Facility Information Summary	
AER Reporting Year	2014
Licence Register Number	W0025-03
Name of site	Powerstown Landfill
Site Location	Powerstown, 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 is a non hazardous waste landfill licensed to accept 40,000 tonnes of waste per year. During 2014 a total of 47229 tonnes was accepted for disposal at the landfill. This increase in waste intake was mainly due to the closure of 2 landfills in the southern region. Subsequently, Carlow Co Co submitted an application to the EPA in 2014 to request a review of the Industrial Emissions Licence for the site and requesting permission to increase the quantity of waste to 50,000 tonnes per anum. A decision has yet to be made in relation to this application. During 2014 there were 2 EPA inspections at the site. The first inspection was carried out by the OEE on 30/01/14. There were no non compliances raised during this inspection. On 21/10/14 a site inspection was carreid out to assess landfill gas infrastructure, daily cover and waste placement. There were no major changes to infrastructure during 2014. Landfilling was carried out in Cell 17 for the entire year. Horizontal and vertical gas wells were installed for gas management in cell 17. AS a results of this the flow rate through the flare increased during 2014 and the annual mass load for emissions from the flare for a number of parameters also increased. All non compliances reported during 2014 are contained in the complaints and incidents sheet of this report. They relate mainly to breach of ELV for boundary gas wells, exceedance of trigger levels for groundwater wells and VOC emissions. All monitoring was carried out during 2014 in accordance with licence conditions and reports were uploaded via EDEN website.

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	08/05/15
Signature Group/Facility manager (or nominated, suitably qualified and experienced deputy)	Date

AIR-summary template

Lic No: W0025-03 Year 2014

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	Licensed Emissions from Landfill Flare 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?	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	Carbon monoxide (CO)	Annually	50	No 30min mean can exceed the ELV	<1.7	mg/Nm3	yes	OTH	<4.7	
LFGF1	Nitrogen oxides (NOx/NO2)	Annually	150	No 30min mean can exceed the ELV	84.81	mg/Nm3	yes	OTH	234	Increase rate of capture for LFG
LFGF1	Sulphur oxides (SOx/SO2)	Annually		SELECT	337	mg/Nm3	SELECT	OTH	932	Increase rate of capture for LFG
LFGF1	Volatile organic compounds (as TOC)	Annually	10	No 30min mean can exceed the ELV	3.17	mg/Nm3	yes	OTH	8.77	
LFGF1	Chlorine and inorganic compounds (as HCl)	Annually	50	No 30min mean can exceed the ELV	1.74	mg/Nm3	yes	OTH	4.81	Increase rate of capture for LFG
LFGF1	Fluorine and inorganic compounds (as HF)	Annually	5	No 30min mean can exceed the ELV	2.3	mg/Nm3	yes	OTH	6.36	Increase rate of capture for LFG
LFGF1	volumetric flow		3000	SELECT	225	m3/hr	yes	OTH		

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

AIR-summary template	Lic No:	W0025-03	Year	2014
Continuous Monitoring				

4	Does your site carry out continuous air emissions monitoring?	Yes	Continuous Monitoring carried out at Landfill Flare LFGF1, for temperature, flow, CH4, CO2, CO, O2. There are no ELV for these parameters with the exception of CO which is reported in table A1. The results were summarised and incorporated into the landfill gas survey for the site.
	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)		
5	Did continuous monitoring equipment experience downtime? If yes please record downtime in table A2 below	Yes	Total downtime of approx 33.5 hours for Jan - Dec 2014 as detailed in landfill gas survey
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	N/A	

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

AIR-summary template	Lic No:	W0025-03	Year	2014

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: W0025-03 Year 2014

		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)

