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 2015 – DECEMBER 2015

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.

4th April 2016

Project	Annual Environmental Report 2015			
Client	Starrus Eco Holdings Ltd W0136-03			
Report No	Date	Status	Prepared By	Reviewed By
150480310	29/03/2016	Draft	Dr Martina Gleeson PhD	Mr Jim O'Callaghan MSc
	04/04/2016	Final	Dr Martina Gleeson PhD	Mr Jim O'Callaghan MSc

TABLE OF CONTENTS

PAGE

1. INTRODUCTION

This is the 2015 Annual Environmental Report (AER) for Starrus Eco Holdings Limited (Greenstar) Materials Recovery Facility (MRF) located at Sarsfieldcourt Industrial Estate, Glanmire, County Cork.

The report covers the period from the 1st January 2015 to the 31st December 2015. 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 Account is also taken of the AER Draft Guidance Document and AER Information Templates issued by the Agency in January 2013[2].

[1] EPA (Environmental Protection Agency) 1999 Waste Licensing – Draft Guidance on Environmental Management Systems and Reporting to the Agency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 facility 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 Greenstar 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 facility 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 facility 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

Greenstar 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 Greenstar provides a source segregation service for those clients which generate large quantities of commercial and industrial waste. Trained Greenstar 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 facility 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 facility 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
1	Loading Shovel	Volvo L120	70 t/hr	0
1	Wheel Wash	Eurojet	168 hr/wk	0
1	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

Greenstar 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

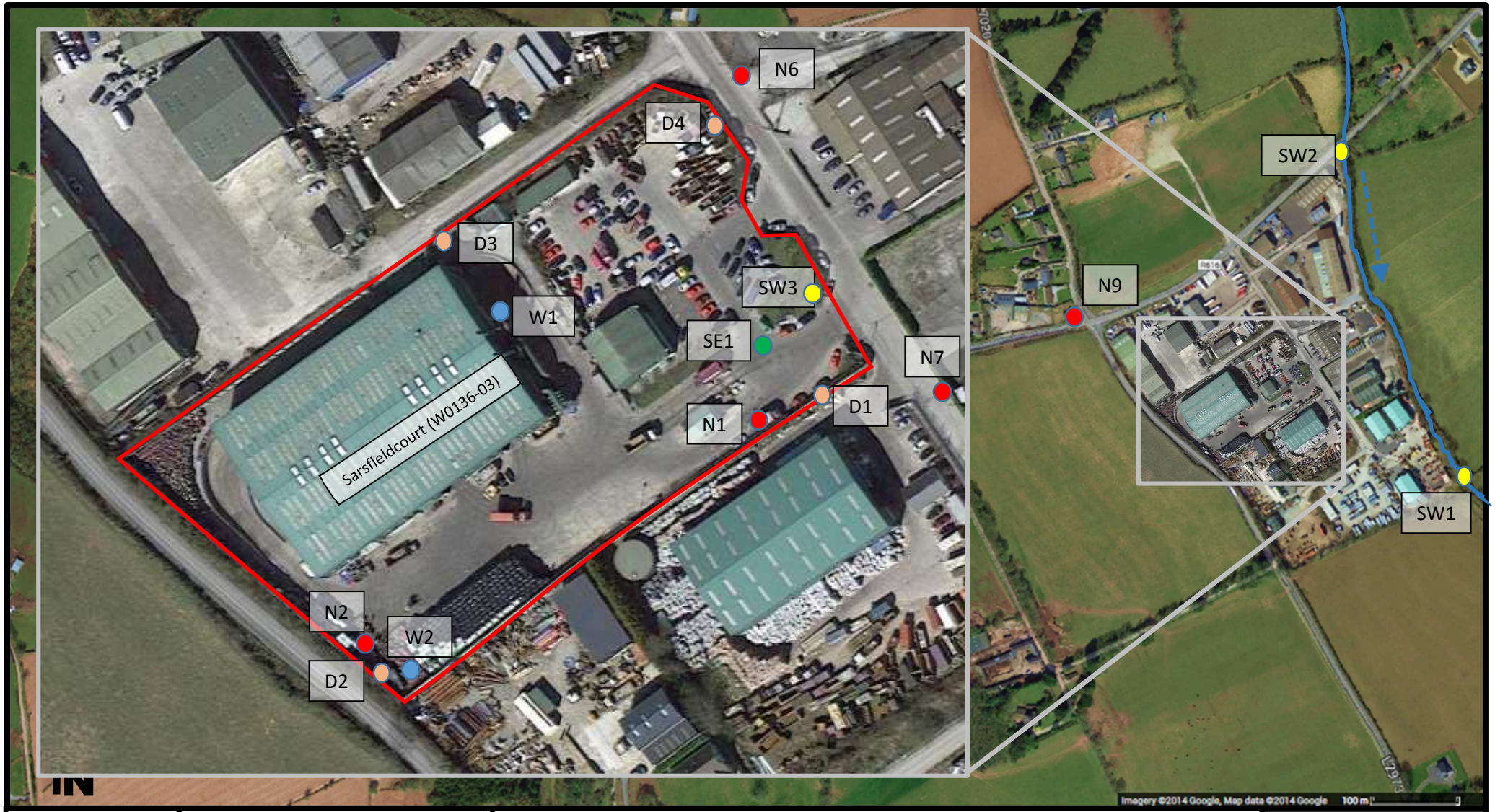
Surface water monitoring was carried out quarterly at three locations (SW-1, SW-2 and SW-3). SW-3 is the discharge point from the facility to a stream approximately 100 metres from the eastern boundary of the site. SW-2 is located to the north and upstream of the discharge point and SW-1 is located to 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 facility (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 2015, the ammonia exceeded the revised trigger level in each quarter. The BOD levels exceeded the trigger levels in two of the four quarters (Q-1 and Q-4). The TSS and mineral oil complied with ELV throughout the year. 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 facility 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 2015: SW-1

