Facility Information Summary	
AER Reporting Year	2016
Licence Register Number	W0025-04
Name of site	Powerstown Landfill
Site Location	Powerstown, County Carlow
NACE Code	3821
Class/Classes of Activity	A2
National Grid Reference (6E, 6 N)	E271,000 N168,800

A description of the activities/processes at the site for the reporting year. This should include information such as production increases or decreases on site, any infrastructural changes, environmental performance which was measured during the reporting year **and an overview of compliance with your licence** listing all exceedances of licence limits (where applicable) and what they relate to e.g. air, water, noise.

Powerstown Landfill accepted waste to landfill for the duration of 2016. During the period January to July 2016 waste was accepted from commercial hauliers, local authorities and general public. From August to December 2016 waste was not accepted from commercial hauliers but was accepted from the general public, Kilkenny Co. Co. and Carlow Co. Co. At the end of 2016 over 64,000 tonnes of material had been accepted at the site. 47,000 of this was waste that was landfilled. 995tonnes of material was accepted through the recycling centre and removed from site for further treatment. Other material accepted included clay, soil and stones, ash and c&d fines. These materials were used as daily cover material and maintenance of haul roads and banks. All complaints and incidents for the site for the 2016 reporting year are presented in the appropriate section of this report. An SEW was submitted to the EPA during 2016 in relation to temporary capping at the site. This project is currently under rewiew in consultation with the EPA. Quarterly complaince monitoring reports were submitted to the EPA in relation to groundwater, surface water, leachate, dust and landfill gas monitoring. Two rounds of VOC surface emissions were completed durign 2016 and annual flare monitoring was completed. The results of the annual noise survey are presented in this document. A PRTR was completed for te site and submitted as part of the AER for 2016.

Declaration:

All the data and information presented in this report has been checked and certified as being accurate. The quality of the information is assured to meet licence requirements.

Mary Walsh	07/06/17
Signature Group/Facility manager (or nominated, suitably qualified and experienced deputy)	Date

AIR-summary template

Lic No: W0025-04 Year 2016

Answer all questions and complete all tables where relevant

			Additional information
1	Does your site have licensed air emissions? If yes please complete table A1 and A2 below for the current reporting year and answer further questions. If **you do not have** licenced emissions and **do not complete a solvent management plan** (table A4 and A5) you do not need to complete the tables	Yes	LFGF1

Periodic/Non-Continuous Monitoring

2	Are there any results in breach of licence requirements? If yes please provide brief details in the comment section of TableA1 below		No	
3	Was all monitoring carried out in accordance with EPA guidance note AG2 and using the basic air monitoring checklist?	Basic air monitoring checklist AGN2	Yes	

Table A1: Licensed Mass Emissions/Ambient data-periodic monitoring (non-continuous)

Emission reference no:	Parameter/ Substance	Frequency of Monitoring	ELV in licence or any revision therof	Licence Compliance criteria	Measured value	Unit of measurement	Compliant with licence limit	Method of analysis	Annual mass load (kg)	Comments -reason for change in % mass load from previous year if applicable
LFGF1	Nitrogen oxides (NOx/NO2)	annual	150	No 30min mean can exceed the ELV	65.93	mg/Nm3	SELECT	OTH	299.2	
LFGF1	Carbon monoxide (CO)	annual		SELECT	<1.7	mg/Nm3	SELECT	OTH	<7.7	
LFGF1	Sulphur oxides (SOx/SO2)	annual		SELECT	964.15	mg/Nm3	SELECT	OTH	4374.8	
LFGF1	Volatile organic compounds (as TOC)	annual			2.78	mg/Nm3		OTH	12.6	
LFGF1	Chlorine and inorganic compounds (as HCl)	annual			<0.19	mg/Nm3		OTH	<0.8	
LFGF1	Fluorine and inorganic compounds (as HF)	annual			<0.2	mg/Nm3		OTH	<0.9	
LFGf1	SELECT	annual		SELECT		SELECT	SELECT	SELECT		

Note 1: Volumetric flow shall be included as a reportable parameter

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Continuous Monitoring				

4	Does your site carry out continuous air emissions monitoring? If yes please review your continuous monitoring data and report the required fields below in Table A2 and compare it to its relevant Emission Limit Value (ELV)	Yes	Continuous Monitoring carried out at Landfill Flare LFGF1, for temperature, flow, CH4, CO2, CO, O2. There are no ELV for these parameters. The results were summarised and incorporated into the landfill gas survey for the site.
5	Did continuous monitoring equipment experience downtime? If yes please record downtime in table A2 below	No	
6	Do you have a proactive service agreement for each piece of continuous monitoring equipment?	Yes	
7	Did your site experience any abatement system bypasses? If yes please detail them in table A3 below	SELECT	NA

Table A2: Summary of average emissions -continuous monitoring

Emission reference no:	Parameter/ Substance	ELV in licence or any revision therof	Averaging Period	Compliance Criteria	Units of measurement	Annual Emission	Annual maximum	Monitoring Equipment downtime (hours)	Number of ELV exceedences in current reporting year	Comments
	SELECT			SELECT	SELECT					
	SELECT				SELECT					
	SELECT				SELECT					
	SELECT				SELECT					
	SELECT				SELECT					

note 1: Volumetric flow shall be included as a reportable parameter.

Table A3: Abatement system bypass reporting table

Bypass protocol

Date*	Duration** (hours)	Location	Reason for bypass	Impact magnitude	Corrective action

* this should include all dates that an abatement system bypass occurred

** an accurate record of time bypass beginning and end should be logged on site and maintained for future Agency inspections please refer to bypass protocol link

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Solvent use and management on site

8 Do you have a total Emission Limit Value of direct and fugitive emissions on site? if yes please fill out tables A4 and A5

No	

Table A4: Solvent Management Plan Summary
Total VOC Emission limit value

Solvent regulations — Please refer to linked solvent regulations to complete table 5 and 6

Reporting year	Total solvent input on site (kg)	Total VOC emissions to Air from entire site (direct and fugitive)	Total VOC emissions as %of solvent input	Total Emission Limit Value (ELV) in licence or any revision therof	Compliance
					SELECT
					SELECT

Table A5: Solvent Mass Balance summary

	(I) Inputs (kg)	(O) Outputs (kg)						
Solvent	(I) Inputs (kg)	Organic solvent emission in waste	Solvents lost in water (kg)	Collected waste solvent (kg)	Fugitive Organic Solvent (kg)	Solvent released in other ways e.g. by-	Solvents destroyed onsite through	Total emission of Solvent to air (kg)
							Total	

AER Monitoring returns summary template-WATER/WASTEWATER(SEWER) Lic No: W0025-04 Year 2016

		Additional information
1	Does your site have licensed emissions direct to surface water or direct to sewer? If yes please complete table W2 and W3 below for the current reporting year and answer further questions. If you do not have licenced emissions you only need to complete table W1 and or W2 for storm water analysis and visual inspections	Yes — Licensed Emissions from Surface Water Pond Outlet (SWLO)
2	Was it a requirement of your licence to carry out visual inspections on any surface water discharges or watercourses on or near your site? If yes please complete table W2 below summarising only any evidence of contamination noted during visual inspections	Yes — No evidence of any contamination

Table W1 Storm water monitoring

Location reference	Location relative to site activities	PRTR Parameter	Licenced Parameter	Monitoring date	ELV or trigger level in licence or any revision thereof*	Licence Compliance criteria	Measured value	Unit of measurement	Compliant with licence	Comments
	SELECT	SELECT	SELECT			SELECT		SELECT	SELECT	
	SELECT	SELECT	SELECT			SELECT		SELECT	SELECT	

*trigger values may be agreed by the Agency outside of licence conditions

Table W2 Visual inspections-Please only enter details where contamination was observed.