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	volumetric flow	SELECT	continuous	every 2 mins		SELECT	463	m3/day	SELECT	SELECT	SELECT			
SWLO	Water	Ammonia (as N)	discrete	quarterly		0.23		0.285	mg/L	yes	DISCRETE METHODS	UK Standard method 1981	EPA Method W07	48.25	Averaged quarterly results compared to S.I. No 278 of 2007. 1 elevated ammonia result during Q4 2014 of 0.46mg/l effected mass loading of 48.25kg/yr. Using 3 previous quarterly results the mass load was 18.62kg/yr
SWLO	Water	Dissolved Oxygen	discrete	quarterly		-		123	% Sat		Dissolved Oxygen Meter (Electrode)	APHA / AWWA "Standard Methods"	APHA Section 4500-O G		Averaged quarterly results.
SWLO	Water	Conductivity	discrete	quarterly		2500		618	µS/cm@25oC	yes	Conductivity Meter (Electrode)	APHA / AWWA "Standard Methods"	APHA Section 2510-B		Averaged quarterly results.
SWLO	Water	COD	discrete	quarterly				10	mg/L		Digestion + Spectrophotometry	ISO 15705:2002	EPA Method W01		Averaged quarterly results.
SWLO	Water	Chlorides (as Cl)	discrete	quarterly		50		21.25	mg/L	yes	DISCRETE METHODS	US EPA	EPA Method W07	3597.9	Averaged quarterly results.
SWLO	Water	pH	discrete	quarterly		6.5 - 9.5		7.4	pH units	yes	pH Meter (Electrode)	APHA / AWWA "Standard Methods"	APHA Section 4500 H+		Averaged quarterly results.
SWLO	Water	Suspended Solids	discrete	quarterly		35	All values < ELV	8	mg/L	see comments	Gravimetric analysis	ISEN 872:2005	EPA Method W03		Averaged quarterly results.
SWLO	Water	Temperature	discrete	quarterly		25		8.9	degrees C	yes	Thermometry				Averaged quarterly results.

AER Monitoring returns summary template-WATER/WASTEWATER(SEWER) Lic No: W0025-03 Year 2014

SWLO	Water	BOD	discrete	quarterly				<2.0							Averaged quarterly results.
SWLO	Water	Orthophosphate (P)	discrete	annually				<0.01	mg/l		DISCRETE METHODS	US EPA	EPA W07		
SWLO	Water	Sulphate	discrete	annually		250		26	mg/L	yes	Ion Chromatography	APHA / AWWA	J01	4402	
SWLO	Water	Alkalinity	discrete	annually				265	mg/L		DISCRETE METHODS	APHA / AWWA	APHA Section 2320B		
SWLO	Water	Boron	discrete	annually		1000		81	µg/L	yes	ICP / ICPMS (Inductively Coupled Plasma - Mass Spectrometry)	B.S. (British Standard)	EPA W05	13.71	
SWLO	Water	Cadmium and compounds (as Cd)	discrete	annually		5		<0.2	µg/L	yes	ICP / ICPMS (Inductively Coupled	B.S. (British Standard)	EPA W05		
SWLO	Water	Calcium	discrete	annually				120	mg/L		ICP / ICPMS	B.S. (British Standard)	EPA W05	20317	
SWLO	Water	Copper	discrete	annually		2000		<1	µg/L	yes	ICP / ICPMS	B.S. (British Standard)	EPA W05		
SWLO	Water	Iron	discrete	annually		200		<10	µg/L	yes	ICP / ICPMS	B.S. (British Standard)	EPA W05		
SWLO	Water	lead	discrete	annually		10		<1	µg/L	yes	ICP / ICPMS	B.S. (British Standard)	EPA W05		
SWLO	Water	Magnesium	discrete	annually				13	mg/l		ICP / ICPMS	B.S. (British Standard)	EPA W05	2201	
SWLO	Water	manganese	discrete	annually		50		<5	µg/L	yes	ICP / ICPMS	B.S. (British Standard)	EPA W05		
SWLO	Water	Mercury	discrete	annually		1		<0.5	µg/L	yes	ICP / ICPMS	B.S. (British Standard)	EPA W05		
SWLO	Water	Nickel	discrete	annually		20		<1.0	µg/L	yes	ICP / ICPMS	B.S. (British Standard)	EPA W05		
SWLO	Water	Potassium	discrete	annually				1.9	mg/L		ICP / ICPMS	B.S. (British Standard)	EPA W05	321.7	
SWLO	Water	Sodium	discrete	annually		200		8.9	mg/L	yes	ICP / ICPMS	B.S. (British Standard)	EPA W05	1506.9	
SWLO	Water	Zinc	discrete	annually				12	µg/L		ICP / ICPMS	B.S. (British Standard)	EPA W05	2.031	