Parameter	Units	Q1	Q2	Q3	Q4
pH	pH units	7.45	7.36	7.16	7.00
Conductivity	mS/cm	264	259	278	267
BOD	mg/l	<1	<1	<1	<1
COD	mg/l	13	9	<7	<7
Ammoniacal Nitrogen	mg/l	0.02	0.03	0.02	0.03
TSS	mg/l	<10	<10	<10	<10
Nitrate as NO_3	mg/l	23.5	19.8	26.5	26.9
Nitrite as NO_2	mg/l	<0.02	<0.02	<0.02	<0.02
Mineral Oils	mg/l	<0.01	<0.01	<0.010	<0.010
Total Coliforms	cfu/100ml	460	1,100	11,000	240
Faecal Coliforms	cfu/100ml	460	1,100	1,100	93

Table 3.2 Surface water Monitoring Results 2015: SW-2

Parameter	Units	Q1	Q2	Q3	Q4
pH	pH units	7.75	7.55	7.54	6.8
Conductivity	mS/cm	259	251	261	292
BOD	mg/l	<1	<1	<1	<1
COD	mg/l	<7	<7	<7	<7
Ammoniacal Nitrogen	mg/l	0.02	0.02	0.02	0.03
TSS	mg/l	<10	<10	<10	<10
Nitrate as NO_3	mg/l	23.9	20.8	25.2	23.9
Nitrite as NO_2	mg/l	<0.02	<0.02	<0.02	<0.02
Mineral Oils	mg/l	<0.01	<0.01	<0.010	<0.010
Total Coliforms	cfu/100ml	93	9	23	43
Faecal Coliforms	cfu/100ml	43	9	23	43

Table 3.3 Surface water Monitoring Results 2015: SW-3

Parameter	Units	Q1	Q2	Q3	Q4	Trigger Levels	Emission Limit
pH	pH units	7.33	7.27	6.95	7.37	N/A	N/A
Conductivity	mS/cm	464	423	469	505	N/A	N/A
BOD	mg/l	9	<1	<1	9	5	N/A
COD	mg/l	31	<7	9	21	N/A	N/A
Ammoniacal Nitrogen	mg/l	0.45	0.32	0.23	0.37	0.14	N/A
TSS	mg/l	<10	<10	<10	<10	25	N/A
Nitrate as NO_3	mg/l	8	13.7	23.1	29	N/A	N/A
Nitrite as NO_2	mg/l	3.07	0.24	0.19	1.76	N/A	N/A
Mineral Oils	mg/l	<0.01	<0.01	<0.010	<0.010	N/A	5
Total Coliforms	cfu/100ml	24,000	110,000	4,600	46,000	N/A	N/A
Faecal Coliforms	cfu/100ml	24,000	24,000	4,600	11,000	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 Greenstar to increase the monitoring frequency to biannually

The monitoring was carried out in Q2 and Q4 2015. 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 and total coliforms in W-2 in both monitoring rounds, where the pH was slightly below the IGV low value of 6.5. There was also a marginal exceedance of nitrate in W-2 in Q-4. 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 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 facility had no impact on groundwater.

Table 3.4 Groundwater Monitoring Results 2015: W-1

Parameter	Units	Q2	Q4	IGV	GTV
pH	pH units	6.83	6.52	6.5-9.5	-
Conductivity	mS/cm	0.297	0.330	-	0.800-1.875
Ammoniacal Nitrogen (N)	mg/l	<0.01	0.09	-	0.065-0.175
Nitrate as NO_3	mg/l	13.1	21	-	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	4	<1	-	-
COD	mg/l	<7	11	-	-
Total Coliforms	Counts / 100ml	<30	<3	0	-
Faecal Coliforms	Counts / 100ml	<30	<3	0	-

Note
Where a GTV exists this replaces the IGV value

Table 3.5 Groundwater Monitoring Results 2015: W-2

Parameter	Units	Q2	Q4	IGV	GTV
pH	pH units	6.25	6.46	6.5-9.5	-
Conductivity	mS/cm	0.178	0.203	-	0.800-1.875
Ammoniacal Nitrogen (N)	mg/l	0.03	0.02	-	0.065-0.175
Nitrate as NO_3	mg/l	16.7	38.4	-	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	4	<1	-	-
COD	mg/l	<7	11	-	-
Total Coliforms	Counts / 100ml	40	240	0	-
Faecal Coliforms	Counts / 100ml	<30	<3	0	-

Note
Where a GTV exists this replaces the IGV value

3.3 Noise Survey

A noise survey is carried out annually. This was conducted in October 2015 and included three off-site noise sensitive location 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.

