Starrus Eco Holdings Ltd
Fassaroe,
Bray,
Co. Wicklow

Prepared By: -

O' Callaghan Moran & Associates,
Unit 15 Melbourne Business Park,
Model Farm Road,
Cork.

31st March 2017

Project	Annual Environmental Report 2016			
Client	Starrus Eco Holdings Ltd W0136-03			
Report No	Date	Status	Prepared By	Reviewed By
0480704	31/03/2017	Draft	Dr Martina Gleeson PhD	Mr Jim O'Callaghan MSc
	31/03/2017	Final	Dr Martina Gleeson PhD	Mr Jim O'Callaghan MSc

TABLE OF CONTENTS

PAGE

1. INTRODUCTION

This is the 2016 Annual Environmental Report (AER) for Starrus Eco Holdings Limited (SEHL) Materials Recovery Facility (MRF) located at Sarsfieldcourt Industrial Estate, Glanmire, County Cork.

The report covers the period from the 1st January 2016 to the 31st December 2016. The content of the AER is based on Schedule H of the Waste Licence (W0136-03) and the report format follows guidelines set in the "Guidance Note for Annual Environmental Report" issued by the Environmental Protection Agency (Agency)[1]. Account is also taken of the AER Draft Guidance Document and AER Information Templates issued by the Agency in January 2013[2].

[1] EPA (Environmental Protection Agency) 1999 Waste Licensing – Draft Guidance on Environmental Management Systems and Reporting to the Agency
[2] EPA (Environmental Protection Agency) 2012 Draft AER Guidance Document

2. SITE DESCRIPTION

2.1 Site Location and Layout

The installation is situated within the Sarsfieldcourt Industrial Estate, approximately 8 km northeast of Cork City and 5 km north of Glanmire in the townland of Sarsfieldcourt. The site occupies 1.56 ha and comprises one MRF building, rebuilt in 2014 following a fire in 2013, and ancillary infrastructure, including administration offices, yard and parking areas and a vehicle wash.

2.2 Waste Management Activities

During the reporting period the licence allowed SEHL to accept and process up to 200,000 tonnes of waste per annum, comprising commercial/industrial non-hazardous waste, household waste, source separated biodegradable waste for composting and construction and demolition wastes. All waste processing takes place inside the waste transfer building, as specified in Condition 5.1 of the licence.

2.2.1 Waste Types & Processes

During the reporting period, the installation was licensed to accept the following waste categories and maximum quantities[3], as specified in Schedule A of the Licence: -

- Mixed Household Waste (90,000 tonnes)
- Commercial & Industrial Waste (52,500 tonnes)
- Construction & Demolition Waste (35,000 tonnes)
- Industrial Non-Hazardous Solids (47,490 tonnes)
- Household Hazardous Waste (10 tonnes)[4]

[3] The maximum tonnage of each waste type accepted may be altered with the prior agreement of the Agency as long as the total maximum tonnage is not exceeded

[4] Hazardous household waste types, and similar waste from other sources, and quantities collected and stored at the civic amenity facility to be agreed in advance by the Agency.

The key processes carried out at the installation include: -

- Segregation of recyclable materials (wood, metals, glass);
- Segregation and bulking of C&D waste;
- Transfer of recovered and residual materials to appropriately licensed recycling, recovery and disposal outlets;
- Separation of organic fines from MSW waste by shredding and trommelling of the waste
- Bulking of material for transfer to appropriately licensed recycling, recovery and disposal outlets.
- Production, baling and storage of refuse derived fuel (RDF)

Household Waste

Mixed household waste as delivered is processed to remove bulky items, organic fines, metal and wood. The remaining material is baled and wrapped to produce RDF. All recyclable material is segregated, where possible, from the waste and transferred off-site to suitable licensed or permitted recycling facilities. The remaining non-recyclable and residual material not suitable for RDF production is sent to licensed landfills post processing

Commercial and Industrial Waste

SEHL provides skips of various sizes to a wide range of commercial and industrial premises in the Cork Region. Recyclable material is segregated, where possible, from the waste stream and transferred to suitable recycling facilities. The remaining non-recyclable and residual material is sent to licensed landfills or re-directed to the onsite baler for the production of RDF bales of waste material for export to approved recovery facilities.

In addition SEHL provides a source segregation service for those clients which generate large quantities of commercial and industrial waste. Trained SEHL staff sort and segregate waste at source and the waste is then collected in skips or bulker vehicles and appropriately transported. All material is transported to the Sarsfieldcourt installation and off-loaded in designated areas and stored pending consignment to recycling facilities or to a licensed landfill.

Construction and Demolition Waste

Construction and demolition material arrives on-site in skips of varying sizes. The loads are inspected and segregated on-site. Recoverable materials are extracted and sent off-site either for re-use or recycling. The non-recyclable materials are transferred to a licensed landfill.

2.2.2 Plant List

A list of the plant in use at the installation during the reporting period is given in Table 2.1. The plant provided 100% duty and 50% standby for waste processing.

Table 2.1 Existing Plant

No.	Plant	Model	Operational Capacity	Standby Capacity
1	Tromel	Generic	80 t/hr	0
8	Conveyor Lines	Generic	80 t/hr	0
1	Baler	Bollegraff HB180	30 t/hr	0
1	Baler	Flexus Bala System	20t/hr	0
1	Articulated Grab	New Holand	100 t/hr	100 t/hr
1	Static Grab	Palfinger	50t/hr	100t/hr
2	Loading Shovel	Volvo L120	70 t/hr	0
1	Wheel Wash	Eurojet	168 hr/wk	0
2	Telescopic Handler	JCB	60hr/wk	60hr/pw
1	Weighbridge – 2 Scales	-	56 hr/wk	56 hr/wk
1	Fork Lift	Linde 3.0 tonnes	60 hr/wk	60 hr/wk
1	Fork Lift	Linde 2.5 tonnes	60 hr/wk	60 hr/wk
1	Shredder/Bag Opener	M&J 4000	80 t/hr	0
1	Bale wrapper	Crosswrap	12 t/hr	0

3. EMISSION MONITORING

SEHL implements the comprehensive environmental monitoring programme as specified in the licence to assess the significance of emissions from site activities. The programme includes surface water, wastewater, groundwater, noise and dust monitoring. The monitoring locations are shown on Figure 3.1.

The monitoring results are submitted in reports to the Agency at quarterly intervals. An overview of the results of the monitoring is presented in this Section, with summary data in tables included.