Location Reference	Date of inspection	Description of contamination	Source of contamination	Corrective action	Comments
			SELECT		
			SELECT		

Licensed Emissions to water and /or wastewater(sewer)-periodic monitoring (non-continuous)

			Additional information
3	Was there any result in breach of licence requirements? If yes please provide brief details in the comment section of Table W3 below	No	
4	Was all monitoring carried out in accordance with EPA guidance and checklists for Quality of Aqueous Monitoring Data Reported to the EPA? If no please detail what areas require improvement in additional information box (External /Internal Lab Quality checklist; Assessment of results checklist)	Yes	

Table W3: Licensed Emissions to water and /or wastewater (sewer)-periodic monitoring (non-continuous)

Emission reference no:	Emission released to	Parameter/ SubstanceNote 1	Type of sample	Frequency of monitoring	Averaging period	ELV or trigger values in licence or any revision thereof[Note 2]	Licence Compliance criteria	Measured value	Unit of measurement	Compliant with licence	Method of analysis	Procedural reference source	Procedural reference standard number	Annual mass load (kg)	Comments
SWLO	Water	Ammonia (as N)	discrete	quarterly		0.5		0.075	mg/L	yes	DISCRETE METHODS	APHA / AWWA "Standard Methods"			Averaged quarterly results
SWLO	Water	Dissolved Oxygen	discrete	quarterly		-		10.65	mg/L		Dissolved Oxygen Meter (Electrode)	APHA / AWWA "Standard Methods"			Averaged quarterly results.
SWLO	Water	Conductivity	discrete	quarterly		1000		623	µS/cm@25oC	yes	Conductivity Meter (Electrode)	APHA / AWWA "Standard Methods"			Averaged quarterly results.
SWLO	Water	COD	discrete	quarterly				11.25	mg/L		Digestion + Spectrophotometry	APHA / AWWA "Standard Methods"			Averaged quarterly results.
SWLO	Water	Chlorides (as Cl)	discrete	quarterly		50		23.4	mg/L	yes	DISCRETE METHODS	APHA / AWWA "Standard Methods"			Averaged quarterly results.
SWLO	Water	pH	discrete	quarterly		6.5 - 9.5		7.5	pH units	yes	pH Meter (Electrode)	APHA / AWWA "Standard Methods"			Averaged quarterly results.
SWLO	Water	Suspended Solids	discrete	quarterly		35	<35 ELV	6.25	mg/L	yes	Gravimetric analysis	APHA / AWWA "Standard Methods"			Averaged quarterly results.
SWLO	Water	Temperature	discrete	quarterly		25		13.3	degrees C	yes	Thermometry				Averaged quarterly results.
SWLO	Water	BOD	discrete	quarterly				1.5	mg/L		Dissolved Oxygen Meter (Electrode)	APHA / AWWA "Standard Methods"			Averaged quarterly results.
SWLO	Water	Orthophosphate (P)	discrete	annually		0.035		<0.01	mg/l		DISCRETE METHODS	APHA / AWWA "Standard Methods"			annual results
SWLO	Water	Sulphate	discrete	annually		250		32.9	mg/L	yes	DISCRETE METHODS	APHA / AWWA "Standard Methods"			annual results

AER Monitoring returns summary template-WATER/WASTEWATER(SEWER) Lic No: W0025-04 Year 2016

SWLO	Water	Alkalinity	discrete	annually				308	mg/L		DISCRETE METHODS	APHA / AWWA "Standard Methods"			annual results
SWLO	Water	Total Oxidised Nitrogen (TON)	discrete	annually				8.69	mg/L		DISCRETE METHODS	APHA / AWWA "Standard Methods"			annual results

Note 1: Volumetric flow shall be included as a reportable parameter

Note 2: Where Emission Limit Values (ELV) do not apply to your licence please compare results against EQS for Surface water or relevant receptor quality standards

Continuous monitoring

			Additional Information
5	Does your site carry out continuous emissions to water/sewer monitoring?	Yes	Continuous monitoring for TOC is carried out at the inlet and the outlet of the surface water pond. However, there is no ELV set in the licence for TOC.
	If yes please summarise your continuous monitoring data below in Table W4 and compare it to its relevant Emission Limit Value (ELV)		
6	Did continuous monitoring equipment experience downtime? **If yes please record downtime in table W4 below**	No	
7	Do you have a proactive service contract for each piece of continuous monitoring equipment on site?	Yes	
8	Did abatement system bypass occur during the reporting year? **If yes please complete table W5 below**	N/A	

Table W4: Summary of average emissions -continuous monitoring

Emission reference no:	Emission released to	Parameter/ Substance	ELV or trigger values in licence or any revision thereof	Averaging Period	Compliance Criteria	Units of measurement	Annual Emission for current reporting year (kg)	% change +/- from previous reporting year	Monitoring Equipment downtime (hours)	Number of ELV exceedences in reporting year	Comments
	SELECT	SELECT		SELECT	SELECT	SELECT					
	SELECT	SELECT		SELECT	SELECT	SELECT					

note 1: Volumetric flow shall be included as a reportable parameter.

Table W5: Abatement system bypass reporting table

Date	Duration (hours)	Location	Resultant emissions	Reason for bypass	Corrective action*	Was a report submitted to the EPA?	When was this report submitted?
						SELECT	

*Measures taken or proposed to reduce or limit bypass frequency

Bund/Pipeline testing template

Lic No: W0025-04 Year 2016

Bund testing

dropdown menu click to see options

		Additional information
1	Are you required by your licence to undertake integrity testing on bunds and containment structures ? if yes please fill out table B1 below listing all new bunds and containment structures on site, in addition to all bunds which failed the integrity test-all bunding structures which failed including mobile bunds must be listed in the table below, please include all bunds outside the licenced testing period (mobile bunds and chemstore included)	Yes — Condition 6.9 of licence requires bunding structures to be tested every 3 years. Testing will be due in 2017
2	Please provide integrity testing frequency period	3 years
3	Does the site maintain a register of bunds, underground pipelines (including stormwater and foul), Tanks, sumps and containers? (containers refers to "Chemstore" type units and mobile bunds)	No
4	How many bunds are on site?	3 — 1 bund around leachate tank, 1 leachate lagoon, 1 bund around heating oil
5	How many of these bunds have been tested within the required test schedule?	2 — bund at heating oil will be included in 2017 testing
6	How many mobile bunds are on site?	0
7	Are the mobile bunds included in the bund test schedule?	N/A
8	How many of these mobile bunds have been tested within the required test schedule?	N/A
9	How many sumps on site are included in the integrity test schedule?	0
10	How many of these sumps are integrity tested within the test schedule? Please list any sump integrity failures in table B1	N/A
11	Do all sumps and chambers have high level liquid alarms?	No
12	If yes to Q11 are these failsafe systems included in a maintenance and testing programme?	SELECT
13	Is the Fire Water Retention Pond included in your integrity test programme?	N/A

Table B1: Summary details of bund /containment structure integrity test

Bund/Containment structure ID	Type	Specify Other type	Product containment	Actual capacity	Capacity required*	Type of integrity test	Other test type	Test date	Integrity reports maintained on site?	Results of test	Integrity test failure explanation <50 words	Corrective action taken	Scheduled date for retest	Results of retest(if in current reporting year)
LT Leachate Tank	reinforced concrete	glass lined	Leachate	440	400	Structural assessment		Dec 2013 / Jan 2014	Yes	Pass		SELECT	2017	
LG Leachate Lagoon	other (please specify)	Lined and covered lagoon	Leachate	350		Hydraulic test	BS8007	Dec 2013 / Jan 2014	Yes	Pass			2017	

* Capacity required should comply with 25% or 110% containment rule as detailed in your licence