Figure 3.2 Noise Monitoring Locations

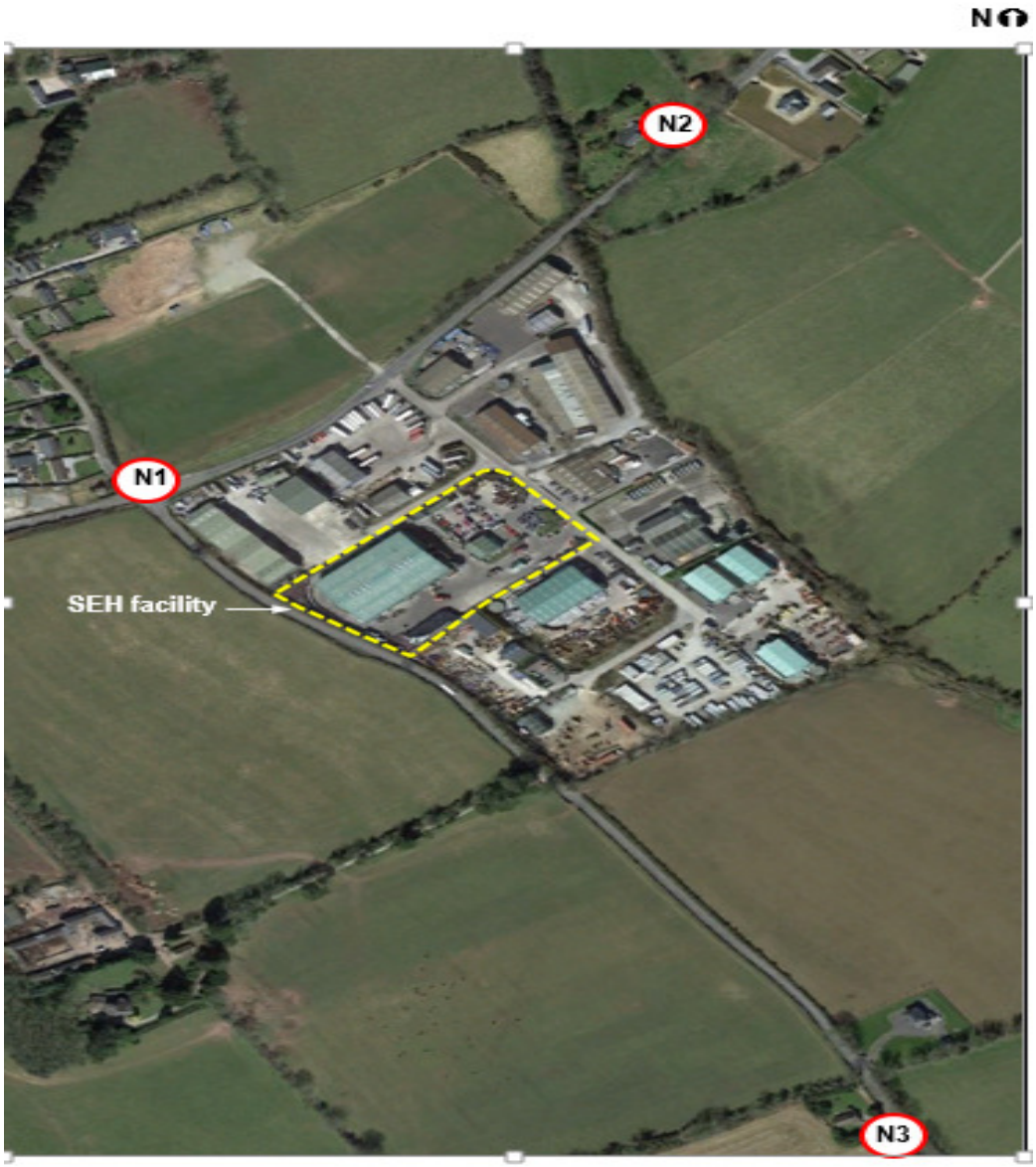


Table 3.6 Noise Sensitive Locations

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

Noise emissions from the facility were not audible at the noise sensitive locations due to the dominance of road traffic noise, with a single exception, during one of the N2 intervals, when the facility's air management system became faintly audible during traffic lulls. The contribution from the air management system was estimated at less than 40 dB. Emissions from the facility were estimated to be less than 47 dB at N1, less than 42 dB at N3 and less than 44 dB during the remaining two N2 intervals.

Facility emissions were not audible at any of the three stations during the evening survey. The survey concluded that the facility was fully compliant with its licence requirements. The results are included on Table 3.7.