3.1 Surface Water Monitoring

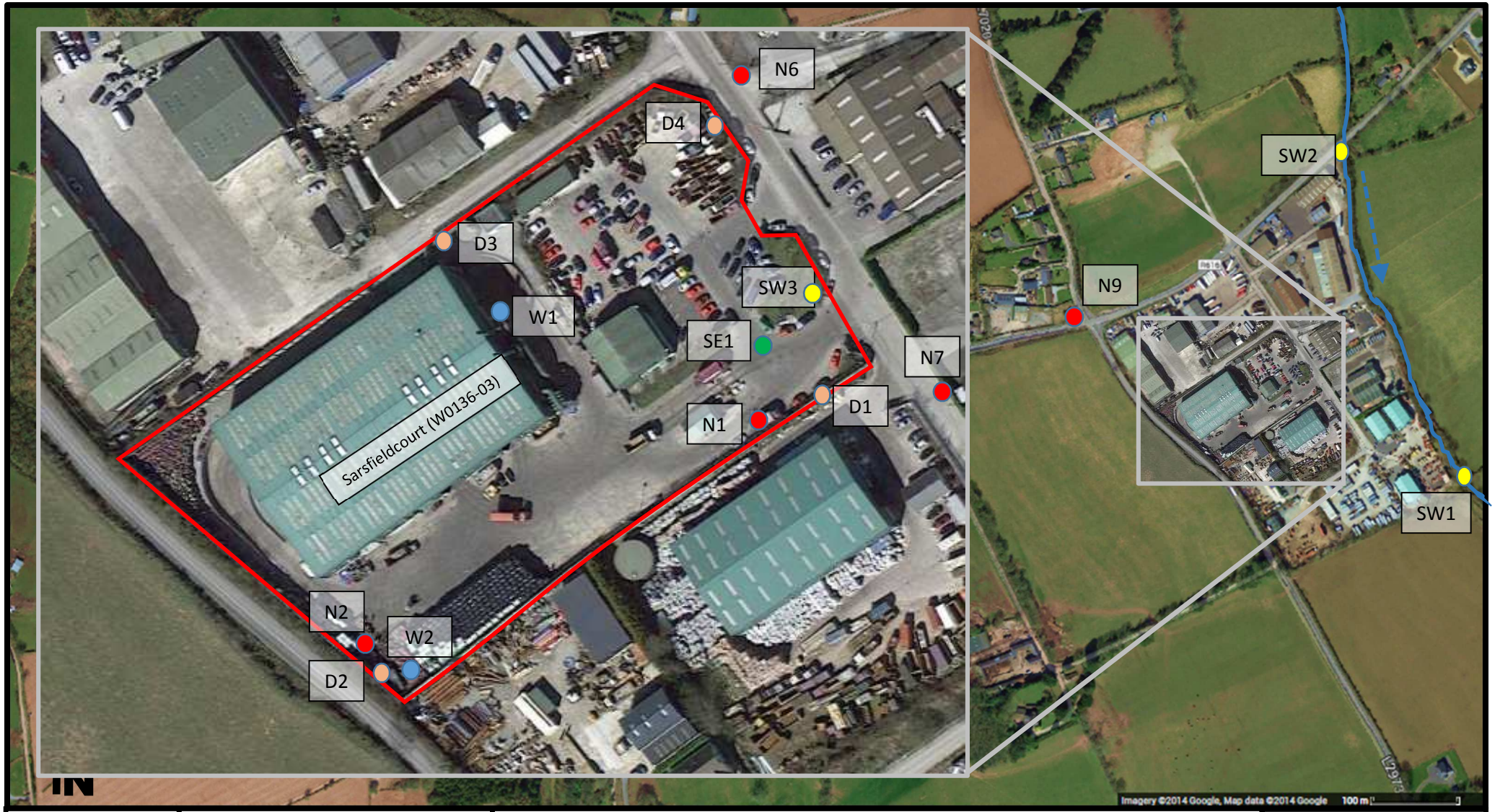
Surface water monitoring was carried out quarterly at three locations (SW-1, SW-2 and SW-3). SW-3 is the discharge point from the installation to a stream approximately 100 metres from the eastern boundary of the site. SW-2 is located to the north and upstream of the discharge point and SW-1 is located to the south and downstream of the outfall.

The range of analysis in the routine monitoring programme included pH, electrical conductivity, Chemical Oxygen Demand (COD), Biological Oxygen Demand (BOD), total organic carbon (TOC), ammonia, dissolved oxygen, total suspended solids (TSS), mineral oils and oils, fats and greases. The results of the routine monitoring are presented in Tables 3.1 to 3.3.

The Emission Limit Value (ELV) and Trigger Levels apply solely to the discharge from the installation (SW-3). The ELVs and trigger levels were revised in February 2014, which included the addition of a trigger level for ammonia (0.14mg/l as N) and a lowering of the BOD and Suspended Solids trigger levels from 25mg/l and 35mg/l to 5mg/l and 15mg/l respectively.

Prior to the revision there was 100% compliance with the ELVs and Trigger Levels. In 2016, the ammonia exceeded the revised trigger level in each quarter. The BOD and TSS levels exceeded the trigger levels in the fourth quarter. The remaining parameters were below the ELVs. The Agency were notified at the time of the exceedances, along with the Inland Fisheries Ireland and Cork County Council.

The quality of the water in the stream is generally good and is not being impacted by installation activities.



'Callaghan Moran & Associat
environmental management for business
www.ocallaghanmoran.com

O'Callaghan Moran & Associates,
Unit 15 Melbourne Business Park,
Model Farm Road, Cork, Ireland.
Tel. (021) 4345366

Email: info@ocallaghanmoran.com

Legend:

- Noise Monitoring Location
- Permit Boundary
- Stream
- Stream Flow Direction
- Wastewater Monitoring Location
- Dust Monitoring Location
- Groundwater Monitoring Location
- Surface Water Monitoring Location

Waste Reg.No.W0136-03

Figure:
Figure 3.1

Scale:
NOT TO SCALE

Client:
Starrus Eco Holdings Ltd

Title:
Emissions Monitoring Locations

Table 3.1 Surface water Monitoring Results 2016: SW-1

Parameter	Units	Q1	Q2	Q3	Q4
pH	pH units	7.10	7.20	7.32	7.53
Conductivity	mS/cm	251	277	306	476
BOD	mg/l	1	2	1	2
COD	mg/l	<7	<7	9	<7
Ammoniacal Nitrogen	mg/l	0.02	0.17	0.04	0.1
TSS	mg/l	<10	<10	<10	<10
Nitrate as NO_3	mg/l	16.4	24.1	21.7	20.8
Nitrite as NO_2	mg/l	<0.02	0.05	0.05	0.03
Mineral Oils	mg/l	<0.010	<0.010	<0.010	<0.01
Total Coliforms	cfu/100ml	240	4,600	430	>100
Faecal Coliforms	cfu/100ml	240	4,600	230	>100

Table 3.2 Surface water Monitoring Results 2016: SW-2

Parameter	Units	Q1	Q2	Q3	Q4
pH	pH units	7.25	7.75	7.95	7.75
Conductivity	mS/cm	255	256	272	137
BOD	mg/l	<1	2	<1	<1
COD	mg/l	<7	8	11	<7
Ammoniacal Nitrogen	mg/l	0.02	0.17	0.03	<0.03
TSS	mg/l	<10	<10	<10	<10
Nitrate as NO_3	mg/l	20	23.0	19.2	22.2
Nitrite as NO_2	mg/l	<0.02	<0.02	<0.02	<0.02
Mineral Oils	mg/l	<0.010	<0.010	<0.010	<0.01
Total Coliforms	cfu/100ml	75	11,000	430	>100
Faecal Coliforms	cfu/100ml	75	4,600	230	5

Table 3.3 Surface water Monitoring Results 2016: SW-3

Parameter	Units	Q1	Q2	Q3	Q4	Trigger Levels	Emission Limit
pH	pH units	7.4	7.32	7.37	7.3	N/A	N/A
Conductivity	mS/cm	480	394	474	414	N/A	N/A
BOD	mg/l	3	3	<1	27	5	N/A
COD	mg/l	<7	17	<7	80	N/A	N/A
Ammoniacal Nitrogen	mg/l	0.40	0.66	1.02	1.2	0.14	N/A
TSS	mg/l	<10	<10	<10	109	25	N/A
Nitrate as NO_3	mg/l	32	18.2	16.8	5.8	N/A	N/A
Nitrite as NO_2	mg/l	0.21	0.28	0.61	2.34	N/A	N/A
Mineral Oils	mg/l	<0.010	<0.010	<0.010	<0.01	N/A	5
Total Coliforms	cfu/100ml	11,000	11,000	4,600	>100	N/A	N/A
Faecal Coliforms	cfu/100ml	4,600	4,600	2,400	5	N/A	N/A

3.2 Groundwater Monitoring

There are two on-site groundwater monitoring wells (W-1 and W-2). The licence specifies annual groundwater monitoring, however in 2007 the Agency requested SEHL to increase the monitoring frequency to biannually

The monitoring was carried out in Q2 and Q4 2016. The direction of groundwater flow is considered to be from west to east towards the stream, which flows along the eastern side of the Industrial Estate. W-2 is at the upgradient and W-1 is at the downgradient side of the site.

The parameters analysed are those in the licence, pH, Electrical Conductivity, Temperature, COD, BOD, Total Ammonia, Nitrates, Mineral Oil, Total and Faecal Coliforms and the results are presented in Tables 3.4 and 3.5

There are no Emission Limit Value (ELV) nor Trigger Levels set in the licence and for comparison purposes the tables also include the EPA Interim Guideline Values (IGVs) and the Groundwater Regulations Threshold Value (GTV)

There were exceedances of the pH range, nitrate and total coliforms in W-2 in both monitoring rounds, where the pH was slightly below the IGV low value of 6.5. W-2 is an upgradient groundwater monitoring well and any impact identified in this well is likely to have occurred from an off-site upgradient source. The likely source of these elevated parameters is agricultural practices within the catchment.

With the exception of a high nitrate level in Q2, the quality of the groundwater was good in W-1 (beneath the site) and generally consistent with the previous monitoring carried out. The results indicate that the installation had no impact on groundwater.