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
Does your site carry out continuous emissions to water/sewer monitoring?	No	Continuous monitoring for TOC is carried out at the inlet to the surface water pond as per licence requirements but not at the emissions point. There is no ELV set in the licence for TOC.

5 **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: W0025-03 Year 2014

Bund testing

dropdown menu click to see options

			Additional information
	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 3.11 of licence requires tank and drum storage areas to be tested. This condition is relevant only to Leachate Tank and Leachate Lagoon.
1			
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?	2	1 bund around leachate tank, 1 storage lagoon
5	How many of these bunds have been tested within the required test schedule?	2	
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-13	Yes	Pass		SELECT	2016	
LG Leachate Lagoon	other (please specify)	Lined and covered lagoon	Leachate	350		Hydraulic test	BS8007	Dec-13	Yes	Pass			2016	
												SELECT		

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

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

bunding and storage guidelines

Pipeline/underground structure testing

	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	No	
1	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**	SELECT	
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)		

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:	W0025-03	Year	2014

			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		A Tier 3 risk assessment for Powerstown Landfill was submitted to the EPA on 29/05/14. This report contains the requirement of the groundwater monitoring template and the conceptual site model.	Groundwater quality results were submitted to the EPA during 2014 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. During Q1 and Q2 2014 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 2014 ammonia levels at GW1 exceeded the GTL and the upper threshold value for ammonia set out in S.I. No 9 of 2010. Ammonia levels at GW8 during Q1 also exceeddded the upper threshold value set out in S.I. No 9 of 2010. There was no exceedances detected during Q2 2014. During Q3 2014 the ammonia level detected at GW1 exceeded the upper threshold value for ammonia set out in S.I. No 9 of 2010. All other results were compliant with their respective complaince values and threshold values. VOC's were detected at GW1 and GW8 during the annual monitoring event.
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	yes	2015	
8	Is there a licence condition to carry out/update ELRA for the site?	yes		
9	Has any type of risk assesment been carried out for the site?	yes	Tier 3 Risk assessment submitted to EPA on 29/05/14	
10	Has a Conceptual Site Model been developed for the site?	yes	contained in Tier 3 Risk Assessment	
11	Have potential receptors been identified on and off site?	yes		
12	Is there evidence that contamination is migrating offsite?	yes		

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
Quarterly 2013	RCA2	Ammonia (as N)		quarterly	0.02	0.01	mg/l	0.175	S.I No 9 2010	no
		chloride		quarterly	21	20	mg/l	187.5	S.I No 9 2010	no
		Dissolved Oxygen		quarterly	96.8	81	% saturation			no
		Conductivity		quarterly	824	780	uS/cm	1875	S.I No 9 2010	no
		pH		quarterly	7.6	7.3	pH units			no
		Temp		quarterly	14.6	11.6	oC			no
		TOC		quarterly	3.6	2.8	mg/l			no
		boron		annually	58		ug/l	750	S.I No 9 2010	no
		cadmium		annually	<0.03		ug/l	3.75	S.I No 9 2010	no
		calcium		annually	47		mg/l			no
		total chromium		annually	<0.05		ug/l	37.5	S.I No 9 2010	no
		copper		annually	<0.05		ug/l	1500	S.I No 9 2010	no
		iron		annually	0.8		ug/l			no
		lead		annually	<0.2		ug/l	18.75	S.I No 9 2010	no
		magnesium		annually	14		ug/l			no
		manganese		annually	0.15		ug/l			no
		nickel		annually	<0.10		ug/l	15	S.I No 9 2010	no
		potassium		annually	1		mg/l			no
		sodium		annually	8		mg/l	150	S.I No 9 2010	no
		zinc		annually	0.02		ug/l			no
		fluoride		annually	<0.10		mg/l			no
		mercury		annually	<0.01		ug/l	0.75	S.I No 9 2010	no
		sulphate		annually	25		mg/l	187.5	S.I No 9 2010	no
		total alkalinity		annually	560		mg/l			no
		Orthophosphate		annually	<1		mg/l			no
		TON		annually	11		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: W0025-03 Year 2014