		Commentary
15	Has integrity testing been carried out in accordance with licence requirements and are all structures tested in line with BS8007/EPA Guidance? bunding and storage guidelines	Yes
16	Are channels/transfer systems to remote containment systems tested?	No
17	Are channels/transfer systems compliant in both integrity and available volume?	SELECT

Pipeline/underground structure testing

1	Are you required by your licence to undertake integrity testing* on underground structures e.g. pipelines or sumps etc ? if yes please fill out table 2 below listing all underground structures and pipelines on site which failed the integrity test and all which have not been tested withing the integrity test period as specified	Yes	
2	Please provide integrity testing frequency period *please note integrity testing means water tightness testing for process and foul pipelines (as required under your licence)	3 years	

Table B2: Summary details of pipeline/underground structures integrity test

Structure ID	Type system	Material of construction:	Does this structure have Secondary containment?	Type of secondary containment	Type integrity testing	Integrity reports maintained on site?	Results of test	Integrity test failure explanation <50 words	Corrective action taken	Scheduled date for retest	Results of retest(if in current reporting year)
	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT				SELECT

Please use commentary for additional details not answered by tables/ questions above

Groundwater/Soil monitoring template	Lic No:	W0025-04	Year	2016

			Comments	
1	Are you required to carry out groundwater monitoring as part of your licence requirements?	yes		Please provide an interpretation of groundwater monitoring data in the interpretation box below or if you require additional space please include a groundwater/contaminated land monitoring results interpretaion as an additional section in this AER
2	Are you required to carry out soil monitoring as part of your licence requirements?	no		
3	Do you extract groundwater for use on site? If yes please specify use in comment section	no		
4	Do monitoring results show that groundwater generic assessment criteria such as GTVs or IGVs are exceeded or is there an upward trend in results for a substance? If yes, please complete the Groundwater Monitoring Guideline Template Report (link in cell G8) and submit separately through ALDER as a licensee return AND answer questions 5-12 below. Groundwater monitoring template	yes	A Tier 3 risk assessment for Powerstown Landfill was submitted to the EPA. This report contains the requirement of the groundwater monitoring template and the conceptual site model.	Groundwater quality results were submitted to the EPA during 2016 in the form of quarterly and annual groundwater compliance monitoring reports. Quarterly groundwater monitoring results for Powerstown Landfill were compared to S.I. No 9 of 2010 for the 4 monitoring events. Groundwater results were also compared to groundwater trigger levels (GTLs)for the site. Following the completion of the Tier 3 risk Assessment report, groundwater compliance values were derived for BH1, BH2, BH3 and GW8 which supersede previous groundwater trigger levels. During Q1 2016 ammonia in excess of the GTV was detected at GW1, GW2 and RCA1. Conductivity in excess of the GTV was detected at BH2, GW1, GW2, RCA1. During Q2 ammonia levels in excess of the GTV were detected at GW1, GW2, GW8 and RCA2. All other parameters were within the respective GTVs. During Q3 the annual monitoring event was completed. The following wells exceeded the GTV for ammonia: GW1, GW2, GW3, GW7, GW8, RCA1, RCA2, BH1, BH2. During Q4, RCA1 was the only well that exceeded the GTV for ammonia.
5	Is the contamination related to operations at the facility (either current and/or historic)	yes		
6	Have actions been taken to address contamination issues?If yes please summarise remediation strategies proposed/undertaken for the site	yes	Capping of unlined cells completed. Tier 3 Risk Assessment completed. Recommendations as per section 9 of the Tier 3 Risk assessment are currently being carried out for the Powerstown Stream and groundwater monitoring.	
7	Please specify the proposed time frame for the remediation strategy	SELECT		
8	Is there a licence condition to carry out/update ELRA for the site?	SELECT		
9	Has any type of risk assesment been carried out for the site?	yes	Tier 3 Risk assessment submitted to EPA .	
10	Has a Conceptual Site Model been developed for the site?	yes		
11	Have potential receptors been identified on and off site?	N/A		
12	Is there evidence that contamination is migrating offsite?	yes		

Groundwater/Soil monitoring template Lic No: W0025-04 Year 2016

Table 1: Upgradient Groundwater monitoring results

Date of sampling	Sample location reference	Parameter/ Substance	Methodology	Monitoring frequency	Maximum Concentration++	Average Concentration+	unit	GTV's*	SELECT**	Upward trend in pollutant concentration over last 5 years of monitoring data
2016	RCA2	Ammonia (as N)		quarterly	0.29	0.21	mg/l	0.175	S.I No 9 2010	no
		chloride		quarterly	37.04	26.12	mg/l	187.5	S.I No 9 2010	no
		Dissolved Oxygen		quarterly	9.05	8.5	mg/l			no
		Conductivity		quarterly	738	662	uS/cm	1875	S.I No 9 2010	no
		pH		quarterly	7.4	7.3	pH units			no
		Temp		quarterly	14.3	13.5	oC			no
		TOC		quarterly	410	3.33	mg/l			no
		boron		annually	0.06		ug/l	750	S.I No 9 2010	no
		cadmium		annually	<20		ug/l	3.75	S.I No 9 2010	no
		calcium		annually	120.4		mg/l			no
		total chromium		annually	<20		ug/l	37.5	S.I No 9 2010	no
		iron		annually	174		ug/l			no
		lead		annually	<20		ug/l	18.75	S.I No 9 2010	no
		magnesium		annually	15.3		ug/l			no
		manganese		annually	34		ug/l			no
		nickel		annually	<20		ug/l	15	S.I No 9 2010	no
		potassium		annually	1.97		mg/l			no
		sodium		annually	8.13		mg/l	150	S.I No 9 2010	no
		zinc		annually	28		ug/l			no
		fluoride		annually	<0.02		mg/l			no
		mercury		annually	<10		ug/l	0.75	S.I No 9 2010	no
		sulphate		annually	40.14		mg/l	187.5	S.I No 9 2010	no
		total alkalinity		annually	355.72		mg/l			no
		TON		annually	3.17		mg/l			no
							SELECT			SELECT

.+ where average indicates arithmetic mean

.++ maximum concentration indicates the maximum measured concentration from all monitoring results produced during the reporting year

Groundwater/Soil monitoring template Lic No: W0025-04 Year 2016

Table 2: Downgradient Groundwater monitoring results

Date of sampling	Sample location reference	Parameter/ Substance	Methodology	Monitoring frequency	Maximum Concentration	Average Concentration	unit	GTV's*	SELECT**	Upward trend in yearly average pollutant concentration over last 5 years of monitoring data
2016	GW8	Ammonia (as N)		quarterly	10.48	2.91	mg/l	0.175	S.I No 9 2010	no
		chloride		quarterly	39.57	26.36	mg/l	187.5	S.I No 9 2010	no
		Dissolved Oxygen		quarterly	4.94	3.88	mg/l			no
		Conductivity		quarterly	843	710	uS/cm	1875	S.I No 9 2010	no
		pH		quarterly	7.1	7	pH units			no
		Temp		quarterly	13.8	12.7	oC			no
		TOC		quarterly	128	17.8	mg/l			no
		boron		annually	0.11		ug/l	750	S.I No 9 2010	no
		cadmium		annually	<20		ug/l	3.75	S.I No 9 2010	no
		calcium		annually	102		mg/l			no
		total chromium		annually	<1.0		ug/l	37.5	S.I No 9 2010	no
		iron		annually	97		ug/l			no
		lead		annually	<20		ug/l	18.75	S.I No 9 2010	no
		magnesium		annually	21.6		ug/l			no
		manganese		annually	<20		ug/l			no
		nickel		annually	<20		ug/l	15	S.I No 9 2010	no
		potassium		annually	18.4		mg/l			no
		sodium		annually	21.4		mg/l	150	S.I No 9 2010	no
		zinc		annually	39		ug/l			no
		mercury		annually	<10		ug/l	0.75	S.I No 9 2010	no
							SELECT			SELECT

Groundwater/Soil monitoring template	Lic No:	W0025-04	Year	2016

*please note exceedance of generic assessment criteria (GAC) such as a Groundwater Threshold Value (GTV) or an Interim Guideline Value (IGV) or an upward trend in results for a substance indicates that further interpretation of monitoring results is required. In addition to completing the above table, please complete the Groundwater Monitoring Guideline Template Report at the link provided and submit separately through ALDER as a licensee return or as otherwise instructed by the EPA.