Table 3.4 Groundwater Monitoring Results 2016: W-1

Parameter	Units	Q2	Q4	IGV	GTV
pH	pH units	7.18	7.07	6.5-9.5	-
Conductivity	mS/cm	0.403	0.386	-	0.800-1.875
Ammoniacal Nitrogen (N)	mg/l	<0.01	<0.03	-	0.065-0.175
Nitrate as NO_3	mg/l	48.5	13.6	-	37.5
Nitrite as NO_2	mg/l	<0.02	<0.02	-	0.375
Mineral Oils	mg/l	<0.01	<0.01	0.01	-
BOD	mg/l	<1	<1	-	-
COD	mg/l	8	10	-	-
Total Coliforms	Counts / 100ml	<3	60	0	-
Faecal Coliforms	Counts / 100ml	<3	60	0	-

Note
Where a GTV exists this replaces the IGV value

Table 3.5 Groundwater Monitoring Results 2016: W-2

Parameter	Units	Q2	Q4	IGV	GTV
pH	pH units	6.10	6.65	6.5-9.5	-
Conductivity	mS/cm	0.275	0.255	-	0.800-1.875
Ammoniacal Nitrogen (N)	mg/l	<0.01	<0.03	-	0.065-0.175
Nitrate as NO_3	mg/l	57.7	51.1	-	37.5
Nitrite as NO_2	mg/l	<0.02	<0.02	-	0.375
Mineral Oils	mg/l	<0.01	<0.01	0.01	-
BOD	mg/l	1	<1	-	-
COD	mg/l	<7	<7	-	-
Total Coliforms	Counts / 100ml	<3	>100	0	-
Faecal Coliforms	Counts / 100ml	<3	0	0	-

Note
Where a GTV exists this replaces the IGV value

3.3 Noise Survey

The annual noise survey was carried out in October 2016 and included three off-site noise sensitive locations N-1, N-2 and N-3. Condition 6.11 and Schedule B.2 of the licence specifies the noise conditions applicable for the site which includes a daytime noise emission limit of 55 dB daytime, 50dB evening time and 45 dB night time limits applied to the nearest noise sensitive locations, identified as N-1 to N-3 on Table 3.6 and Figure 3.2 below.

Table 3.6 Noise Sensitive Locations

Station	ITM NGR	Location	Propagation route terrain
N1	571942 579177	Adjacent to crossroads NW of site, 35 m from nearest NSL	Free field; partial line of sight to building N facade; terrain level; terrain under paved yards & roadways with intervening walls & and buildings
N2	572323 579479	Roadside verge 420 m NE of site, 40-60 m from nearest NSLs	Free field; line of sight to building E façade upper; terrain level; terrain under industrial estate surfaces & buildings, field & hedgerows
N3	572303 578519	Field 540 m SSE of site, 40 m from nearest NSL	Free field; no line of sight; terrain level; terrain under field & hedgerows

Installation noise emissions were not audible at any of the measurement stations, with two exceptions. During the evening survey, emissions from the air management system became faintly audible at N2 to the northeast, giving rise to a contribution of less than 39 dB. At N1 (northwest) and N2, emissions from the same system were slightly audible during the night-time, resulting in a contribution of less than 33 dB. Emissions thus complied with the 55 dB daytime, 50 dB evening and 45 dB night-time limits specified in licence W0136-03. Site operations did not give rise to tones or impulses at any of the stations. The results are included on Table 3.7.