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
Quarterly 2013	GW8	Ammonia (as N)		quarterly	0.62	Fluctuates between <0.02 and 0.62	mg/l	0.175	S.I No 9 2010	no
		chloride		quarterly	23	23	mg/l	187.5	S.I No 9 2010	no
		Dissolved Oxygen		quarterly	32.7	23.4	% saturation			no
		Conductivity		quarterly	814	754	uS/cm	1875	S.I No 9 2010	no
		pH		quarterly	7	7	pH units			no
		Temp		quarterly	12.4	11.7	oC			no
		TOC		quarterly	2	1.5	mg/l			no
		boron		annually	76		ug/l	750	S.I No 9 2010	no
		cadmium		annually	0.02		ug/l	3.75	S.I No 9 2010	no
		calcium		annually	102		mg/l			no
		total chromium		annually	<1		ug/l	37.5	S.I No 9 2010	no
		copper		annually	<1		ug/l	1500	S.I No 9 2010	no
		iron		annually	76		ug/l			no
		lead		annually	<1		ug/l	18.75	S.I No 9 2010	no
		magnesium		annually	16		ug/l			no
		manganese		annually	7.2		ug/l			no
		nickel		annually	<1		ug/l	15	S.I No 9 2010	no
		potassium		annually	4		mg/l			no
		sodium		annually	11		mg/l	150	S.I No 9 2010	no
		zinc		annually	11		ug/l			no
		fluoride		annually	<0.25		mg/l			no
		mercury		annually	<0.5		ug/l	0.75	S.I No 9 2010	no
		sulphate		annually	39		mg/l	187.5	S.I No 9 2010	no
		total alkalinity		annually	262		mg/l			no
		Orthophosphate		annually	<0.01		mg/l			no
							SELECT			SELECT

*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:	W0025-03	Year	2014

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

			Commentary
1	ELRA initial agreement status	Submitted and not agreed by EPA;	Updated ELRA submitted in September 2014. No Comment back from EPA in relation to this
2	ELRA review status	Review required and completed	Submitted to EPA in September 2014
3	Amount of Financial Provision cover required as determined by the latest ELRA	1,595,200	
4	Financial Provision for ELRA status	Submitted and not agreed by EPA;	Awaiting EPA response
5	Financial Provision for ELRA - amount of cover	1,595,200	
6	Financial Provision for ELRA - type	Other please specify	Letter from Co Manager
7	Financial provision for ELRA expiry date	N/A	
8	Closure plan initial agreement status	Closure plan submitted and agreed by EPA	CRAMP submitted on 29/08/14 and approved by EPA on 08/10/14
9	Closure plan review status	Review required and completed	
10	Financial Provision for Closure status	Submitted and agreed by EPA	
11	Financial Provision for Closure - amount of cover	7,415,618	
12	Financial Provision for Closure - type	Other please specify	Letter from Co Manager
13	Financial provision for Closure expiry date	N/A	