Groundwater monitoring template

More information on the use of soil and groundwater standards/ generic assessment criteria (GAC) and risk assessment tools is available in the EPA published guidance (see the link in G31)

Guidance on the Management of Contaminated Land and Groundwater at EPA Licensed Sites (EPA 2013).

**Depending on location of the site and proximity to other sensitive receptors alternative Receptor based Water Quality standards should be used in addition to the GTV e.g. if the site is close to surface water compare to Surface Water Environmental Quality Standards (SWEQS), If the site is close to a drinking water supply compare results to the Drinking Water Standards (DWS)

Surface water EQS | Groundwater regulations GTV's | Drinking water (private supply) standards | Drinking water (public supply) standards | Interim Guideline Values (IGV)

Table 3: Soil results

Date of sampling	Sample location reference	Parameter/ Substance	Methodology	Monitoring frequency	Maximum Concentration	Average Concentration	unit
							SELECT
							SELECT

Where additional detail is required please enter it here in 200 words or less

Environmental Liabilities template	Lic No:	W0025-04	Year	2016

Click here to access EPA guidance on Environmental Liabilities and Financial provision

			Commentary
1	ELRA initial agreement status	Submitted and agreed by EPA	
2	ELRA review status	Review required and completed	
3	Amount of Financial Provision cover required as determined by the latest ELRA	Specify	3,474,000
4	Financial Provision for ELRA status	Required but not submitted	
5	Financial Provision for ELRA - amount of cover	Specify	
6	Financial Provision for ELRA - type	Public Liability Insurance with Environmental Impairment Liability cover,	
7	Financial provision for ELRA expiry date	Enter expiry date	
8	Closure plan initial agreement status	Closure plan submitted and not agreed by EPA	
9	Closure plan review status	Review required and completed	
10	Financial Provision for Closure status	Submitted and not agreed by EPA;	
11	Financial Provision for Closure - amount of cover	Specify	7,415,000
12	Financial Provision for Closure - type	cash deposit	
13	Financial provision for Closure expiry date	Enter expiry date	

Environmental Management Programme/Continuous Improvement Programme template

Lic No: W0025-04 Year 2016

Highlighted cells contain dropdown menu click to view

			Additional Information
1	Do you maintain an Environmental Mangement System (EMS) for the site. If yes, please detail in additional information	Yes	
2	Does the EMS reference the most significant environmental aspects and associated impacts on-site	Yes	
3	Does the EMS maintain an Environmental Management Programme (EMP) as required in accordance with the licence requirements	Yes	
4	Do you maintain an environmental documentation/communication system to inform the public on environmental performance of the facility, as required by the licence	Yes	

Environmental Management Programme (EMP) report

Objective Category	Target	Status (% completed)	How target was progressed	Responsibility	Intermediate outcomes
Reduction of emissions to Air	extend gas collection system around cells 15,16,17,18 inspect and seal wellheads.	90	additional gas wells installed. Ongoing maintenance of gas lines and well heads	Individual	Reduced emissions
Reduction of emissions to Air	progress temporary and final capping works		This was progressed during 2016 by tendering for material and machinery. Consultants were engaged to		
Additional improvements	Review machinery tender, revise Health and Safety Documentaion,	100	new tenders in place	Individual	Increased compliance with licence conditions

Noise monitoring summary report

Lic No: W0025-04 Year 2016

1	Was noise monitoring a licence requirement for the AER period? If yes please fill in table N1 noise summary below	Yes
2	Was noise monitoring carried out using the EPA Guidance note, including completion of the "Checklist for noise measurement report" included in the guidance note as table 6? (Noise Guidance note NG4)	Yes
3	Does your site have a noise reduction plan	No
4	When was the noise reduction plan last updated?	Enter date
5	Have there been changes relevant to site noise emissions (e.g. plant or operational changes) since the last noise survey?	No

Table N1: Noise monitoring summary

Date of monitoring	Time period	Noise location (on site)	Noise sensitive location -NSL (if applicable)	LA_{eq}	LA_{90}	LA_{10}	LA_{max}	Tonal or Impulsive noise* (Y/N)	If tonal /impulsive noise was identified was 5dB penalty applied?	Comments (ex. main noise sources on site, & extraneous noise ex. road traffic)	Is site compliant with noise limits (day/evening/night)?
30/11/2016	11:01	opposite old entrance	S1	71	56	76		No	SELECT	no audible site activities, off site sources include passing and distant traffic, trucks in nearby layby.	Yes
30/11/2016	13:12	opposite old entrance	S1	71	61	75		No		no audible site activities, off site sources include passing and distant traffic, trucks in nearby layby.	Yes
30/11/2016	14:20	opposite old entrance	S1	71	57	75		No		no audible site activities, off site sources include passing and distant traffic, trucks in nearby layby.	Yes
30/11/2016	11:38	local access road	S2	55	55	47		No		no audible site activities, passing and distant traffic noise and noise of water in holding pond in quarr	Yes
30/11/2016	13:46	local access road	S2	56	53	45		No		no audible site activities, passing and distant traffic noise and noise of water in holding pond in quarr	Yes
30/11/2016	14:53	local access road	S2	56	55	47		No		no audible site activities, passing and distant traffic noise and noise of water in holding pond in quarr	Yes
30/11/2016	10:57	near old entrance	N4	54	57	48		No		no audible site activities, off site sources include passing and distant traffic, trucks in nearby layby, bi	Yes
30/11/2016	12:40	near old entrance	N4	53	56	45		No		no audible site activities, off site sources include passing and distant traffic, trucks in nearby layby, bi	Yes
30/11/2016	14:33	near old entrance	N4	53	56	45		No		no audible site activities, off site sources include passing and distant traffic, trucks in nearby layby, bi	Yes
30/11/2016	11:43	near new entrance	N5	46	47	43		No		on site sources included distant operations of excavator, recycling of glass and metal, on site vehicles. Offsite sources include passing and distant traffic, noise from quarry	Yes
30/11/2016	13:18	near new entrance	N5	51	46	40		No		on site sources included distant operations of excavator, recycling of glass and metal, on site vehicles. Offsite sources include passing and distant traffic, noise from quarry	Yes
30/11/2016	15:15	near new entrance	N5	49	50	45		No		on site sources included distant operations of excavator, recycling of glass and metal, on site vehicles. Offsite sources include passing and distant traffic, noise from quarry	Yes
30/11/2016	12:37	east of railway line	N6	51	48	43		No		on site sources included distant operations of excavator, Offsite sources include passing and distant traffic, birdsong, train	Yes
30/11/2016	13:56	east of railway line	N6	52	48	39		No		on site sources included distant operations of excavator, Offsite sources include passing and distant traffic, birdsong, train	Yes
30/11/2016	15:29	east of railway line	N6	51	49	44		No		on site sources included distant operations of excavator, Offsite sources include passing and distant traffic, birdsong, train	Yes

*Please ensure that a tonal analysis has been carried out as per guidance note NG4. These records must be maintained onsite for future inspection

If noise limits exceeded as a result of noise attributed to site activities, please choose the corrective action from the following options? SELECT

** please explain the reason for not taking action/resolution of noise issues?

Any additional comments? (less than 200 words)