Figure 3.2 Noise Monitoring Locations

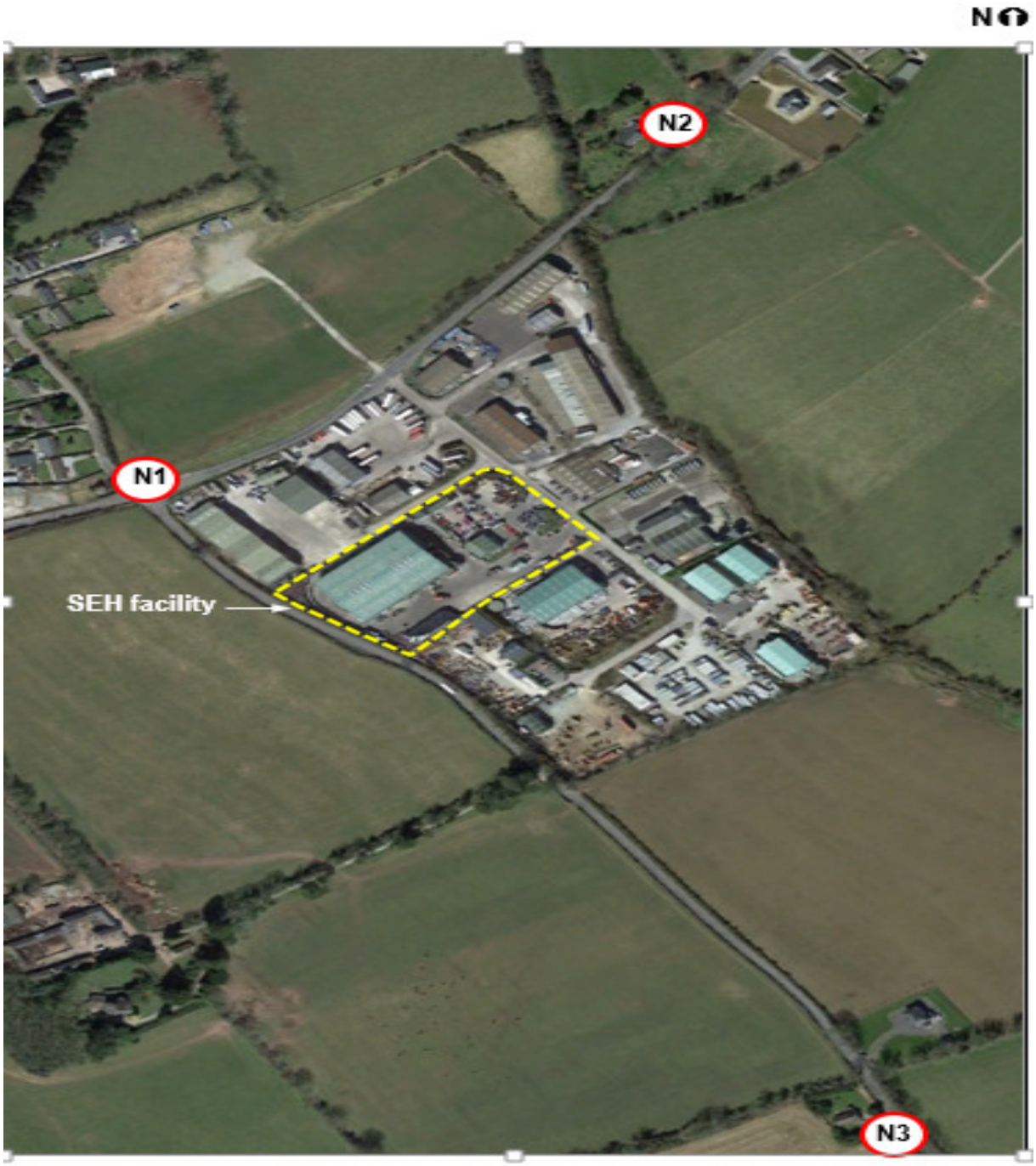


Table 3.7 Noise Monitoring Results 20th October 2016

Daytime 0700-1900 **Evening 1900-2300** Night-time 2300-0700

Station	Date	Time	Wind vector	$L_{Aeq\ 30\ min}$ dB	$L_{AF10\ 30\ min}$ dB	$L_{AF90\ 30\ min}$ dB	Specific $L_{Aeq\ 30\ min}$ dB
N1 day 1/3	20.10.16	1243-1313	x	67	70	43	<<41
	Facility: No emissions audible. **Extraneous**: Regular traffic through adjacent junction dominant, and almost continuously present on approaches, masking all other sources apart from aircraft, local bird song/calls and sporadic activities at nearest premises in industrial estate. **Specific $L_{Aeq\ T}$ determination**: Determined from subsequent interval.						
N1 day 2/3	20.10.16	1433-1503	x	68	71	41	<<41
	Facility: No emissions audible. **Extraneous**: As previous. **Specific $L_{Aeq\ T}$ determination**: Inaudible, thus <<L90.						
N1 day 3/3	20.10.16	1642-1712	x	70	75	47	<<41
	Facility: No emissions audible. **Extraneous**: As previous, although traffic increased. Occasional vocalisations at adjacent sports pitch (hurling training). Forklift truck quite audible at nearest commercial premises throughout much of interval. **Specific $L_{Aeq\ T}$ determination**: Determined from previous.						
N1 eve 1/1	20.10.16	1936-2006	0	66	68	43	<<41
	Facility: No emissions audible. **Extraneous**: As previous, minus bird calls. Noise emissions from idling and manoeuvring trucks (and possibly refrigerated trailers) continuously audible at low level from nearest commercial premises with energy at 63 Hz. **Specific $L_{Aeq\ T}$ determination**: Determined from earlier interval.						
N1 night 1/2	20/21.10.16	2341-0011	0	58	49	33	<33
	Facility: No emissions audible. **Extraneous**: Intermittent traffic through adjacent junction dominant when present. Distant traffic continuously audible at low level. No emissions from adjacent industrial estate apart from sporadic truck movements at approx 100 m, and sporadic car movements on industrial estate roadway. **Specific $L_{Aeq\ T}$ determination**: Air management system contribution estimated from subsequent interval.						
N1 night 2/2	21.10.16	0139-0209	0	51	42	33	<33
	Facility: Air management system faintly discernible, most likely due to decreased traffic noise in distance. **Extraneous**: Local road traffic now sporadic. Distant traffic continuously audible at low level. Distant dog barking. **Specific $L_{Aeq\ T}$ determination**: Emissions barely discernible, thus <L90.						
N2 day 1/3	20.10.16	1319-1349	+	64	66	34	<<34
	Facility: No emissions audible. **Extraneous**: Regular passing traffic intrusive, and dominant on approaches. During infrequent lulls, distant mower/strimmer or similar continuously audible at low level, in addition to local bird song/calls. Industrial estate activities masked by traffic. Aircraft. **Specific $L_{Aeq\ T}$ determination**: Inaudible, thus <<L90.						
N2 day 2/3	20.10.16	1508-1538	+	63	66	36	<<34
	Facility: No emissions audible. **Extraneous**: As previous, with mower/strimmer still present. **Specific $L_{Aeq\ T}$ determination**: As previous.						

Audibility scale: Inaudible; faintly audible; slightly audible; audible at low level; quite audible; clearly audible; dominant; intrusive; excessive.

Station	Date	Time	Wind vector	$L_{Aeq\ 30\ min}$ dB	$L_{AF10\ 30\ min}$ dB	$L_{AF90\ 30\ min}$ dB	Specific $L_{Aeq\ 30\ min}$ dB
N2 day 3/3	20.10.16	1715-1745	+	64	69	41	<<34
	Facility: No emissions audible. **Extraneous**: Frequent passing traffic intrusive. During lulls, distant traffic continuously slightly audible, and local bird calls Aircraft. . **Specific $L_{Aeq\ T}$ determination**: As previous.						
N2 eve 1/1	20.10.16	2014-2044	0	67	65	39	<39
	Facility: Air management system continuously slightly audible. No other emissions audible. **Extraneous**: Intermittent passing traffic intrusive when present. Distant traffic including M8 traffic slightly audible continuously. Aircraft. **Specific $L_{Aeq\ T}$ determination**: Amplitude of emissions insufficient to influence data, as emissions chiefly discernible by character, thus <L90.						
N2 night 1/2	21.10.16	0031-0101	0	58	43	31	<31
	Facility: Air management system continuously slightly audible, with minor energy at 4 kHz. **Extraneous**: Passing traffic reduced to sporadic, although audible for extended period on approaches. Distant traffic continuously audible at low level in several directions. Dog barking audible across wide area, and repeatedly present at 1-200 m.. **Specific $L_{Aeq\ T}$ determination**: Amplitude of AMS emissions insufficient to influence data, as emissions chiefly discernible by character, thus <L90.						
N2 night 2/2	21.10.16	0101-0131	0	61	44	31	<31
	Facility: As previous. **Extraneous**: As previous, with dog barking slightly reduced. **Specific $L_{Aeq\ T}$ determination**: As previous.						
N3 day 1/3	20.10.16	1357-1427	x	54	58	38	<<37
	Facility: No emissions audible. **Extraneous**: Intermittent traffic on adjacent road dominant when present, and audible on approaches. Distant traffic continuously slightly audible in several directions. Bird song/calls. No industrial estate emissions audible. Aircraft. **Specific $L_{Aeq\ T}$ determination**: Determined from subsequent interval.						
N3 day 2/3	20.10.16	1556-1626	x	56	60	37	<<37
	Facility: No emissions audible. **Extraneous**: As previous. Crows becoming significant at times. **Specific $L_{Aeq\ T}$ determination**: Inaudible, thus <<L90.						
N3 day 3/3	20.10.16	1752-1822	x	57	61	45	<<37
	Facility: No emissions audible. **Extraneous**: As previous, with M8 traffic to SE continuously quite audible and now dominating background soundscape, possibly a result of onset of cold calm conditions. **Specific $L_{Aeq\ T}$ determination**: As previous.						
N3 eve 1/1	20.10.16	1900-1930	0	53	56	42	<<37
	Facility: No emissions audible. **Extraneous**: As previous. **Specific $L_{Aeq\ T}$ determination**: As previous.						
N3 night 1/2	20.10.16	2301-2331	0	52	51	40	<<36
	Facility: No emissions audible. **Extraneous**: Traffic frequency on adjacent public road reduced to occasional, dominant when present. Distant road traffic continuously quite audible, dominating background, particularly M8 traffic to SE. **Specific $L_{Aeq\ T}$ determination**: Determined from subsequent interval.						
N3 night 2/2	21.10.16	0215-0245	0	57	46	36	<<36
	Facility: No emissions audible. **Extraneous**: As previous, although only 2 local traffic movements. **Specific $L_{Aeq\ T}$ determination**: Inaudible, thus <<L90.						

Audibility scale: Inaudible; faintly audible; slightly audible; audible at low level; quite audible; clearly audible; dominant; intrusive; excessive.
Specific L_{Aeq}: Level considered attributable to source under consideration, determined using real time assessment, field notes, time history profiles, statistical analysis, frequency spectra, spectral statistics and near field correction if applicable.

3.4 Dust Monitoring

Dust monitoring is conducted quarterly. The results of the monitoring carried out in 2016 are included in Table 3.9. The result for D-2 (525 mg/m^2/day) in August 2016 exceeded the dust deposition limit, however, the inorganic particulate faction of the sample, which is representative of site activities was 235 mg/m^2/day and below the limit. The sample was impacted greatly by the presence of vegetative growth (leaves, algae, etc.), which was not derived from site based activities. The result for D-3 (504 mg/m^2/day) in October 2016 exceeded the dust deposition limit, however, the inorganic particulate faction of the sample, which is representative of site activities, was 263 mg/m^2/day. Monitoring point D3 is located beside an access road within the estate. The sample was impacted greatly by the presence of vegetative growth (leaves, algae, etc.), which was not derived from site based activities.

Table 3.9 Dust Monitoring Results 2016

	March mg/m^2/day	**May mg/m^2/day**	**August mg/m^2/day**	**October mg/m^2/day**	**Deposition Limit mg/m^2/day**
D-1	10.66	47.18	226	125	350
D-2	12.01	46.73	525	134	350
D-3	5.50	16.16	87	504	350
D-4	7.74	15.60	124	134	350

3.5 Nuisance Control Review

SEHL installed and commissioned an air emission abatement system in the MRF building in 2006. The system was working well prior to the fire in November 2013 when it was completely destroyed. The system was re-installed when the MRF building was rebuilt in 2014.

The system extracts air from the waste handling area and passes it through a series of filters to remove any dust. The active carbon within the annular vessels acts on the odorous air by binding the odour causing molecules to the carbon thus removing odours from the released air. This technique in conjunction with maintaining the integrity of the extraction area forms the premise for the effective operation of the system and ensures treatment.

Other controls include automatic fast acting doors installed on both the tunnel entrance and exit and the in and out doorway in the main transfer building. This acts in conjunction with a building management system (BMS) which activates an alarm if a door is opened for longer than a pre-defined period.

SEHL implements a detailed Odour Management Plan (OMP) for waste handling operations. The OMP is a core document detailing operational and control measures appropriate to management and control of odours. It provides sufficient detail to allow facility and maintenance staff to clearly understand the odour management operational procedures for both normal and abnormal conditions.