Environmental Management Programme/Continuous Improvement Programme template

Lic No: W0025-03 Year 2014

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 sytem in Cell 17	100	Maintenance of the gas collection system is carried out daily at Powerstown Landfill. Additional vertical and horizontal collection	Individual	Improved Environmental Management Practices
Additional improvements	Refine Landfill Gas Model	100	External Consultants employed to re-define Gas model	Section Head	Provides up to date accurate data in relation to landfill gas generated at the site
Reduction of emissions to Water	Complete Tier 3 Risk assessment to Groundwater	100	Comprehensive Risk assessment prepared and conceptual site model updated	Section Head	Improved Environmental Management Practices
Materials Handling/Storage/Bunding	Review waste acceptance procedure	100	Review completed in relation to procedures for waste acceptance at the site	Landfill Manager	Improved Environmental Management Practices
Energy Efficiency/Utility conservation	Evaluation of practicable options for energy and resource efficiency	100	Energy Audit of site completed and recommendations carried out	Landfill Manager	Improved Environmental Management Practices
Additional improvements	Complete all monitoring as required by W0025-03	100	Compliance monitoring carried out as per monitoring schedule and reports submitted	Individual	SELECT
					SELECT

Noise monitoring summary report

Lic No: W0025-03 Year 2014

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)?
24/10/2014	30 minutes	N4		60	53	64	71	No		Passing and distant traffic	SELECT
	30 minutes		N5	51	43	49	75	No		Distant rumbling noise of quarry operations, passing traffic, passing train, landfill traffic, recycling activities	Yes
	30 minutes		N6	49	42	48	72	No		Distant quarry operations, passing and distant traffic	Yes
	30 minutes		S1	68	58	72	89	No		Passing traffic. 65 vehicles in the first 5 minutes of the survey	Yes
	30 minutes		S2	64	47	59	89	No		Passing and distant traffic	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? N/A

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

Resource Usage/Energy efficiency summary

Lic No: W0025-03 Year 2014

		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 — Uploaded on EDEN 24/09/14
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 — SEAI - Large Industry Energy Network (LIEN)	Yes — 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)	101.39	85.11		
Fossil Fuels Consumption:				
Heavy Fuel Oil (m3)				
Light Fuel Oil (m3)	55.35	55		
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^3/yr):	Volume used i.e not discharged to environment e.g. released as steam m3/yr	Unaccounted for Water:
Groundwater							
Surface water							
Public supply	535	72.87					
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)	118.58			118.58	0
Non-Hazardous (Tonnes)	48275.06	47229.6		1045.46	0

Resource Usage/Energy efficiency summary

Lic No: W0025-03 Year 2014

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: W0025-03 Year 2014

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
09/02/2014	Odour		complaint received re odour	Gas field balanced, Flare fully operational	Complete	Feb-14	
04/03/2014	Odour		complaint received re odour	balancing and de-watering of gas field	Complete	Mar-14	
05/03/2014	Odour		complaint received re odour	Welding of liner to improve gas collection, installation of additional gas wells	Complete	Apr-14	
04/04/2014	Odour		complaint received re odour	Welding of liner to improve gas collection, installation of additional gas wells. Flare Serviced	Complete	Apr-14	
28/08/2014	Odour		complaint received re odour	Additional horizontal gas collection pipework installed, extra cover added	Complete	Sep-14	additional baled waste that could not be exported was being received at this time
30/08/2014	Odour		complaint received re odour	Additional horizontal gas collection pipework installed, extra cover added	Complete	Sep-14	additional baled waste that could not be exported was being received at this time
29/10/2014	Odour		complaint received re odour	balancing and de-watering of gas field	Complete	Oct-14	
26/11/2014	Odour		complaint received re odour	continue to apply cover and manage gas	Complete	Nov-14	
24/11/2014	Odour		complaint received re odour	Extra horizontal line added, extra clay cover applied, gas wells sealed up	Complete	Nov-14	
08/12/2014	Odour		complaint received re odour	continue to apply cover and manage gas	Complete	Dec-14	
	SELECT				SELECT		

Total complaints open at start of reporting year	0
Total new complaints received during reporting year	10
Total complaints closed during reporting year	10
Balance of complaints end of reporting year	0