Resource Usage/Energy efficiency summary

Lic No: W0025-04 Year 2016

		Additional information
1 When did the site carry out the most recent energy efficiency audit? Please list the recommendations in table 3 below	07/01/2014	
2 Is the site a member of any accredited programmes for reducing energy usage/water conservation such as the SEAI programme linked to the right? If yes please list them in additional information	Yes	SEAI - Large Industry Energy Network (LIEN) Carlow County Council has signed up to Energy MAP
3 Where Fuel Oil is used in boilers on site is the sulphur content compliant with licence conditions? Please state percentage in additional information	N/A	

Table R1 Energy usage on site

Energy Use	Previous year	Current year	Production +/- % compared to previous reporting year**	Energy Consumption +/- % vs overall site production*
Total Energy Used (MWHrs)				
Total Energy Generated (MWHrs)				
Total Renewable Energy Generated (MWHrs)				
Electricity Consumption (MWHrs)	85.11	95.34		
Fossil Fuels Consumption:				
Heavy Fuel Oil (m3)				
Light Fuel Oil (m3)	55	61		
Natural gas (m3)				
Coal/Solid fuel (metric tonnes)				
Peat (metric tonnes)				
Renewable Biomass				
Renewable energy generated on site				

* where consumption of energy can be compared to overall site production please enter this information as percentage increase or decrease compared to the previous reporting year.
** where site production information is available please enter percentage increase or decrease compared to previous year

Table R2 Water usage on site

					Water Emissions	Water Consumption	
Water use	Water extracted Previous year m3/yr.	Water extracted Current year m3/yr.	Production +/- % compared to previous reporting year**	Energy Consumption +/- % vs overall site production*	Volume Discharged back to environment(m^3yr):	Volume used i.e not discharged to environment e.g. released as steam m3/yr	Unaccounted for Water:
Groundwater							
Surface water							
Public supply	72.87	81.46					
Recycled water							
Total							

* where consumption of water can be compared to overall site production please enter this information as percentage increase or decrease compared to the previous reporting year.
** where site production information is available please enter percentage increase or decrease compared to previous year

Table R3 Waste Stream Summary

	Total	Landfill	Incineration	Recycled	Other
Hazardous (Tonnes)	98.95			98.95	
Non-Hazardous (Tonnes)	64134.85	63246.28		888.57	

Resource Usage/Energy efficiency summary

Lic No: W0025-04 Year 2016

Table R4: Energy Audit finding recommendations

Date of audit	Recommendations	Description of Measures proposed	Origin of measures	Predicted energy savings %	Implementation date	Responsibility	Completion date	Status and comments
07/01/2014	Reduce site MIC from 74 to <29	Contact service provider	energy audit	25	2014	Energy Engineer		completed during 2014
07/01/2014	Remove storage heaters and install de-humidifier in storage containers	Remove storage heaters and install de-humidifier in storage containers	energy audit	25	2014	Site Management		Completed February 2014
07/01/2014	Replace convector heater with radiant heater with appropriate controls	Replace convector heater with radiant heater with appropriate controls	energy audit	25	2014	Site Management		use of heaters reviewed within this area
07/01/2014	Improve housekeeping, optimise PC usage and lighting	Ensure lights and pc's and shut down when not in use	energy audit	minimal	2014	all staff	continuously	ongoing
			SELECT					

Table R5: Power Generation: Where power is generated onsite (e.g. power generation facilities/food and drink industry)please complete the following information

	Unit ID	Unit ID	Unit ID	Unit ID	Station Total
Technology					
Primary Fuel					
Thermal Efficiency					
Unit Date of Commission					
Total Starts for year					
Total Running Time					
Total Electricity Generated (GWH)					
House Load (GWH)					
KWH per Litre of Process Water					
KWH per Litre of Total Water used on Site					

Complaints and Incidents summary template | Lic No: W0025-04 | Year 2016

Complaints

Have you received any environmental complaints in the current reporting year? If yes please complete summary details of complaints received on site in table 1 below	Additional information
Yes	

Table 1 Complaints summary

Date	Category	Other type (please specify)	Brief description of complaint (Free txt <20 words)	Corrective action< 20 words	Resolution status	Resolution date	Further information
09/10/16	Odour		odour along M9 motorway	dewatered gas lines, balanced gas field, contacted complainant	Complete	01/11/2016	
16/10/16	Odour		odour from landfill	gas lines dewaterd, gas field balanced, blower increased to 66%, contacted complainant	Complete	31/10/2016	
16/08/16	Odour		odour from landfill	checked operation of flare and gas network, contacted complainant	Complete	18/08/2016	
22/07/16	Odour		odour from landfill	checked operation of flare and gas network, contacted complainant	Complete	23/07/2016	
21/07/16		flies	flies present in neighbours house	EFK unit delivered to house	Complete	22/07/2016	
18/07/16	Odour		odour from landfill	checked operation of flare and gas network, contacted complainant	Complete	20/07/2016	
12/07/16		flies	flies present in neighbours house	EFK unit delivered to house	Complete	20/07/2016	
10/07/16		flies	flies present in neighbours house	EFK unit delivered to house	Complete	20/07/2016	
05/07/16		flies	flies present in neighbours house	ordered fly units, sprayed for flies, spoke to complainant	Complete	08/07/2016	
04/07/16	Odour		odour from landfill	checked operation of flare and gas network, contacted complainant	Complete	04/07/2016	
04/07/16		flies	flies present in neighbours house	spraying of site to prevent flies, contacted complainant	Complete	04/07/2016	
26/06/16		flies	flies present in neighbours house	spraying of site to prevent flies, contacted complainant	Complete	26/06/2016	
25/06/16		flies	flies present in neighbours house	spraying of site to prevent flies, contacted complainant	Complete	25/06/2016	
22/06/16		flies	flies present in neighbours house	spraying of site to prevent flies, contacted complainant	Complete	22/06/2016	
29/05/16		flies	flies present in neighbours house	contacted person and called to house	Complete	29/05/2016	
21/05/16	Odour		odour from landfill for 1 hour	checked operation of flare and gas network, contacted complainant	Complete	24/05/2016	
18/05/16	Odour		odour from landfill	tried to contact to person, checked flare and gas network	Complete	20/05/2016	
09/05/16		flies	flies present in neighbours house	contacted person and called to house	Complete	16/05/2016	
08/04/16	Odour		odour from landfill	contacted complainant, checked flare, carried out daily odour check	Complete	08/04/2016	
05/04/16	Odour		odour from landfill	checked operation of flare and gas network, carried out daily odour check	Complete	05/04/2016	
04/04/16	Odour		odour from landfill	checked operation of flare and gas network, carried out daily odour check	Complete	04/04/2016	
17/03/16	Odour		odour from landfill	checked operation of flare	Complete	19/03/2006	
15/03/16	Odour		odour from landfill				
08/03/16	Odour		odour from landfill	visited home of complainant, checked flare, carried out daily odour checks	Complete	08/03/2016	
29/02/17	Odour		odour from landfill	contacted complainant, carried out daily odour check	Complete	29/02/2016	
10/02/17	Odour		odour from landfill	contacted complainant, carried out daily odour check	Complete	10/02/2016	
05/02/17	Odour		odour from landfill	contacted complainant, carried out daily odour check	Complete	05/02/2016	
01/02/17	Odour		odour from landfill	Investigated flare operation, balancing of gas field, daily odour patrols	Complete		
26/01/17	flies and odour		hazards due to close proximity to landfill	discussions with management and elected members. Called to speak with complainant	Complete	28/02/2016	
15/01/17	Odour		odour from landfill	increased blower at flare, carried out VOC survey	Complete		