Routine inspections and litter patrols, cleaning of site roads and yard areas and vermin control (Comserv) are maintained. SEHL has introduced an Integrated Management System (IMS) and as part of this has developed a list of environmental management procedures, details of which are outlined in Section 7 and include nuisance control measures.

4. SITE DEVELOPMENT WORKS

4.1 Engineering Works

No site development works were carried out in 2016. It is proposed to install the electrical substation in 2017.

4.2 Summary of Resource & Energy Consumption

Table 4.1 presents an estimate of the resources used on-site during the reporting period.

Table 4.1 Estimates of Resources Used On-Site in 2015 & 2016

Resources	Quantities 2015	Quantities 2016
Road Diesel	902,953 litres	889,752 litres
Gas Oil	312,784 litres	314,118 litres
Gear Oil	30 litres	50 litres
Ad Blue	6000 litres	6,000 litres
Hydraulic, Transmission, Engine Oil	500 litres	800 litres
Anti-Freeze	30 litres	35 litres
Electricity	447,112 kWh	477,161 kwh
Truck Wash Detergent	0 litres	0 litres
Carbon	28 tonnes	32 tonnes

4.3 Bund Integrity Test

Bund testing is carried out every three years. Integrity testing of the drainage system was carried out in 2015 which confirmed it was fit for purpose. The bunds are scheduled for integrity testing in 2017.

5. WASTE RECEIVED AND CONSIGNED FROM THE FACILITY

Table 5.1 shows the total quantities of waste received and consigned from the installation in 2016. Table 5.2 shows the quantities of waste received and consigned in previous years. A breakdown of the waste types is provided in accordance with the European Waste Catalogue and Hazardous Waste (EWC/HWL) list. A more detailed description of the wastes accepted and consigned are provided in the PRTR return in Appendix 1.

The total amount received in 2016 was 108,037 tonnes. The total amount consigned was 111,327 tonnes. The difference (3,291 tonnes) is related to waste which remained on site at the end of 2015 and which was consigned in 2016. All the wastes consigned from the site went to recovery and disposal facilities agreed with the Agency.

Table 5.1 Waste Received & Consigned 2016

EWC	Description	Waste In	Waste Out
15 01 01	Cardboard & Paper Packaging	86.19	
15 01 02	Plastic Packaging	39.032	
15 01 06	Mixed Packaging	35.86	2,615.77
15 01 07	Glass Packaging	1,471.76	1,471.36
16 06 01	Lead Batteries – Hazardous Waste		1.865
16 11 06	Ash	0.76	
17 02 03	Plastic	0.18	
17 03 02	Bitmac	88.42	
17 05 04	Soil & Stone	3.08	
17 08 02	Plasterboard	4.68	
17 09 04	Mixed C&D	209	397.08
18 01 04	Solid Recovered Fuel	26.86	
19 08 05	Liquid Waste		2035
19 12 09	C&D Inert Mixed	34.54	
19 12 10	Solid Recovered Fuel	25.92	
19 12 12	Mixed Residual Waste from mechanical treatment	738.16	21,491.65
20 01 01	Paper & Cardboard	93.03	
20 01 02	Glass	53.32	
20 01 08	Compost and Commercial Food Wastes	6,886.794	6,699.34
20 01 35	REC Electronics & Electrics	1.235	2.725
20 01 38	Wood from municipal sources	56.56	148.52
20 01 39	Plastic from municipal sources	175.76	
20 01 40	Metal from municipal sources	9.5	408.6
20 02 01	Cardboard & Paper	250.6	
20 03 01	Mixed Residual Waste	79,847.864	66,930.586
20 03 07	Bulky Waste	17,897.904	9,124.8
	Total Received	**108,037.009**	
	Total Consigned		**111,327.296**
	Recovered		**109,913.356**
	Disposed		**1,413.94**
	Recovery Rate (%)		**98.73%**

Table 5.2 Waste Received & Consigned in Recent Years

	2015	2014	2013	2012	2011	2010	2009
Total Received	86,136	10,307	71,812	75,619	67,621	68,252	54,697
Total Consigned	85,802	10,851	76,478	74,035	69,848	69,988	46,394
Total Recovered	66,694	7,616	62,452	34,038	27,263	31,807	15,521
Total Disposed	16,109	3,191	14,026	39,996	42,585	38,181	40,872
Recovery Rate	81.22%	70.19%	81.66%	46%	39%	45.45%	27.52%

6. ENVIRONMENTAL INCIDENTS AND COMPLAINTS

6.1 Incidents

There were four exceedances of the surface water trigger levels throughout the year. These were an exceedance of the trigger level for BOD and TSS in Q4 and the ammonia trigger level in each quarter. Each one was reported to the Agency, Cork County Council and the Inland Fisheries Ireland at the time of each incident. The exceedances did not result in any adverse impact on the water quality in the receiving stream:

6.2 Register of Complaints

SEHL maintains a register of complaints received in accordance with Condition 10.4 of the waste licence. The complaints register includes the details of all complaints and the actions carried out in response to each complaint. There were 8 complaints in relation to odour during the reporting period.

7. ENVIRONMENTAL DEVELOPMENT

7.1 Environmental Management Programme Report

SEHL have implemented an Integrated Management System (IMS) in accordance with the requirements of Occupational Health and Safety Assessment Series (OHSAS) 18001:2007 and International Standard Organisation (ISO) 14001:2004 in order to manage the Health, Safety and Environmental performance of their business and to control health and safety risk and to minimise their environmental aspects and impacts.

The IMS has been developed for the achievement of continual improvement taking into account the requirements of the Waste Licence Conditions. SEHL has prepared and effectively implement documented procedures and instructions in accordance with the requirements of both the OHSAS 18001:2007 and ISO 14001:2004. The installation passed an external IMS audit in July 2013.

The schedule of Objectives and Targets, including their status for 2016 (Table 7.1), as well as the proposed Objectives and Targets for 2017 (Table 7.2) are presented below. An index of procedures used at the installation is included in Appendix 2.

7.1.1 Site Management Structure

Details of the site management structure are given below.

Name: Louise Demir

Responsibility: Operations Manager.

Experience: 8 years waste management experience. BSc. Biochemistry (UCC). FÁS Waste Management Course.

Name: Michael Hannon

Responsibility: Support Service Manager / Deputy Operations Manager.

Experience: 14 years waste management experience. FÁS Waste Management Course.

Name: Donal Monahan

Responsibility: Director of Resource and Recovery

Experience: Over 20 years waste management experience. FÁS Waste Management Course.

7.1.2 Staff Training

Environmental training is carried out for any new staff employed at the installation as required. Copies of all training records are held in the installation office.

7.2 Environmental Management Programme

7.2.1 Schedule of Objectives 2016

The objectives that were achieved during this reporting period are outlined in Table 7.1.

7.2.2 Schedule of Objectives 2017

The schedule of targets and objectives for 2017 are presented in Table 7.2.

Table 7.1 Schedule of Objective and Targets 2016

No	Objective	Target	Timescale	Responsibility	Status
1	**Increase awareness of Odour Management on site group wide**	Specify Odour detection in Site Inspection Database (EF-10A) on a daily basis and generate actions as appropriate	Q1-Q2	Site Management/ EHS	Ongoing
2	**Waste storage practices**	Review waste storage practices on each site to ensure that they are in line with licence conditions, fire prevention and insurance recommendations	Q2	Site Management/ EHS	Ongoing
3	**Emergency response procedures - ER pack update**	Review the Emergency Response Pack on each site and ensure that all information & equipment required in case of an emergency is available. Confirm that relevant staff training adequately addresses.	Q2	Site Management/ EHS	Ongoing
4	**CRAMP, ELRA & Financial Provision**	CRAMP, ELRA & Financial Provision to be reviewed	Q2/Q3	EHS team	Q1 2017
5	**Waste acceptance, classification & records**	EWC training for all weighbridge ops. Centralisation of all licences & permits inc NWCPs for hauliers.	Q2/Q3	EHS team	Ongoing
6	**Energy Audit**	Completed energy audit as per amended licence conditions	Q4	Site Management/ EHS	Completed
7	**Firewater retention report**	Complete & submit fire water retention report as per licence requirements and implement findings.	Q2	Site Management /EHS	On-going
8	**Review drainage on site and upgrade as required**	Review drainage in line with current sites processes & practices and make changes where appropriate.	Q2/Q3	Site Management /EHS	On-going
9	**Review Odour Management Plan**	Review OMP and implement changes where appropriate.	Q2	Site Management /EHS	Completed