Complaints and Incidents summary template

Lic No: W0025-03 Year 2014

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 reoccurence
17/01/2014	Breach of ELV	Boundary Gas wells	1. Minor	Air	Other (add details)	Gas migration	Normal activities	EPA	Recurring	continue to manage gas	continue to operate flare	Complete	Feb-14	Medium
06/02/2014	Breach of ELV	Boundary Gas wells	1. Minor	Air	Other (add details)	Gas migration	Normal activities	EPA	Recurring	continue to manage gas	continue to operate flare	Complete	Mar-14	Medium
07/03/2014	Breach of ELV	Boundary Gas wells	1. Minor	Air	Other (add details)	Gas migration	Normal activities	EPA	Recurring	continue to manage gas	continue to operate flare	Complete	Mar-14	Medium
11/02/2014	Trigger level reached	Groundwater well GW1	1. Minor	Water	Other (add details)	unknown	Normal activities	EPA	Recurring	Tier 3 Risk Assessment	Tier 3 Risk Assessment	Ongoing	ongoing	Medium
27/02/2014	Leachate level above 1m	L2	1. Minor	No Uncontrolled release	Plant or equipment issues		Normal activities	EPA	New	pump leachate	pump maintenance	Complete	May-14	Low
06/03/2014	Leachate level above 1m	L2	1. Minor	No Uncontrolled release	Plant or equipment issues		Normal activities	EPA	Recurring	pump leachate	pump maintenance	Complete	May-14	Low
13/03/2014	Leachate level above 1m	L7	1. Minor	No Uncontrolled release	Plant or equipment issues		Normal activities	EPA	New	pump leachate	pump maintenance	Complete	Apr-14	Low
20/03/2014	Leachate level above 1m	L2 and L7	1. Minor	No Uncontrolled release	Plant or equipment issues		Normal activities	EPA	Recurring	pump leachate	pump maintenance	Complete	Apr-14	Low
27/03/2014	Leachate level above 1m	L2 and L7	1. Minor	No Uncontrolled release	Plant or equipment issues		Normal activities	EPA	Recurring	pump leachate	pump maintenance	Complete	Apr-14	Low
11/04/2014	Breach of ELV	Boundary Gas wells	1. Minor	Air	Other (add details)	Gas migration	Normal activities	EPA	Recurring	continue to manage gas	continue to operate flare	Complete	May-14	Medium
09/05/2014	Breach of ELV	Boundary Gas wells	1. Minor	Air	Other (add details)	Gas migration	Normal activities	EPA	Recurring	continue to manage gas	continue to operate flare	Complete	Jun-14	Medium
13/06/2014	Breach of ELV	Boundary Gas wells	1. Minor	Air	Other (add details)	Gas migration	Normal activities	EPA	Recurring	continue to manage gas	continue to operate flare	Complete	Jul-14	Medium
19/06/2014	Trigger level reached	VOC Surface emissions	1. Minor	Air	Operational controls	Gas management	Normal activities	EPA	Recurring	active gas management, additional clay cover	gas management, installation of clay cover	Complete	Sep-14	Medium
30/07/2014	Trigger level reached	Groundwater well GW1	1. Minor	No Uncontrolled release	Other (add details)	unknown	Normal activities	EPA	Recurring	Tier 3 Risk Assessment	Tier 3 Risk Assessment	Ongoing	ongoing	Medium
22/08/2014	Breach of ELV	Boundary Gas wells	1. Minor	Air	Other (add details)	Gas migration	Normal activities	EPA	Recurring	continue to manage gas	continue to operate flare	Complete	Sep-14	Medium
17/09/2014	Breach of ELV	Boundary Gas wells	1. Minor	Air	Other (add details)	Gas migration	Normal activities	EPA	Recurring	continue to manage gas	continue to operate flare	Complete	Oct-14	Medium
29/10/2014	Breach of ELV	Boundary Gas wells	1. Minor	Air	Other (add details)	Gas migration	Normal activities	EPA	Recurring	continue to manage gas	continue to operate flare	Complete	Nov-14	Medium
25/11/2014	Breach of ELV	Boundary Gas wells	1. Minor	Air	Other (add details)	Gas migration	Normal activities	EPA	Recurring	continue to manage gas	continue to operate flare	Complete	Dec-14	Medium
10/12/2014	Breach of ELV	Boundary Gas wells	1. Minor	Air	Other (add details)	Gas migration	Normal activities	EPA	Recurring	continue to manage gas	continue to operate flare	Complete	Dec-14	Medium
18/11/2014	Trigger level reached	VOC Surface emissions	1. Minor	Air	Other (add details)	Gas management	Normal activities	EPA	Recurring	lines set up to de-water automatically, flow rate through flare increased, extra horizontal gas lines installed in cell 17, additional cover applied	continue to manage gas and operate flare	Complete	Dec-14	Medium