Complaints and Incidents summary template

Lic No: W0025-04 Year 2016

11/01/17	Odour		odour from landfill	Increased blower at flare, dewatered lines, sprayed deodouriser	Complete	11/01/2016	
09/01/17	Odour		odour from landfill	called to house, carried out odour patrol	Complete	09/01/2016	
06/01/17	Odour		odour from landfill	checked flare and dewatered gas lines	Complete	06/01/2016	
05/01/17	Odour		odour from landfill	Increased blower at flare, dewatered lines, sprayed deodouriser	Complete	05/01/2016	
04/01/17	Odour		odour from landfill	increased blower, ordered deodouriser	Complete	04/01/2016	

Total complaints open at start of reporting year	0
Total new complaints received during reporting year	35
Total complaints closed during reporting year	35
Balance of complaints end of reporting year	0

Incidents

Have any incidents occurred on site in the current reporting year? Please list all incidents for current reporting year in Table 2 below	Additional information
Yes	

*For information on how to report and what constitutes an incident	What is an incident

Table 2 Incidents summary

Date of occurrence	Incident nature	Location of occurrence	Incident category*please refer to guidance	Receptor	Cause of incident	Other cause(please specify)	Activity in progress at time of incident	Communication	Occurrence	Corrective action<20 words	Preventative action <20 words	Resolution status	Resolution date	Likelihood of reoccurance
01/01/2016	Breach of ELV	boundary gas wells	1. Minor	Air	Other (add details)	landfill gas migration	Normal activities	EPA	Recurring	carry out monitoring and daily odour checks	carry out monitoring and daily odour checks	Complete	31/08/2016	Medium
30/06/2016	Breach of ELV	boundary gas wells	1. Minor	Air	Other (add details)	landfill gas migration	Normal activities	EPA	Recurring	continue to monitor	continue to monitor	Complete	31/08/2016	Medium
15/03/2016	Breach of ELV	boundary gas wells	1. Minor	Air	Other (add details)	landfill gas migration	Normal activities	EPA	Recurring	continue to monitor	continue to monitor	Complete	31/08/2016	Medium
01/02/2016	Breach of ELV	boundary gas wells	1. Minor	Air	Other (add details)	landfill gas migration	Normal activities	EPA	Recurring	continue to monitor	continue to monitor	Complete	31/08/2016	Medium
26/04/2016	Breach of ELV	boundary gas wells	1. Minor	Air	Other (add details)	landfill gas migration	Normal activities	EPA	Recurring	continue to monitor	continue to monitor	Complete	31/08/2016	Medium
05/07/2016	Breach of ELV	boundary gas wells	1. Minor	Air	Other (add details)	landfill gas migration	Normal activities	EPA	Recurring	continue to monitor	continue to monitor	Complete	31/08/2016	Medium
27/10/2016	Breach of ELV	boundary gas wells	1. Minor	Air	Other (add details)	landfill gas migration	Normal activities	EPA	Recurring	dewater gas lines, checked gas manifolds	continue to manage gas field and operate flare	Complete	30/11/2016	Medium
28/11/2016	Breach of ELV	boundary gas wells	1. Minor	Air	Other (add details)	landfill gas migration	Normal activities	EPA	Recurring	dewatered gas lines, checked flare operation	continue to manage gas field and operate flare	Complete	31/12/2016	Medium
21/12/2016	Breach of ELV	boundary gas wells	1. Minor	Air	Other (add details)	landfill gas migration	Normal activities	EPA	Recurring	dewatered gas lines, balanced gas field	continue to manage gas field and operate flare	Complete	31/12/2016	Medium
20/08/2016	Trigger level reached	groundwater wells	1. Minor	Water	Other (add details)	proximity to unlined cells	Normal activities	EPA	New	continue to monitor	continue to monitor	Complete	31/12/2016	High
03/12/2016	Trigger level reached	Cell 12 leachate	1. Minor	No Uncontrolled release	Operational controls		Normal activities	EPA	New	continue to monitor and operate compressor	continue to monitor and operate compressor	Complete	22/12/2016	Low
03/12/2016	Trigger level reached	cell 13 leachate	1. Minor	No Uncontrolled release	Operational controls		Normal activities	EPA	New	continue to monitor, new pump ordered	continue to monitor, install new pump	Complete	03/02/2017	Low
29/04/2016	Breach of ELV	Dust D4	1. Minor	Air	Other (add details)	road resurfacing	Normal activities	EPA	New	sprinkle site with water	sprinkle site with water	Complete	01/07/2016	Low
27/04/2016	Fire	cell 18	1. Minor	No Uncontrolled release	Other (add details)	compactor in cell	Normal activities	EPA	New	fire services contacted, fire extinguished	remove machine from site, monitor area	Complete	30/05/2016	low
15/01/2016	Trigger level reached	surface emissions	1. Minor	Air	Other (add details)	surface emissions from site	Normal activities	EPA	New	additional cover and seals added	bentonite added, additional plastic installed, clay cover added, increased blower at flare	Complete	15/02/2016	low
23/06/2016	Trigger level reached	leachate levels cell 15- 18	1. Minor	No Uncontrolled release	Adverse weather		Normal activities	EPA	Recurring	review contingency arrangements for leachate disposal	continue to pump and remove leachate from site	Complete	31/08/2016	Low
22/06/2016	Trigger level reached	leachate levels cell 16,17, 18	1. Minor	No Uncontrolled release	Adverse weather		Normal activities	EPA	Recurring	review contingency arrangements for leachate disposal	continue to pump and remove leachate from site	Complete	31/08/2016	low
15/04/2016	Trigger level reached	leachate levels cell 15- 18	1. Minor	No Uncontrolled release	Adverse weather		Normal activities	EPA	New	review contingency arrangements for leachate disposal	continue to pump and remove leachate from site	Complete	31/08/2016	Low
	SELECT	SELECT	SELECT	SELECT	SELECT		SELECT	SELECT	SELECT			SELECT		SELECT

Total number of incidents current year	18
Total number of incidents previous year	18
% reduction/ increase	0%

WASTE SUMMARY

Lic No: W0025-04 Year 2016

SECTION A-PRTR ON SITE WASTE TREATMENT AND WASTE TRANSFERS TAB- TO BE COMPLETED BY ALL IPPC AND WASTE FACILITIES

PRTR facility logon

dropdown list click to see options

SECTION B- WASTE ACCEPTED ONTO SITE-TO BE COMPLETED BY ALL IPPC AND WASTE FACILITIES

			Additional Information
1	Were any wastes accepted onto your site for recovery or disposal or treatment prior to recovery or disposal within the boundaries of your facility ?; (waste generated within your boundaries is to be captured through PRTR reporting) If yes please enter details in table 1 below	Yes	
2	Did your site have any rejected consignments of waste in the current reporting year? If yes please give a brief explanation in the additional information	No	
3	Was waste accepted onto your site that was generated outside the Republic of Ireland? If yes please state the quantity in tonnes in additional information	No	

Table 1 Details of waste accepted onto your site for recovery, disposal or treatment (do not include wastes generated at your site, as these will have been reported in your PRTR workbook)

Licenced annual tonnage limit for your site (total tonnes/annum)	EWC code (European Waste Catalogue EWC codes)	Source of waste accepted	Description of waste accepted Please enter an accurate and detailed description - which applies to relevant EWC code (European Waste Catalogue EWC codes)	Quantity of waste accepted in current reporting year (tonnes)	Quantity of waste accepted in previous reporting year (tonnes)	Reduction/ Increase over previous year +/ - %	Reason for reduction/ increase from previous reporting year	Packaging Content (%)- only applies if the waste has a packaging component	Disposal/Recovery or treatment operation carried out at your site and the description of this operation	Quantity of waste remaining on site at the end of reporting year (tonnes)	Comments -
	100101	Medite Clonmel, Smartply Waterford	bottom ash	2407	3832		Ash not required from August to December 2016		D15-Storage pending any of the operations numbered D1 to D14	0	all material used for daily cover
	170504	council clean up, local developments	clay/ soil and stones	9221	10000				R13-Storage of waste pending any of the operations numbered R1 to R12 (excluding temporary storage)	approx 4500	maintenance of roads and banks
	170101	council clean up	rubble	291	278				R13-Storage of waste pending any of the operations numbered R1 to R12 (excluding temporary storage)	0	maintenance of roads
	170904	country clean, clonmel waste, waste recovery services	C&D fines	4425	7034		C&D fines not accepted between August and December 2016		D15-Storage pending any of the operations numbered D1 to D14	0	daily cover material