Table 7.2 Schedule of Objective and Targets 2017

No	Objective	Target	Responsibility	Timescale
1	**Odour management**	Ensure odour management plans are followed and potential new sources of odour are identified	Q1 - Q4	Site management
2	**Fire prevention**	Implement recs from Fire Risk Assessments Update ERP & APP Maintain fire detection equipment	Q1 - Q4	Site management/EHS team
3	**Waste storage**	Review waste storage practices on each site to ensure that they are inline with licence conditions, fire prevention and insurance recommendations	Q1 - Q4	Site management/EHS team
4	**Waste acceptance, classification & records**	EWC training for all weighbridge ops. Centralisation of all licences & permits inc NWCPs for hauliers.	Q1 - Q4	EHS team
5	**CRAMP, ELRA & Financial Provision**	CRAMP, ELRA & Financial Provision to be reviewed	Q2	EHS team
6	**Lighting in MRF buildings**	Clean & upgrade where required all light fittings in MRF buildings	Q3	Site management
7	**NWCP exemptions**	Implement NWCP exemption declarations	Q1 - Q4	Site management
8	**Pipeline integrity Testing**	Complete bund and pipeline integrity testing	Q1/Q2	Site management
9	**Increase electricity supply**	Progress MIC application to increase electricity supply to site	Q2-Q4	EHS team

7.3 Communications Programme

SEHL is committed to setting the standard in waste management and ensuring environmental compliance in all operations. In addition, SEHL's Environmental, Health & Safety Policy makes a specific commitment to ensuring that the policy itself and records are available to the public and interested parties.

SEHL has drawn up a Communications Programme, which details how members of the public are facilitated in accessing environmental information at the installation.

Records available for public inspection on site include:-

- Environmental Health & Safety Policy,
- Waste Licence,
- Licence Application and Review documentation,
- Monitoring Records,
- Complaints File,
- EPA Correspondence File.

Opening Times for Inspection of Records are from 10 am – 4 pm. Visits to the site should be arranged in advance by ringing the Facility Manager at 1890 600 900.

The facility manager meets with any interested other occupants of the Industrial Estate and the representatives of the Glanmire Residence Association to discuss the environmental performance of the installation and address any environmental issues or concerns that may arise.

7.4 Report Financial Provision

A Decommissioning Management Plan (DMP) and Environmental Liabilities Risk Assessment (ELRA) including Financial Provision (FP) were submitted to the Agency in 2013 as part of the transfer of the licence which occurred in Q1 2014. Both the DMP and ELRA have been approved by the Agency.

7.5 Nuisance Controls

SEHL has contracted a vermin control company Comserv to carry out nuisance control at the installation.

8. OTHER REPORTS

8.1 European Pollutant Release and Transfer Register

Under the European Pollutant Release and Transfer Register Regulation (EC) No. 166/2006 SEHL are required to submit information annually to the Agency. A copy of the information submitted to the Agency via the web-based data reporting system is included in Appendix 1.

APPENDIX 1

European Pollutant Release and Transfer Register

| PRTR# : W0136 | Facility Name : Starrus Eco Holdings Limited (Munster) | Filename : W0136_2016.xls | Return Year : 2016 |

Guidance to completing the PRTR workbook

PRTR Returns Workbook

Version 1.1.19

REFERENCE YEAR	2016

1. FACILITY IDENTIFICATION

Parent Company Name	Starrus Eco Holdings Limited
Facility Name	Starrus Eco Holdings Limited (Munster)
PRTR Identification Number	W0136
Licence Number	W0136-03

Classes of Activity

No.	**class_name**
-	Refer to PRTR class activities below

Address 1	Sarsfieldcourt Industrial Estate
Address 2	Sarsfieldcourt
Address 3	Glanmire
Address 4	
	Cork
Country	Ireland
Coordinates of Location	-8.40596 51.9631
River Basin District	IESW
NACE Code	3832
Main Economic Activity	Recovery of sorted materials
AER Returns Contact Name	Sara Smyth
AER Returns Contact Email Address	sara.smyth@greenstar.ie
AER Returns Contact Position	Environmental Engineer
AER Returns Contact Telephone Number	01 2746236
AER Returns Contact Mobile Phone Number	
AER Returns Contact Fax Number	
Production Volume	0.0
Production Volume Units	
Number of Installations	0
Number of Operating Hours in Year	0
Number of Employees	20
User Feedback/Comments	
Web Address	

2. PRTR CLASS ACTIVITIES

Activity Number	**Activity Name**
50.1	General
5(c) 50.1	Installations for the disposal of non-hazardous waste General

3. SOLVENTS REGULATIONS (S.I. No. 543 of 2002)

Is it applicable?	
Have you been granted an exemption ?	
If applicable which activity class applies (as per Schedule 2 of the regulations) ?	
Is the reduction scheme compliance route being used ?	

4. WASTE IMPORTED/ACCEPTED ONTO SITE

Guidance on waste imported/accepted onto site

Do you import/accept waste onto your site for on-site treatment (either recovery or disposal activities) ?	

4.1 RELEASES TO AIR

Link to previous years emissions data

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

RELEASES TO AIR					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD				QUANTITY		
			Method Used					
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION B : REMAINING PRTR POLLUTANTS

RELEASES TO AIR					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD				QUANTITY		
			Method Used					
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION C : REMAINING POLLUTANT EMISSIONS (As required in your Licence)

RELEASES TO AIR					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD				QUANTITY		
			Method Used					
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

Additional Data Requested from Landfill operators

For the purposes of the National Inventory on Greenhouse Gases, landfill operators are requested to provide summary data on landfill gas (Methane) flared or utilised on their facilities to accompany the figures for total methane generated. Operators should only report their Net methane (CH4) emission to the environment under T(total) KG/yr for Section A: Sector specific PRTR pollutants above. Please complete the table below:

Landfill: Starrus Eco Holdings Limited (Munster)

Please enter summary data on the quantities of methane flared and / or utilised	T (Total) kg/Year	M/C/E	Method Used: Method Code	Method Used: Designation or Description	Facility Total Capacity m3 per hour	
Total estimated methane generation (as per site model)	0.0				N/A	
Methane flared	0.0				0.0	(Total Flaring Capacity)
Methane utilised in engine/s	0.0				0.0	(Total Utilising Capacity)
Net methane emission (as reported in Section A above)	0.0				N/A	

4.2 RELEASES TO WATERS

Link to previous years emissions data

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

Data on ambient monitoring of storm/surface water or groundwater, conducted as part of your licence requirements, should NOT be submitted under AER / PRTR Reporting as t

RELEASES TO WATERS					Please enter all quantities in this section in KGs			
POLLUTANT						QUANTITY		
			Method Used					
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION B : REMAINING PRTR POLLUTANTS

RELEASES TO WATERS					Please enter all quantities in this section in KGs			
POLLUTANT						QUANTITY		
			Method Used					
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION C : REMAINING POLLUTANT EMISSIONS (as required in your Licence)

RELEASES TO WATERS					Please enter all quantities in this section in KGs			
POLLUTANT						QUANTITY		
			Method Used					
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

4.3 RELEASES TO WASTEWATER OR SEWER

Link to previous years emissions data

SECTION A : PRTR POLLUTANTS

OFFSITE TRANSFER OF POLLUTANTS DESTINED FOR WASTE-WATER TREATMENT OR SEWER					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
			Method Used					
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION B : REMAINING POLLUTANT EMISSIONS (as required in your Licence)

OFFSITE TRANSFER OF POLLUTANTS DESTINED FOR WASTE-WATER TREATMENT OR SEWER					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
			Method Used					
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

4.4 RELEASES TO LAND

Link to previous years emissions data

SECTION A : PRTR POLLUTANTS

RELEASES TO LAND					Please enter all quantities in this section in KGs		
POLLUTANT		METHOD			QUANTITY		
			Method Used				
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year
					0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION B : REMAINING POLLUTANT EMISSIONS (as required in your Licence)

RELEASES TO LAND					Please enter all quantities in this section in KGs		
POLLUTANT		METHOD			QUANTITY		
			Method Used				
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year
					0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