Total number of incidents current year	20
Total number of incidents previous year	17
% reduction/ increase	18% increase

WASTE SUMMARY	Lic No:	W0025-03	Year	2014
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*	*3906.22*	*2730.54*				*D15-Storage pending any of the operations numbered D1 to D14*	*0*	
	170504	*Council Clean Up, local developments*	*clay / soil and stones*	*7495.24*	*7398.32*				*R13-Storage of waste pending any of the operations numbered R1 to R12 (excluding temporary storage)*	*approx. 4500*	*Stockpiled for future use for site maintenance / capping*
	190305	*O Toole Composting*	*Stabilised Bio Waste*	*975.68*	*0*				*D15-Storage pending any of the operations numbered D1 to D14*	*0*	*Stabilised bio waste only accepted from May 2014 onwards*
	170101	*Council Clean Up*	*Rubble*	*1078.8*	*3786.1*		*Council procedures in other secions changed in relation to the disposal of Rubble material*		*R13-Storage of waste pending any of the operations numbered R1 to R12 (excluding temporary storage)*	*0*	
	170904	*17- CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES)*	*mixed construction and demolition waste (fines)*	*4790.86*	*0*		*C&D fines were not accepted at the site prior to 2014*		*D15-Storage pending any of the operations numbered D1 to D14*	*0*	*C&D fines approved for use as cover material*
	170506		*dredging spoil*	*418.4*	*0*		*Dredging spoil not accepted previously*		*R13-Storage of waste pending any of the operations numbered R1 to R12 (excluding temporary storage)*	*0*	

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: W0025-03 Year 2014

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	37,000	46,105.68	85,000	191212, 200301, 200303, 200307, 200203
Treated Sludge	500	22.24		190805
C&D	1,000	0		
Industrial Non Haz Solids	1,500	1,101.68		190801, 190802, 190902
	40,000	47,230		

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	Dec-12	No	Public	Non Hazardous	2016	No	No	No	120,000m2	80,000m2	40000m2	Cell 1-6 HDPE only Cell 7-13 composite liner (HDPE, 1m clay) Cell 15-18 composite (HDPE, 0.5 m bentonite)
Cell 17	Jan-13	Jan-15	No	Public	Non Hazardous	2016	No	No	No				
Cell 18	Jan-15		Yes	Public	Non Hazardous	2016	No	No	No				

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	Yes	

.+ 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, a	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					
9,000m2	27,000m2	84,000m2		84,000m2	gas geocomposite 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?

10 Is leachate released to surface water? If yes please complete leachate mass load information below

Yes
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
23329.4							

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

WASTE SUMMARY	Lic No:	W0025-03	Year	2014

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
1,963,575	0	N/A	Yes	

Guidance to completing the PRTR workbook

AER Returns Workbook

REFERENCE YEAR	2014

1. FACILITY IDENTIFICATION

Parent Company Name	Carlow County Council
Facility Name	Powerstown Landfill Site
PRTR Identification Number	W0025
Licence Number	W0025-03

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	Marv Walsh
AER Returns Contact Email Address	mwalsh@carlowcoco.ie
AER Returns Contact Position	Environmental Technician
AER Returns Contact Telephone Number	0599172402
AER Returns Contact Mobile Phone Number	0599172402
AER Returns Contact Fax Number	0599146356
Production Volume	48393.64
Production Volume Units	tonnes
Number of Installations	1
Number of Operating Hours in Year	1400
Number of Employees	10
User Feedback/Comments	Fugitive emissions for methane for 2014 have decreased significantly when compared to the 2013 result. Analysis of results and calculations indicate that the total estimated amount of methane generated, predicted for both years was similar. The installation of horizontal gas collection during 2014, led to an increased capture rate for LFG. The amount of methane flared increased by approx 86% on the figure reported during 2013. Increases were reported in the mass emission of NOx, SOx, HCl and HF. This may have been influenced by the increased flow rates through the flare during 2014. During 2014 Total VOC as TOC was reproted. Previous years reported TOC. Results for CO is <4.7kg/yr.
Web Address	www.carlow.ie