SECTION C-TO BE COMPLETED BY ALL WASTE FACILITIES (waste transfer stations, Composters, Material recovery facilities etc) EXCEPT LANDFILL SITES

4	Is all waste processing infrastructure as required by your licence and approved by the Agency in place? If no please list waste processing infrastructure required onsite	Yes
5	Is all waste storage infrastructure as required by your licence and approved by the Agency in place? If no please list waste storage infrastructure required on site	Yes
6	Does your facility have relevant nuisance controls in place?	Yes
7	Do you have an odour management system in place for your facility? If no why?	Yes
8	Do you maintain a sludge register on site?	No

WASTE SUMMARY

Lic No: W0025-04 Year 2016

SECTION D-TO BE COMPLETED BY LANDFILL SITES ONLY

Table 2 Waste type and tonnage-landfill only

Waste types permitted for disposal	Authorised/licenced annual intake for disposal (tpa)	Actual intake for disposal in reporting year (tpa)	Remaining licensed capacity at end of reporting year (m3)	Comments
Household (residual) commercial industrial solids	48,500	46,901		
C&D	1,000	0	30,000	
treated sludge	500	0		

Table 3 General information-Landfill only

Area ID	Date landfilling commenced	Date landfilling ceased	Currently landfilling	Private or Public Operated	Inert or non-hazardous	Predicted date to cease landfilling	Licence permits asbestos	Is there a separate cell for asbestos?	Accepted asbestos in reporting year	Total disposal area occupied by waste	Lined disposal area occupied by waste	Unlined area	Comments on liner type
										SELECT UNIT	SELECT UNIT	SELECT UNIT	
cell 15/16	2006	2012	Yes	public	non-haz	2017	no	no	no	18,000	18,000	0	bentonite/double HDPE
cell 17	2013	2015	Yes	public	non-haz	2017	no	no	no	9,000	9,000	0	bentonite/double HDPE
cell 18	2015	2016	No	public	Non Hazardous	2017	No	No	No	9,000	9,000	0	bentonite/double HDPE

Table 4 Environmental monitoring-landfill only

Landfill Manual-Monitoring Standards

Was meterological monitoring in compliance with Landfill Directive (LD) standard in reporting year +	Was leachate monitored in compliance with LD standard in reporting year	Was Landfill Gas monitored in compliance with LD standard in reporting year	Was SW monitored in compliance with LD standard in reporting year	Have GW trigger levels been established	Were emission limit values agreed with the Agency (ELVs)	Was topography of the site surveyed in reporting year	Has the statement under S53(A)(5) of WMA been submitted in reporting year	Comments
yes	yes	yes	yes	Yes	Yes	Yes	No	

.+ please refer to Landfill Manual linked above for relevant Landfill Directive monitoring standards

Table 5 Capping-Landfill only

Area uncapped*	Area with temporary cap	Area with final cap to LD Standard m2 ha, s	Area capped other	Area with waste that should be permanently capped to date under licence	What materials are used in the cap	Comments
SELECT UNIT	SELECT UNIT					
36,000	0	84000m2	capping planned for 2016 and 2017	84,000	gas geo composite, LLDPE liner, drainage geocomposite, 1 metre clay	

*please note this includes daily cover area

Table 6 Leachate-Landfill only

9 Is leachate from your site treated in a Waste Water Treatment Plant? Yes

10 Is leachate released to surface water? If yes please complete leachate mass load information below No

Volume of leachate in reporting year(m3)	Leachate (BOD) mass load (kg/annum)	Leachate (COD) mass load (kg/annum)	Leachate (NH4) mass load (kg/annum)	Leachate (Chloride) mass load kg/annum	Leachate treatment on-site	Specify type of leachate treatment	Comments

Please ensure that all information reported in the landfill gas section is consistent with the Landfill Gas Survey submitted in conjunction with PRTR returns

Table 7 Landfill Gas-Landfill only

Gas Captured&Treated by LFG System m3	Power generated (MW / KWh)	Used on-site or to national grid	Was surface emissions monitoring performed during the reporting year?	Comments
2,636,000	0	0	Yes	

Guidance to completing the PRTR workbook

PRTR Returns Workbook

Version 1.1.12

REFERENCE YEAR	2016

1. FACILITY IDENTIFICATION

Parent Company Name	Carlow County Council
Facility Name	Powerstown Landfill Site
PRTR Identification Number	W0025
Licence Number	W0025-04

Classes of Activity

No.	class_name
-	Refer to PRTR class activities below

Address 1	Kilkenny Rd.
Address 2	
Address 3	
Address 4	
	Carlow
Country	Ireland
Coordinates of Location	-6.15456 53.5062
River Basin District	IESE
NACE Code	3821
Main Economic Activity	Treatment and disposal of non-hazardous waste
AER Returns Contact Name	Mary Walsh
AER Returns Contact Email Address	mwalsh@carlowcoco.ie
AER Returns Contact Position	Acting Landfill Manager
AER Returns Contact Telephone Number	0599172402
AER Returns Contact Mobile Phone Number	
AER Returns Contact Fax Number	
Production Volume	47896.7
Production Volume Units	tonnes
Number of Installations	1
Number of Operating Hours in Year	1378
Number of Employees	9
User Feedback/Comments	The most recent landfill gas model prepared for the site was completed in October 2014. This model predicted the total methane generated during 2016 to be 812,705 kg/yr. However, the flow rate during 2016 was higher than predicted and the total methane flared amounted to 1,498,468kg/yr. Therefore there are 0 net methane emissions to report for 2016. The variances for NOx and SOx in comparison to the 2015 figures are due to the increased flow rate through the flare and the installation of additional gas wells within the waste.
Web Address	

2. PRTR CLASS ACTIVITIES

Activity Number	Activity Name
5(d)	Landfills
5(c)	Installations for the disposal of non-hazardous waste
5(d)	Landfills
50.1	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		LFGF1			
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
02	Carbon monoxide (CO)	M	EN 15058:2004	NCIR By Horiba PG-250	0.0	0.0	0.0	0.0
01	Methane (CH4)	C	OTH	Total estimated methane generated minus methane flared	0.0	0.0	0.0	0.0
08	Nitrogen oxides (NOx/NO2)	M	EN 14792:2005	Chemiluminescence	299.0	299.0	0.0	0.0
11	Sulphur oxides (SOx/SO2)	M	OTH	TGN 21 NDIR Absorption	4374.0	4374.0	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
84	Fluorine and inorganic compounds (as HF)	M	ISO/DIS 15713:2004	Ion chromatography	0.0	0.0	0.0	0.0
80	Chlorine and inorganic compounds (as HCl)	M	EN 1911-1 to 3:2003	Ion chromatography	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
237	Volatile organic compounds (as TOC)	M	OTH	EN12619 FID	12.61	12.61	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: Powerstown Landfill Site

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)	812705.0	C	OTH	Landgem	N/A	
Methane flared	1498468.0	M	OTH	From Annual Landfill Gas S	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

| PRTR# : W0025 | Facility Name : Powerstown Landfill Site | Filename : w0025_2016 PRTR.xls | Return Year : 2016 |