5. ONSITE TREATMENT & OFFSITE TRANSFERS OF WASTE

Please enter all quantities on this sheet in Tonnes

0

Transfer Destination	European Waste Code	Hazardous	Quantity (Tonnes per Year)	Description of Waste	Waste Treatment Operation	Method Used		Location of Treatment	Haz Waste : Name and Licence/Permit No of Next Destination Facility Non Haz Waste: Name and Licence/Permit No of Recover/Disposer	Haz Waste : Address of Next Destination Facility Non Haz Waste: Address of Recover/Disposer	Name and License / Permit No. and Address of Final Recoverer / Disposer (HAZARDOUS WASTE ONLY)	Actual Address of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)
						M/C/E	Method Used					
Within the Country	15 01 06	No	1435.54	mixed packaging	R3	M	Weighed	Offsite in Ireland	Forge Hill Recycling Limited,W0291-01	Forge Hill ,Ballycurreen,Cork,.,Ireland		
Within the Country	15 01 06	No	1180.23	mixed packaging	R3	M	Weighed	Offsite in Ireland	Killarney Waste Disposal Limited,W0217-01	Aughacurreen,.,Killarney,Co. Kerry,Ireland		
Within the Country	15 01 07	No	1471.36	glass packaging	R5	M	Weighed	Offsite in Ireland	Clonmel Waste Disposal Ltd,WP-008-02	Lawlesstown,Clonmel,.,Co Tipperary,Ireland		
Within the Country	16 06 01	Yes	1.865	lead batteries	R4	M	Weighed	Offsite in Ireland	KMK Metals, W0113-03 . . Tullamore Co Offaly Ireland	.,.,Tullamore,Co Offaly,Ireland	KMK Metals, W0113-03,.,.,Tullamore,Co Offaly,Ireland	.,.,Tullamore,Co Offaly,Ireland
Within the Country	17 09 04	No	397.08	mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03	R13	M	Weighed	Offsite in Ireland	Mallow Contracts,CK(N)277/5	.,.,Mournabbey,Co Cork,Ireland		
Within the Country	19 08 05	No	1501.78	sludges from treatment of urban waste water	R13	M	Weighed	Offsite in Ireland	Lehane Environmental & Industrial Services,NWCPO-08-04574-03	Units 1-3,Wallingstown Industrial Estate,Little Island,Co. Cork,Ireland		
Within the Country	19 08 05	No	533.22	sludges from treatment of urban waste water	R13	M	Weighed	Offsite in Ireland	McBreen Environmental Ltd,WFP-CN-16-0001-01	Lismagratty,Cavan,Co. Cavan,.,Ireland		
To Other Countries	19 12 12	No	27.98	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	R13	M	Weighed	Abroad	EON Varme Sverige AB,556146-1814	Energigatan 5 ,SE-601,71 Norrkoping,.,Sweden		
Within the Country	19 12 12	No	51.82	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	R3	M	Weighed	Offsite in Ireland	Enrich Environmental Limited,WSP-MG-08-004-02	.,Larch Hill,Kilcock,Co. Meath,Ireland		
Within the Country	19 12 12	No	3183.21	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	R5	M	Weighed	Offsite in Ireland	Glanway Ltd,WFP-KK-14-0002-01	.,11 Patrick's Street,Kilkenny,.,Ireland		
Within the Country	19 12 12	No	676.12	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	R13	M	Weighed	Offsite in Ireland	Nurendale Limited,W0140-04	Rathdrinagh,Beauparc,Navan,Co. Meath,Ireland		
Within the Country	19 12 12	No	14713.82	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	R3	M	Weighed	Offsite in Ireland	McGill Environmental Systems Ltd,W0180-01	Coom,Carrignavar/Glenville, Co. Cork,.,Ireland		
Within the Country	19 12 12	No	2838.7	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	R13	M	Weighed	Offsite in Ireland	Starrus Eco Holding Limited,W0053-03	.,Fassaroe,Bray ,Co Wicklow ,Ireland		
Within the Country	20 01 08	No	6699.34	biodegradable kitchen and canteen waste	R3	M	Weighed	Offsite in Ireland	Acorn Recycling Ltd,W0249-01	.,.,Littleton,Co Tipperary,Ireland		
Within the Country	20 01 35	Yes	2.725	discarded electrical and electronic equipment other than those mentioned in 20 01 21 and and 20 01 23 containing hazardous components	R4	M	Weighed	Offsite in Ireland	KMK Metals, W0113-03	.,.,Tullamore,Co Offaly,Ireland	KMK Metals, W0113-03,.,.,Tullamore,Co Offaly,Ireland	.,.,Tullamore,Co Offaly,Ireland
Within the Country	20 01 38	No	103.02	wood other than that mentioned in 20 01 37	R13	M	Weighed	Offsite in Ireland	Cork Recycling Company Ltd,WFP-CK-09-0022-02	Lehenaghmore,Togher,Cork, .,Ireland		
Within the Country	20 01 40	No	407.58	metals	R4	M	Weighed	Offsite in Ireland	Cork Metal Company,WFP-CK-10-0067-01	Dublin Hill,Cork,.,.,Ireland		
Within the Country	20 03 01	No	225.52	mixed municipal waste	R13	M	Weighed	Offsite in Ireland	Nurendale Limited,W0039-02	Ballymount Cross,Tallaght,Dublin 24,.,Ireland		
Within the Country	20 03 01	No	395.36	mixed municipal waste	R13	M	Weighed	Offsite in Ireland	Dillon Waste,WFP-KY-10-001	The Kerries,Tralee,Co. Kerry,.,Ireland		

Transfer Destination	European Waste Code	Hazardous	Quantity (Tonnes per Year)	Description of Waste	Waste Treatment Operation	Method Used		Location of Treatment	Haz Waste : Name and Licence/Permit No of Next Destination Facility Non Haz Waste: Name and Licence/Permit No of Recover/Disposer	Haz Waste : Address of Next Destination Facility Non Haz Waste: Address of Recover/Disposer	Name and License / Permit No. and Address of Final Recoverer / Disposer (HAZARDOUS WASTE ONLY)	Actual Address of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)
						M/C/E	Method Used					
Within the Country	20 03 01	No	33.26	mixed municipal waste	R5	M	Weighed	Offsite in Ireland	Dublin City Council,W0238-01	Merrywell Industrial Estate,Ballymount Road Lower,Ballymount ,Dublin 12,Ireland		
Within the Country	20 03 01	No	1690.958	mixed municipal waste	R13	M	Weighed	Offsite in Ireland	Killarney Waste Disposal Limited,W0217-01	Aughacurreen,.,Killarney,Co. Kerry,Ireland		
Within the Country	20 03 01	No	12040.65	mixed municipal waste	R13	M	Weighed	Offsite in Ireland	Quality Recycling Limited,NWCPO-12-11065-01	.,Ballylynch,Carrick On Suir,Co Tipperary,Ireland		
Within the Country	20 03 01	No	1292.56	mixed municipal waste	R13	M	Weighed	Offsite in Ireland	Starrus Eco Holding Limited,W0053-03	.,Fassaroe,Bray ,Co Wicklow ,Ireland		
Within the Country	20 03 01	No	111.66	mixed municipal waste	R13	M	Weighed	Offsite in Ireland	Forge Hill Recycling Limited,W0291-01	Forge Hill ,Ballycurreen,Cork,.,Ireland		
Within the Country	20 03 01	No	659.76	mixed municipal waste	R13	M	Weighed	Offsite in Ireland	Starrus Eco Holdings Ltd,W0082-02	.,Ballykeefe Townland,Dock Road,Limerick,Ireland		
To Other Countries	20 03 01	No	37116.608	mixed municipal waste	R13	M	Weighed	Abroad	EON Varme Sverige AB,556146-1814	Energigatan 5 ,SE-601,71 Norrkoping,.,Sweden		
To Other Countries	20 03 01	No	13364.25	mixed municipal waste	R13	M	Weighed	Abroad	Attero BV,6070283	Vamweg 7,9418 TM Wijster,.,.,Netherlands		
Within the Country	20 03 07	No	2.9	bulky waste	R13	M	Weighed	Offsite in Ireland	Ashgrove Recycling,W0147-01	Churchfield Industrial Estate,Churchfield,Cork,.,Ireland		
Within the Country	20 03 07	No	339.94	bulky waste	D5	M	Weighed	Offsite in Ireland	Bord na Mona. ,W0201-03	.,.,.,.,Ireland		
Within the Country	20 03 07	No	1074.0	bulky waste	D5	M	Weighed	Offsite in Ireland	Knockharley Landfill Ltd,W0146-02	.,Knockharley,Navan,Co Meath,Ireland		
Within the Country	20 03 07	No	7572.42	bulky waste	R13	M	Weighed	Offsite in Ireland	Starrus Eco Holding Limited,W0053-03	.,Fassaroe,Bray ,Co Wicklow ,Ireland		
Within the Country	20 01 38	No	45.5	wood other than that mentioned in 20 01 37	R3	M	Weighed	Offsite in Ireland	Thorntons Recycling Centre Ltd,W0210-01	Pass of Kilbride,Miltownpass,Co. Westmeath,.,Ireland		
Within the Country	20 01 40	No	1.02	metals	R13	M	Weighed	Offsite in Ireland	Davis Recycling Ltd,W0134-01	10 The Anchorage Business Park,Charlotte Quay,Dublin 4,.,Ireland		
Within the Country	20 03 07	No	17.08	bulky waste	R1	M	Weighed	Offsite in Ireland	Indaver Ireland Ltd,W0167-03	Carranstown,Duleek,Co. Meath,.,Ireland		
Within the Country	20 03 07	No	118.46	bulky waste	R13	M	Weighed	Offsite in Ireland	Nurendale Limited,W0140-04	Rathdrinagh,Beauparc,Navan,Co. Meath,Ireland		