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?	No
Have you been granted an exemption ?	No
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		0.0	0.0	0.0	0.0
08	Nitrogen oxides (NOx/NO2)	M	EN 14792:2005		234.0	234.0	0.0	0.0
11	Sulphur oxides (SOx/SO2)	M	OTH	TGN 21, NDIR Absorption	932.0	932.0	0.0	0.0
01	Methane (CH4)	M	OTH	Total estimated methane generated minus methane flared	0.0	60030.0	0.0	60030.0

* 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
80	Chlorine and inorganic compounds (as HCl)	M	EN 1911-1 to 3:2003		4.81	4.81	0.0	0.0
84	Fluorine and inorganic compounds (as HF)	M	ISO/DIS 15713:2004		6.36	6.36	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	EN12619:2013 Flame Ionisation Detection	8.77	8.77	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)	546497.0	E	MAB	Landgem model	N/A	
Methane flared	486467.0	M	MAB	measured at flare	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)	60030.0	C	MAB	Calculated from prediction n	N/A	

4.2 RELEASES TO WATERS

Link to previous years emissions data

| PRTR# : W0025 | Facility Name : Powerstown Landfill Site | Filename : w0025_2014.xls | Return Year : 2014 | 05/05/2015 11:35

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			
			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

| PRTR# : W0025 | Facility Name : Powerstown Landfill site | Filename : w0025_2014.xls | Return Year : 2014 05/05/2015 11:35

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

3

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	8.6	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	57.8	plastic packaging (bottles & wrapping)	R13	M	Weighed	Offsite in Ireland	Greenstar,WFP -KK-09-0003-01	-,-,-,Kilkenny,Ireland		
Within the Country	15 01 07	No	56.8	glass packaging	R13	M	Weighed	Offsite in Ireland	Rehab Glasco Ltd.,WFP-KE-08-0357-01	-,-,Naas,Co. Kildare,Ireland		
Within the Country	16 01 03	No	4.88	end-of-life tyres	R13	M	Weighed	Offsite in Ireland	Crumb Rubber Ireland Ltd,WFP-LH-10-0005-01	Mooretown,Dromiskin,Dundalk,Co Louth,Ireland		
To Other Countries	16 01 07	Yes	0.68	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	5.68	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	1.82	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	30.68	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	23329.4	landfill leachate other than those mentioned in 19 07 02	D8	M	Weighed	Offsite in Ireland	Mortarstown Waste Water Treatment Plant, D-0028	Carlow,.,.,.,.,Ireland		
Within the Country	20 01 01	No	190.76	paper and cardboard	R13	M	Weighed	Offsite in Ireland	Greenstar,WFP -KK-09-0003-01	-,-,-,Kilkenny,Ireland		
Within the Country	20 01 02	No	34.34	flat glass	R13	M	Weighed	Offsite in Ireland	Greenstar,WFP -KK-09-0003-01	-,-,-,Kilkenny,Ireland		
Within the Country	20 01 08	No	33.88	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	6.66	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	21.76	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	0.8	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	14.7	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	66.6	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	0.24	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	38.0	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	131.02	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	100.3	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	289.94	biodegradable waste	R13	M	Weighed	Offsite in Ireland	Greenstar,WFP -KK-09-0003-01	-,-,-,Kilkenny,Ireland		
Within the Country	15 01 05	No	9.06	composite packaging (tetrapac)	R13	M	Weighed	Offsite in Ireland	Greenstar,WFP -KK-09-0003-01	-,-,-,Kilkenny,Ireland		

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