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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 this onl

RELEASES TO WATERS					Please enter all quantities in this section in KGs			
POLLUTANT					QUANTITY			
No. Annex II	Name	M/C/E	Method Used: Method Code	Method Used: 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			
No. Annex II	Name	M/C/E	Method Used: Method Code	Method Used: 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			
Pollutant No.	Name	M/C/E	Method Used: Method Code	Method Used: 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	
No. Annex II	Name	M/C/E	Method Used: Method Code	Method Used: 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	
Pollutant No.	Name	M/C/E	Method Used: Method Code	Method Used: 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

| PRTR# : W0025 | Facility Name : Powerstown Landfill Site | Filename : w0025_2016 PRTR.xls | Return Year : 2016 |

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	13 02 05	Yes	7.26	mineral-based non-chlorinated engine, gear and lubricating oils	R13	M	Weighed	Offsite in Ireland	ENVA Ireland,W0181-01	-,-,Portlaoise,Co. Laois,Ireland	ENVA Ireland,W0181-01	-,-,Portlaoise,Co. Laois,Ireland
Within the Country	15 01 02	No	60.7	plastic packaging (bottles & wrapping)	R13	M	Weighed	Offsite in Ireland	Greenstar,WFP -KK-09-0003-01	-,-,-,Kilkenny,Ireland		
Within the Country	15 01 05	No	3.62	composite packaging (tetrapac)	R13	M	Weighed	Offsite in Ireland	Greenstar,WFP -KK-09-0003-01	-,-,-,Kilkenny,Ireland		
Within the Country	15 01 07	No	59.82	glass packaging	R13	M	Weighed	Offsite in Ireland	Greenstar,WFP -KK-09-0003-01	-,-,-,Kilkenny,Ireland		
To Other Countries	16 01 07	Yes	0.38	oil filters	R13	M	Weighed	Abroad	ENVA Ireland,W0181-01	-,-,Portlaoise,Co. Laois,Ireland	R.D. Recycling,51727-1-KD,Houthalen,,,,,,Belgium	Houthalen,,,,,,Belgium
To Other Countries	16 06 01	Yes	11.02	lead batteries	R13	M	Weighed	Abroad	ENVA Ireland,W0181-01	-,-,Portlaoise,Co. Laois,Ireland	Campine Recycling Ltd,MLAV /05,Campine Recycling Ltd,173/GVDA,Beerse,,Belgium	Campine Recycling Ltd,173/GVDA,Beerse,,Belarus
Within the Country	16 06 04	No	0.78	alkaline batteries (except 16 06 03)	R13	M	Weighed	Offsite in Ireland	The Recycling Village,WFP-LH-10-0010-01	-,-,-,Co. Louth,Ireland		
Within the Country	17 08 02	No	2.46	gypsum-based construction materials other than those mentioned in 17 08 01	R13	M	Weighed	Offsite in Ireland	Greenstar,WFP -KK-09-0003-01	-,-,-,Kilkenny,Ireland		
Within the Country	19 07 03	No	19650.06	landfill leachate other than those mentioned in 19 07 02	R13	M	Weighed	Offsite in Ireland	Mortarstown Waste Water Treatment Plant, D-0028	Carlow,,,,,,Ireland		
Within the Country	20 01 01	No	179.82	paper and cardboard	R13	M	Weighed	Offsite in Ireland	Greenstar,WFP -KK-09-0003-01	-,-,-,Kilkenny,Ireland		
Within the Country	20 01 02	No	40.76	flat glass	R13	M	Weighed	Offsite in Ireland	Greenstar,WFP -KK-09-0003-01	-,-,-,Kilkenny,Ireland		
Within the Country	20 01 08	No	39.18	biodegradable kitchen and canteen waste	R13	M	Weighed	Offsite in Ireland	O'Toole Composting,WFP-CW-10-0003-01	Balintrane,Fenagh,Co. Carlow,-,Ireland		
Within the Country	20 01 11	No	21.5	textiles	R13	M	Weighed	Offsite in Ireland	Mrs Quinns Charity Shop,-	-,-,-,-,Ireland		
Within the Country	20 01 21	Yes	0.56	fluorescent tubes and other mercury-containing waste	R13	M	Weighed	Offsite in Ireland	KMK Metals,W0113-01	Cappincur Industrial Estate,Daingean Road,Tullamore,Co. Offaly,Ireland	KMK Metals,W0113-01	-,-,Tullamore,Co. Offaly,Ireland
Within the Country	20 01 23	Yes	23.23	discarded equipment containing chlorofluorocarbons	R13	M	Weighed	Offsite in Ireland	Ratcliffe Recycling Ltd,WCP-DC-08-1130-01	Ballystahan ,St. Margarets ,Dublin,,Ireland	Ratcliffe Recycling,WCP-DC-08-1130-01,Ballystahan,St. Margarets,Dublin,,Ireland	,,,,,,Ireland
Within the Country	20 01 25	No	1.0	edible oil and fat	R13	M	Weighed	Offsite in Ireland	Pure Oil Ltd,NWCPO-10-02557-01	-,Ballyweather,Barntown,Co. Wexford,Ireland		
To Other Countries	20 01 27	Yes	16.04	paint, inks, adhesives and resins containing dangerous substances	R13	M	Weighed	Abroad	ENVA Ireland,W0181-01	-,-,Portlaoise,Co. Laois,Ireland	Nehlsen,D33300040,Braemen,,,,,,Germany	Braemen,,,,,,Germany
Within the Country	20 01 35	Yes	48.04	discarded electrical and electronic equipment other than those mentioned in 20 01 21 and and 20 01 23 containing hazardous components	R13	M	Weighed	Offsite in Ireland	Ratcliffe Recycling Ltd,WCP-DC-08-1130-01	Ballystahan ,St. Margarets ,Dublin,,Ireland	Ratcliffe Recycling,WCP-DC-08-1130-01,Ballystahan,St. Margarets,Dublin,,Ireland	,,,,,,Ireland
Within the Country	20 01 36	No	0.22	discarded electrical and electronic equipment other than those mentioned in 20 01 21, 20 01 23 and 20 01 35	R13	M	Weighed	Offsite in Ireland	Irish Lamp Recycling ,WFP-KE-08-0348-01	Woodstock Industrial Estate,Kilkenny Road,Athy ,Co. Kildare,Ireland		
Within the Country	20 01 36	No	120.63	discarded electrical and electronic equipment other than those mentioned in 20 01 21, 20 01 23 and 20 01 35	R13	M	Weighed	Offsite in Ireland	Ratcliffe Recycling Ltd,WCP-DC-08-1130-01	Ballystahan ,St. Margarets ,Dublin,,Ireland		
Within the Country	20 01 38	No	97.54	wood other than that mentioned in 20 01 37	R13	M	Weighed	Offsite in Ireland	Greenstar,WFP -KK-09-0003-01	-,-,-,Kilkenny,Ireland		
Within the Country	20 01 40	No	67.3	metals	R13	M	Weighed	Offsite in Ireland	Ratcliffe Recycling Ltd,WCP-DC-08-1130-01	Ballystahan ,St. Margarets ,Dublin,,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 02 01	No	194.52	biodegradable waste	R13	M	Weighed	Offsite in Ireland	Greenstar,WFP -KK-09-0003-01	-,-,-,Kilkenny,Ireland		
Within the Country	16 05 04	Yes	0.34	gases in pressure containers (including halons) containing dangerous substances	R13	M	Weighed	Offsite in Ireland	ENVA Ireland,W0181-01	-,-,Portlaoise,Co. Laois,Ireland	ENVA ireland,W0181-01,,,,Portlaoise,Co. Laois,Ireland	.,.,Portlaoise,Co Laois,Ireland

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