* Select a row by double-clicking the Description of Waste then click the delete button

APPENDIX 2

Procedures List

Integrated Procedures - IP		
IP-01	Document & Record Control Procedure	Rev 01, 28/04/14
IP-02	Health & Safety Risk Assessment Procedure	Rev 01, 28/04/14
IP-03	Environmental Aspects & Impacts Procedure	Rev 01, 28/04/14
IP-04	Legal & Regulatory Requirements Procedure	Rev 01, 28/04/14
IP-05	Objectives, Targets & Management Programmes Procedure	Rev 02, 21/01/16
IP-06	Competence, Training & Awareness Procedure	Rev 01, 28/04/14
IP-07	Communication & Consultation Procedure	Rev 02, 21/01/16
IP-08	Monitoring, Measurement & Improvement Procedure	Rev 01, 28/04/14
IP-09	Evaluation of Compliance Procedure	Rev 01, 28/04/14
IP-10	Non Conformances, Corrective/Preventive Actions Procedure	Rev 01, 28/04/14
IP-11	Internal Audit Procedure	Rev 01, 28/04/14
IP-12	Management Review Procedure	Rev 02, 21/01/16
IP-13	Control of Contractors/Visitors Procedure	Rev 01, 28/04/14
IP-14	Health & Safety & Environmental Monitoring	Rev 01, 28/04/14
IP-15	Emergency Preparedness & Response Procedure	Rev 01, 28/04/14
IP-16	Fire Prevention Procedure	Rev 01, 28/04/14
IP-17	Bin Washing Procedure	Rev 01, 28/04/14
IP-18	Accident Prevention Procedure	Rev 02, 14/11/16
IP-19	Fuel Procedure for Tanks & Mobile Plant	Rev 01, 11/01/17

Safety Procedures - SP		
SP-01	Permit to Work Procedure	Rev 01, 28/04/14
SP-02	Maintenance & Calibration Procedure	Rev 01, 28/04/14
SP-03	Mobile Plant Procedure	Rev 01, 28/04/14
SP-04	Fork Truck Procedure	Rev 01, 28/04/14
SP-05	Operation of Fixed Plant Procedure	Rev 01, 28/04/14
SP-06	Lock Out / Tag Out Procedure	Rev 01, 28/04/14
SP-07	Health & Safety Notification Procedure	Rev 01, 28/04/14
SP-08	MSW Shredder routine Maintenance & Clearing of Blockages Procedure (SCGT)	Rev 01, 28/04/14
SP-09	Weighbridge & Tipping Procedure (SCGT)	Rev 01, 28/04/14
SP-10	Cleaning of Washing Bay (Greenogue)	Rev 01, 28/04/14

Environmental Procedures - EP		
EP-01	Office Waste & Energy Management Procedure	Rev 01, 28/04/14
EP-02	Decommissioning and Aftercare Procedure	Rev 01, 28/04/14
EP-03	Environment Communications Procedure	Rev 01, 28/04/14
EP-04	Waste Permits & Licences Procedure	Rev 01, 28/04/14
EP-05	Waste Acceptance Procedure	Rev 01, 28/04/14
EP-06	Unacceptable Waste Procedure	Rev 01, 28/04/14
EP-07	Waste & Material Storage Procedure	Rev 01, 28/04/14
EP-08	Waste Processing Procedure	Rev 01, 28/04/14
EP-09	Site Infrastructure Procedure	Rev 02, 06/05/15
EP-10	Nuisance Management Procedure (Site Specific)	(Site Specific) Rev 01, 28/04/14
EP-11	Civic Amenity Site Procedure	Rev 01, 28/04/14

Amendment History

Date	Amendment No.	Procedure No:	Revision No:	Comment	Authorised By
05.07.10	01	All	01	Initial Issue	M.D & O.C
13.09.10	02	EP-03	02	Issue of Incident Reports	M.D
20.09.10	03	IP-10	02	Env issues not logged on WIMS Database	M.D
29.10.10	04	IP-13	02	Use of M&M equipment by contractors	M.D & O.C
29.10.10	05	IP-14	02	Use of M&M equipment by contractors	M.D & O.C
29.10.10	06	SP-02	02	Inclusion of Maintenance Schedule	M.D & O.C
05.11.10	07	IP-04	02	Inclusion of other requirements	S.B & O.C
01.02.11	08	SP-08	01	Inclusion of new procedure	O.C
01.02.11	09	IP-10	03	Inclusion of SP-08	O.C
01.02.11	10	IP-15	02	Removal of SF-022	O.C
01.02.11	11	Contents	As shown	EP-10 Site Specific	M.D & O.C
01.02.11	12	IP-06	02	Addressing Agency Staff needs	M.D & O.C
01.02.11	13	Circ List	02	Amendment to document control	M.D & O.C
04.04.11	14	SP-02	03	Inclusion of Site Specific Maintenance schedules	O.C
07.06.11	15	IP-11	02	Inclusion of H&S & Env Internal Audit Schedules	M.D & O.C
14/09/11	16	EP-02	02	Inclusion of decommissioning of plant/equipment	S.B
15/09/11	17	IP-09	02	Inclusion of Statutory Inspections	O.C
01/12/11	18	SP-09	01	Inclusion of new procedure for SCGT	O.C
01/12/11	19	SP-10	01	Inclusion of new procedure for SCGT	O.C
03/05/12	20	SP-01	02	Amendment to remove SF 028	O.C
05/05/12	21	SP-11	01	Inclusion of a new procedure for Greenogue	O.C
28/05/12	22	IP-11	03	General Amendments to internal audit procedure	M.D & O.C
08/06/12	23	IP-13	03	Grammatical amendment	M.D & O.C
15/04/13	24	IP-06	03	Agency staff – sign-off record sufficient proof of training. TMS optional	M.D & O.C

Date	Amendment No.	Procedure No:	Revision No:	Comment	Authorised By
30/06/13	25	IP-16	01	Inclusion of new procedure	M.D.
09/09/13	26	IP-03	02	Use of Scannell Software Solutions (EnviroManager) instead of IF-03A	M.D & O.C
09/09/13	27	IP-04	30	Use of Scannell Software Solutions (EnviroManager) instead of IF-03A	M.D & O.C
09/09/13	28	IP-05	02	Use of Scannell Software Solutions (EnviroManager) instead of IF-03A	M.D & O.C
16/10/13	29	EP-03	03	Introduction of EPA ALDER Portal	K.B
28/04/14	30	All EP's & IP's	01	Change of Company name and review of all Integrated and Env procedures	M.D & O.C
28/04/14	31	SP's	01	Change of Company name and review of all safety procedures including re-numbering & deletion of Motor Claim Notification Procedure – SP 08	O.C
06/05/15	32	EP-09	02	Ref to new form EF-11 added	SS
21/01/16	33	IP-05/IP-07/IP-12	02	Meeting frequency refs updated	SS
14/11/16	34	IP-18	02	Amended as per EPA instruction	SS
11/01/17	35	IP-19	01	New addition	SS

Circulation List

The Integrated Procedures Manual is a controlled document. Copies of the Procedures Manual are available as follows;

Copy Number	***Holder***
1 (Master Copy)	Group EHS Manager
2	Greenstar EnviroManager
3	Greenstar Intranet – Electronic Copy