Table 3.8 Noise Monitoring Results 13th October 2015

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	13.10.15	1340-1410	x	67	68	43	<<43
	Facility: No emissions audible. **Extraneous**: Frequent traffic movements through nearby road junction dominant when present. During lulls, distant traffic slightly audible in several directions, in addition to bird song/calls, aircraft, and traffic movements in industrial estate. Occasional forklift truck movements at nearest commercial premises quite audible.						
N1	13.10.15	1511-1541	x	67	70	44	<<44
	Facility: No emissions audible. **Extraneous**: As above, although greater activity audible at nearest commercial premises. Car idling at 5 m intrusive 1527-1528.						
N1	13.10.15	1658-1728	x	70	75	47	<<47
	Facility: No emissions audible. **Extraneous**: Frequent traffic movements through nearby road junction dominant when present, with traffic busier than early. During lulls, distant traffic slightly audible in several directions, in addition to bird song/calls, aircraft, and traffic movements in industrial estate.						
N1	15.10.15	2006-2036	+	65	64	43	<<43
	Facility: No emissions audible. **Extraneous**: Frequent traffic movements through nearby road junction dominant when present, and clearly audible on approaches over some distance. M8 traffic to E also audible at low level during lulls. Aircraft and distant dog barking. Sporadic truck movements at nearest commercial premises audible at low level.						
N1	15.16.10	2339-0009	+	57	48	38	33
	Facility: Falling traffic on approaches allowing air management system to become slightly audible continuously. **Extraneous**: Intermittent traffic through nearby junction dominant when present. M8 traffic to E quite audible continuously, more so than earlier due to changing atmospheric conditions. Aircraft and distant dog barking.						
N1	16.10.15	0132-0202	+	49	44	33	33
	Facility: Air management system audible at low level continuously, more audible than earlier due to less traffic masking. **Extraneous**: Single vehicle pass through junction. M8 traffic remaining continuously quite audible, albeit marginally quieter than earlier. Aircraft and distant dog barking.						
N2	13.10.15	1246-1316	+	70	70	42	<<42
	Facility: No emissions audible. **Extraneous**: Intermittent passing road traffic dominant when present. During lulls, distant traffic slightly audible, including M8 traffic. Occasional hammering noise audible at low level from industrial estate. Sand blasting emissions or similar also continuously audible at low level from industrial estate, masking any other estate emissions. Bird song/calls and aircraft. House alarm continuously audible at low level at approx 150 m.						
N2	13.10.15	1545-1615	+	62	65	44	<<44
	Facility: No emissions audible. **Extraneous**: Intermittent passing road traffic dominant when present. During lulls, distant traffic slightly audible, including M8 traffic. Commercial activity at industrial estate slightly audible during lulls on occasion, although not possible to identify source or activity. Bird song/calls and aircraft. Excavator or similar operating 2-300 m NE continuously slightly audible.						
N2	13.10.15	1733-1803	+	61	65	46	<40
	Facility: Air handling system faintly audible during traffic lulls. **Extraneous**: Intermittent passing road traffic dominant when present, more frequent than earlier. During lulls, distant traffic slightly audible, including M8 traffic. Bird song/calls and aircraft. Lawnmower clearly audible at nearby house from 1751.						

Wind vector: See final appendix. **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. **Audibility scale**: Inaudible; faintly audible; slightly audible; audible at low level; quite audible; clearly audible; dominant; intrusive; excessive.

Table 3.8 cont'd Noise Monitoring Results 13th October 2015

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	15.10.15	2042-2112	-	54	55	42	<<42
	Facility: No emissions audible. **Extraneous**: Intermittent passing road traffic dominant when present, and audible in distance. M8 traffic continuously quite audible. No other noise audible apart from occasional barking at approx 100 m and aircraft.						
N2	16.10.15	0015-0045	-	47	47	34	<<34
	Facility: No emissions audible. **Extraneous**: Occasional passing traffic dominant when present. M8 traffic continuously quite audible and dominating noise environment. Aircraft.						
N2	16.10.15	0210-0240	-	47	43	31	<<31
	Facility: No emissions audible. **Extraneous**: As above, although only one local vehicle pass.						
N3	13.10.15	1202-1232	-	54	59	41	<<41
	Facility: No emissions audible. **Extraneous**: Intermittent passing road traffic dominant when present. During lulls, distant traffic continuously slightly audible, particularly from M8. Construction plant continuously audible at low level at approx 200 m. Bird song/calls and aircraft.						
N3	13.10.15	1436-1506	-	54	58	40	<<40
	Facility: No emissions audible. **Extraneous**: As above, although construction plant absent.						
N3	13.10.15	1623-1653	-	54	58	42	<<42
	Facility: No emissions audible. **Extraneous**: As previous.						
N3	15.10.15	2123-2153	-	49	48	42	<<42
	Facility: No emissions audible. **Extraneous**: Intermittent passing traffic dominant when present. M8 traffic continuously quite audible and dominating noise environment. No other noise audible apart from sporadic aircraft.						
N3	15.10.15	2300-2330	-	49	47	38	<<38
	Facility: No emissions audible. **Extraneous**: Occasional passing traffic dominant when present. M8 traffic continuously quite audible and dominating noise environment. No other noise audible apart from sporadic aircraft						
N3	16.10.15	0056-0126	-	45	45	36	<<36
	Facility: No emissions audible. **Extraneous**: Single car pass on adjacent road. M8 traffic continuously quite audible and dominating noise environment. Aircraft.						

Wind vector: See final appendix. **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. **Audibility scale**: Inaudible; faintly audible; slightly audible; audible at low level; quite audible; clearly audible; dominant; intrusive; excessive.

3.4 Dust Monitoring

Dust monitoring is conducted quarterly. Due to an omission monitoring was not completed in Q1 2015. The results of the Q2, Q3 and Q4 monitoring are included in Table 3.9.

Table 3.9 Dust Monitoring Results 2015

	May mg/m²/day	August mg/m²/day	October mg/m²/day	Deposition Limit mg/m²/day
D-1	23.2	25.2	17.34	350
D-2	17.3	33.9	22.95	350
D-3	9.8	38.8	6.56	350
D-4	19.4	11.8	14.70	350

There were no exceedances of the dust deposition limit (350 mg/m^2/day) set in the Licence at any of the monitoring locations during any of the monitoring events in 2015.

3.5 Nuisance Control Review

Greenstar 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.

Greenstar 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. Greenstar 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 2015. It is proposed to carry out hard standing repairs in Q3 2016.

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 2014 & 2015

Resources	Quantities 2014	Quantities 2015
Road Diesel	926,899 litres	902,953 litres
Gas Oil	85,369 litres	312,784 litres
Gear Oil	12 litres	30 litres
Ad Blue	5,800 litres	6000 litres
Hydraulic, Transmission, Engine Oil	600 litres	500 litres
Anti-Freeze	20 litres	30 litres
Electricity	6332 kwh	447,112 kWh
Truck Wash Detergent	145 litres	0 litres
Carbon	0 tonnes	28 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 Q2 2016.

5. WASTE RECEIVED AND CONSIGNED FROM THE FACILITY

Table 5.1 shows the total quantities of waste received and consigned from the facility in 2015. 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 2015 was 86,136.06 tonnes. The total amount consigned was 85,802.16 tonnes. The difference (338 tonnes) is related to waste which remained on on site at the end of 2015. All the wastes consigned from the site went to recovery and disposal facilities agreed with the Agency.

Table 5.1 Waste Received & Consigned 2015

EWC	Description	Waste In	Waste Out
07 01 12	Liquid Sludge		27.26
10 01 01	Foam	4.46	
15 01 01	Cardboard & Paper Packaging	219.943	106.52
15 01 02	Plastic Packaging	41.722	
15 01 03	Wooden Packaging	4.75	
15 01 04	Metal Packaging		
15 01 06	Mixed Packaging	9,502.076	8,797.64
15 01 07	Glass Packaging	1,492.738	1,562.52
16 06 01	Lead Batteries – Hazardous Waste		1.225
17 09 04	Mixed C&D	605.52	830.70
18 01 04	Solid Recovered Fuel	22.60	
19 08 05	Liquid Waste		1,675.28
19 12 09	C&D Inert Mixed	41.00	
19 12 10	Solid Recovered Fuel	33.64	8,483.85
19 12 12	Mixed Residual Waste from mechanical treatment	808.358	13,405.703
20 01 01	Paper & Cardboard	102.18	
20 01 02	Glass	86.56	
20 01 08	Compost and Commercial Food Wastes	5,405.559	4,924.42
20 01 35	REC Electronics & Electrics	3.31	4.876
20 01 36	WEEE	2.513	
20 01 38	Wood from municipal sources	185.235	153.08
20 01 39	Plastic from municipal sources	272.191	
20 01 40	Metal from municipal sources	78.04	196.24
20 02 01	Cardboard & Paper	34.52	
20 03 01	Mixed Residual Waste	52,751.718	33,169.528
20 03 07	Bulky Waste	14,436.613	12,823.32
	Total Received	86,136.006	
	Total Consigned		85,802.162
	Recovered		69,693.599
	Disposed		16,108.60
	Recovery Rate (%)		81.22%

Table 5.2 Waste Received & Consigned in Recent Years

	2014	2013	2012	2011	2010	2009
Total Received	10,307	71,812	75,619	67,621	68,252	54,697
Total Consigned	10,851	76,478	74,035	69,848	69,988	46,394
Total Recovered	7,616	62,452	34,038	27,263	31,807	15,521
Total Disposed	3,191	14,026	39,996	42,585	38,181	40,872
Recovery Rate	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 in Q1 and Q4 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

Greenstar 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 12 complaints during the reporting period and a copy of the complaints register is in Appendix 2.

7. ENVIRONMENTAL DEVELOPMENT

7.1 Environmental Management Programme Report

Greenstar 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. Greenstar 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 facility passed an external IMS audit in July 2013.

The schedule of Objectives and Targets, including their status for 2015 (Table 7.1), as well as the proposed Objectives and Targets for 2016 (Table 7.2) are presented below. An index of procedures used at the facility is included in Appendix 3.

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 facility as required. Staff training carried out in 2015 included environmental training, manual handling, loading shovel training, articulated and static grab training, forklift training and telescopic handler training. Copies of all training records are held in the facility office.

7.2 Environmental Management Programme

7.2.1 Schedule of Objectives 2015

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

7.2.2 Schedule of Objectives 2016

The schedule of targets and objectives for 2016 are presented in Table 7.2.

Table 7.1 Schedule of Objective and Targets 2015

No	Objective	Target	Responsibility	Timescale	Status
1	**RDF Line Install**	Install upgraded RDF processing capability	Site Management / EHS	Q2	Complete
2	**Drainage Integrity Testing**	As per licence requirements. Submit to EPA	Site Management/EHS	Q1	Complete
3	**Bung and Tank Integrity Testing**	As per licence requirements. Submit to EPA	Site Management/EHS	Q1	Complete
4	**Review and Assess the Effectiveness of Nuisance Control Procedures**	Continually review and assess all nuisance control procedures to ensure minimal impact on the surrounding area.	Site Management /EHS	On-going	On-going
5	**Pollution Prevention**	Strive to ensure that monitoring results comply with the licence limits and investigate any exceedances of emission limit values.	Site Management /EHS	On-going	On-going
6	**Energy & Resource Consumption**	Summarise energy and resource usage on a quarterly basis with a view to reducing consumption	Site Management /EHS	On-going	On-going
		Review and implement findings of Energy Audit		On-going	Energy Audit due in 2016
		Upgrade on site generator to ESB substation		Q4	On hold

Table 7.2 Schedule of Objective and Targets 2016

No	Objective	Target	Responsibility	Timescale
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
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
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
4	**CRAMP, ELRA & Financial Provision**	CRAMP, ELRA & Financial Provision to be reviewed	Q2/Q3	EHS team
5	**Waste acceptance, classification & records**	EWC training for all weighbridge ops. Centralisation of all licences & permits inc NWCPs for hauliers.	Q2/Q3	EHS team
6	**Energy Audit**	Completed energy audit as per amended licence conditions	Q4	Site Management/EHS
7	**Firewater retention report**	Complete & submit fire water retention report as per licence requirements and implement findings.	Q2	Site Management / EHS
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
9	**Review Odour Management Plan**	Review OMP and implement changes where appropriate.	Q2	Site Management / EHS

7.3 Communications Programme

Greenstar is committed to setting the standard in waste management and ensuring environmental compliance in all operations. In addition, Greenstar'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.

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

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 facility 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

Greenstar has contracted a vermin control company Comserv to carry out nuisance control at the facility.

8. OTHER REPORTS

8.1 European Pollutant Release and Transfer Register

Under the European Pollutant Release and Transfer Register Regulation (EC) No. 166/2006 Greenstar 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

Guidance to completing the PRTR workbook

PRTR Returns Workbook

Version 1.1.19

REFERENCE YEAR	2015

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	Malcolm Dowling
AER Returns Contact Email Address	malcolm.dowling@greenstar.ie
AER Returns Contact Position	Environmental Executive
AER Returns Contact Telephone Number	01-2947949
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	0
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 | PRTR# : W0136 | Facility Name : Starrus Eco Holdings Limited (Munster) | Filename : W0136_2015.xls | Return Year : 2015 | 18/03/2016 10:14

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**		**Facility Total Capacity m3 per hour**	
			Method Code	**Designation or Description**		
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

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	5683.47	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	1562.52	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	1.225	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	830.7	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	1675.28	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		
To Other Countries	19 12 10	No	2772.57	combustible waste (refuse derived fuel)	R5	M	Weighed	Abroad	Cellmark AB,IRE/AG175/12	.,Broker Box,1197 SE-404-39,Gothenburg,Sweden		
Within the Country	19 12 10	No	3014.86	combustible waste (refuse derived fuel)	R13	M	Weighed	Offsite in Ireland	Wiser Bins,WCP-CK-10-0738-01	Unit 6 Rosehill Industrial Estate,Ballinacurra,Midleton, Co. Cork,Ireland		
Within the Country	19 12 12	No	433.12	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	MRF Greenstar Bray,W0053-03	.,Fassaroe,Bray ,Co Wicklow ,Ireland		
Within the Country	20 01 08	No	4924.42	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	4.876	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	.,.,Tullamore,Co Offaly,Ireland	KMK Metals, W0113-03,.,.,Tullamore,Co Offaly,Ireland	.,.,Tullamore,Co Offaly,Ireland
Within the Country	20 01 38	No	153.08	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	196.24	metals	R4	M	Weighed	Offsite in Ireland	Cork Metal Company,WFP-CK-10-0067-01	Dublin Hill,Cork,.,.,Ireland		
To Other Countries	20 03 01	No	2503.72	mixed municipal waste	R4	M	Weighed	Abroad	Attero BV,6070283	Vamweg 7,9418 TM Wijster,.,.,Netherlands		
Within the Country	20 03 01	No	1120.88	mixed municipal waste	D5	M	Weighed	Offsite in Ireland	Bord na Mona. ,W0201-03	.,.,.,.,Ireland		
Within the Country	20 03 01	No	1184.96	mixed municipal waste	R13	M	Weighed	Offsite in Ireland	Greyhound Recycling,W0205-01	Crag Avenue,Clondalkin Industrial Estate,Dublin 22,.,Ireland		
Within the Country	20 03 07	No	8.32	bulky waste	R13	M	Weighed	Offsite in Ireland	Ashgrove Plant . t/a as Ashgrove Recycling,W0147-01	Churchfield Industrial Estate,Churchfield,Cork,.,Ireland		
Within the Country	20 03 07	No	715.56	bulky waste	D5	M	Weighed	Offsite in Ireland	Bord na Mona. ,W0201-03	.,.,.,.,Ireland		
Within the Country	20 03 07	No	3082.66	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	9016.78	bulky waste	R13	M	Weighed	Offsite in Ireland	MRF Greenstar Bray,W0053-03	.,Fassaroe,Bray ,Co Wicklow ,Ireland		
Within the Country	15 01 06	No	2283.71	mixed packaging	R3	M	Weighed	Offsite in Ireland	Quality Recycling Limited,NWCPO-12-11065-01	.,Ballylynch,Carrick On Suir,Co Tipperary,Ireland		
Within the Country	15 01 06	No	830.46	mixed packaging	R3	M	Weighed	Offsite in Ireland	Greenstar Bray,W0053-03	.,Fassaroe,Bray ,Co Wicklow ,Ireland		
Within the Country	15 01 01	No	9.14	paper and cardboard packaging	R13	M	Weighed	Offsite in Ireland	Glyntown Recycling,WFP-CK-10-0047-03	.,Sarsfieldcourt Industrial Estate,Glanmire,Co. Cork,Ireland		
Within the Country	15 01 01	No	49.16	paper and cardboard packaging	R13	M	Weighed	Offsite in Ireland	Starrus Eco Holdings Ltd,W0082-02	.,Ballykeefe Townland,Dock Road,Limerick,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	07 01 12	No	27.26	sludges from on-site effluent treatment other than those mentioned in 07 01 11	D9	M	Weighed	Offsite in Ireland	Lehane Environmental & Industrial Services,NWCPO-08-04574-03	Units 1-3,Wallingstown Industrial Estate,Little Island,Co. Cork,Ireland		
To Other Countries	19 12 10	No	2696.42	combustible waste (refuse derived fuel)	R13	M	Weighed	Abroad	Nehlsen GmbH & Co KG,D33300040	.,Louis Krages Strasse,1028237,Bremen,Germany		
Within the Country	19 12 12	No	870.62	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	2936.44	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		
To Other Countries	19 12 12	No	2585.58	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	3020.72	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	D5	M	Weighed	Offsite in Ireland	Knockharley Landfill Ltd,W0146-02	.,Knockharley,Navan,Co Meath,Ireland		
Within the Country	19 12 12	No	50.62	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	OD Recycling,WFG-TS-10-0002-02	Ballyboe,Ballypatrick,Clonmel,Co Tipperary,Ireland		
Within the Country	19 12 12	No	3148.603	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	O'Toole Composting,W0284-01	Ballintrane,Fenagh,Co. Carlow,.,Ireland		
To Other Countries	20 03 01	No	13870.96	mixed municipal waste	R13	M	Weighed	Abroad	EON Varme Sverige AB,556146-1814	Energigatan 5 ,SE-601,71 Norrkoping,.,Sweden		
Within the Country	20 03 01	No	225.88	mixed municipal waste	R5	M	Weighed	Offsite in Ireland	Wiser Bins,WCP-CK-10-0738-01	Unit 6 Rosehill Industrial Estate,Ballinacurra,Midleton, Co. Cork,Ireland		
Within the Country	20 03 01	No	1016.548	mixed municipal waste	R5	M	Weighed	Offsite in Ireland	Killarney Waste Disposal Limited,W0217-01	Aughacurreen,.,Killarney,Co. Kerry,Ireland		
Within the Country	20 03 01	No	6466.24	mixed municipal waste	D5	M	Weighed	Offsite in Ireland	Knockharley Landfill Ltd,W0146-02	.,Knockharley,Navan,Co Meath,Ireland		
Within the Country	20 03 01	No	763.84	mixed municipal waste	R5	M	Weighed	Offsite in Ireland				
Within the Country	20 03 01	No	2881.8	mixed municipal waste	R5	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	1620.44	mixed municipal waste	R5	M	Weighed	Offsite in Ireland	Greenstar Bray,W0053-03	.,Fassaroe,Bray ,Co Wicklow ,Ireland		
Within the Country	20 03 01	No	329.88	mixed municipal waste	R13	M	Weighed	Offsite in Ireland	Greenstar Limited,W0116-02	Six Cross Roads,Carriganard,Butlerstown,Co. Waterford,Ireland		
Within the Country	20 03 01	No	1184.38	mixed municipal waste	R13	M	Weighed	Offsite in Ireland	Starrus Eco Holdings Ltd,W0082-02	.,Ballykeefe Townland,Dock Road,Limerick,Ireland		
Within the Country	15 01 01	No	48.22	paper and cardboard packaging	R13	M	Weighed	Offsite in Ireland	Greenstar Bray,W0053-03	.,Fassaroe,Bray ,Co Wicklow ,Ireland		

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

APPENDIX 2

Complaints Register

		Communication Database
Doc. No: IF-07A	***Revision No.: 01***	***Issue Date: 05th July 2010***
	Malcolm Dowling - Group Environmental Manager	
Approved By:	Oliver Callan - Group H&S Manager	

Odour Management

Facility Name:	**Greenstar Recycling (Munster) Ltd**
Address:	**Sarsfield Court, Glanmire, Co.Cork**
Licence No.:	**W0136-02**

Date Opened	Details of the Issue (Odour Characteristics, Weather Conditions etc)	Person Responsible *(Facility Manager, Env Exceutive, Site Supervisor etc)*	Plant Operating Synopsis	Details of Action Taken	Date Closed
09/07/2015	Odour complaint Mr John Long via customer services	Facility Manager	Plant was operating within specified parameters however an issue with a fast acting door was detected earlier in the day. During odour patrol in response to complaint, no odours were detected outside of the site boundary including Buck Learys Cross however odour was present inside site boundary to the front of the site.	Door company contacted in response to the issue. Visit pending. Mr Long contacted at 3:05pm unable to make contact. Message left for him. Contacted again at 3:38pm. Called over at 4:10pm and spoke with Mr Long. Explained issue with door and he is happy.	09/07/2015
10/07/2015	Complaint COM003515 Denis Hegarty	Facility Manager	Fast acting door interlock failure had been noticed on 13/07/2015 and had been refered to GEA/ACE for review	Repaired. Contact made to DH to review situation and update on system issue and plan for repair	25/07/2015
10/07/2015	Complaint COM003516 Denis Hegarty	Facility Manager	Fast acting door interlock failure had been noticed on 13/07/2015 and had been refered to GEA/ACE for review	Repaired. Contact made to DH to review situation and update on system issue and plan for repair	25/07/2015
16/07/2015	Complaint COM003517 Charles Grunbridge	Facility Manager	Fast acting door interlock failure had been noticed on 13/07/2015 and had been refered to GEA/ACE for review	Repaired. Contact made to CG to review situation and update on system issue and plan for repair	25/07/2015
17/07/2015	Complaint COM003518	Facility Manager	Fast acting door interlock failure had been noticed on 13/07/2015 and had been refered to GEA/ACE for review	Repaired.	25/07/2015
18/07/2015	Complaint COM003560	Facility Manager	Fast acting door interlock failure had been noticed on 13/07/2015 and had been refered to GEA/ACE for review	Repaired.	25/07/2015

24/07/2015	Complaint COM003568 REF Denis Hegarty	Facility Manager	Fast acting door interlock failure had been noticed on 13/07/2015 and had been refered to GEA/ACE for review	Repaired. Contact made to DH to review situation and update on system issue and plan for repair	25/07/2015
17/08/2015	Complaint COM003739 REF Denis Hegarty	Deputy Facility Manager	Plant operating within defined parameters. Bale loading was occouring at time of complaint.	Contact made to DH by MH to review situation and update on odour source. Wrap supplier changed. Increased number of wraps per bales used.	27/08/2015
20/08/2015	Complaint COM003804 REF John Cashman	Facility Manager	Plant operating within defined parameters. No source for odour was found	Met with JC MH to review situation and update. Provided direct contact for LD if any issues or concerns need to be addressed.	31/08/2015
09/09/2015	Complaint COM003862 REF Denis Hegarty	Deputy Facility Manager	Plant operating within defined parameters. Bale loading was occouring at time of complaint.	Contact made to DH by MH to review situation and update on odour source. Engaged a third party sweeper company to clean storage area post bale removal	11/09/2015
09/09/2015	Complaint COM003863 REF Eleanor O Riordan	Deputy Facility Manager	Plant operating within defined parameters. Bale loading was occouring at time of complaint.	Unable to make contact with EOR. Contact made with Mr Michael O Riordan by MH to review situation and update on odour source. Engaged a third party sweeper company to clean storage area post bale removal	12/09/2015
10/09/2015	Complaint COM003864 REF Michael O Riordan.	Deputy Facility Manager	Plant operating within defined parameters. Bale loading was occouring at time of complaint.	As per COM003863. Resolved as per above	12/09/2015

APPENDIX 3

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 01, 28/04/14
IP-06	Competence, Training & Awareness Procedure	Rev 01, 28/04/14
IP-07	Communication & Consultation Procedure	Rev 01, 28/04/14
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 01, 28/04/14
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

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

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 H&S Manager
2	Greenstar EnviroManager
3	Greenstar Intranet – Electronic Copy