



EPR Compliance Assessment Report

Report ID: BU0800IZ/0189331

This form will report compliance with your permit as determined by an NRW officer

Site	LLANDDULAS LANDFILL SITE		Permit Ref	BU0800IZ	
Operator/ Permit holder	3C Waste Limited				
Date	17/09/2013	Time in	10:00	Out	14:00
What parts of the permit were assessed	Review of Quarterly Monitoring Reports: 6th of February - 5th of May & 6th of May - 31st of July 2013.				
Assessment	Report/data review	EPR Activity:	Installation	X	Waste Op
Recipient's name/position	Peter Taberner / Unit Manager.				
Officer's name	Aled Zachary		Date issued	28/10/2013	

Section 1 - Compliance Assessment Summary

This is based on the requirements of the permit under the Environmental Permitting Regulations. A detailed explanation and any action you may need to take are given in the "Detailed Assessment of Compliance" (section 3). This summary details where we believe any non-compliance with the permit has occurred, the relevant condition and how the non-compliance has been categorised using our Compliance Classification Scheme (CCS). CCS scores can be consolidated or suspended, where appropriate, to reflect the impact of some non-compliances more accurately. For more details of our CCS scheme, contact your local office.

Permit Conditions and Compliance Summary

Condition(s) breached

a) Permitted activities	1. Specified by permit	N	
b) Infrastructure	1. Engineering for prevention & control of pollution	N	
	2. Closure & decommissioning	N	
	3. Site drainage engineering (clean & foul)	N	
	4. Containment of stored materials	N	
	5. Plant and equipment	N	
c) General management	1. Staff competency/ training	N	
	2. Management system & operating procedures	N	
	3. Materials acceptance	N	
	4. Storage handling, labelling, segregation	N	
d) Incident management	1. Site security	N	
	2. Accident, emergency & incident planning	N	
e) Emissions	1. Air	C3	3.3.5;
	2. Land & Groundwater	C4	3.2.3;
	3. Surface water	A	
	4. Sewer	N	
	5. Waste	N	
f) Amenity	1. Odour	N	
	2. Noise	N	
	3. Dust/fibres/particulates	N	
	4. Pests, birds & scavengers	N	
	5. Deposits on road	N	
g) Monitoring and records, maintenance and reporting	1. Monitoring of emissions & environment	A	
	2. Records of activity, site diary, journal & events	N	
	3. Maintenance records	N	
	4. Reporting & notification	A	
h) Resource efficiency	1. Efficient use of raw materials	N	
	2. Energy	N	

KEY: C1, C2, C3, C4 = CCS breach category (* suspended scores are marked with an asterisk),
A = Assessed (no evidence of non-compliance), N = Not assessed, NA = Not Applicable

Number of breaches recorded

2

Total compliance score
(see section 5 for scoring scheme)

4.1

If the Total No Breaches is greater than zero, then please see Section 3 for details of our proposed enforcement response

Section 2 – Compliance Assessment Report Detail

This section contains a report of our findings and will usually include information on:

- the part(s) of the permit that were assessed (e.g. maintenance, training, combustion plant, etc)
- where the type of assessment was 'Data Review' details of the report/results triggering the assessment
- any non-compliances identified
- any non-compliances with directly applicable legislation
- details of any multiple non-compliances
- information on the compliance score accrued inc. details of suspended or consolidated scores.
- details of advice given
- any other areas of concern
- all actions requested
- any examples of good practice.
- a reference to photos taken

This report should be clear, comprehensive, unambiguous and completed within 14 days of an assessment.

We have reviewed the following quarterly monitoring reports required by Condition 4.2.2 of the Permit: Llanddulas Landfill site quarterly environmental monitoring report 6th February 2013 to 5th of May 2013 and 6th of May 2013 to the 31st of July 2013.

Groundwater.

Requirements - Condition 3.6.1(c) requires monitoring of groundwater quality as per tables S4.4 & 4.10 of the permit. Condition 3.2.3 states that the trigger levels for emissions into groundwater shall not exceed the levels set out in S.4.4.

Findings - GWBH4 failed the permit limit for potassium on the 4th of July 2013 (14mg/l verses the permit limit of 12mg/l). No other determinants failures were noted on this day from this borehole or for the rest of the monitoring periods, so it is not assumed to be evidence of any contamination from landfilling operations. This borehole has historically breached potassium levels with the onset of a spring tide, suggesting influence of the groundwater in this area by marine groundwaters.

The above has been scored a category 4 CCS breach as a result.

The operator should continue to monitor for any notable changes in groundwater quality and consider varying the permit limit for potassium in this groundwater borehole.

In Waste Gas.

Requirements - Condition 3.1.2 requires limits in schedule 4 of the permit shall not to be exceeded. Table S.4.7 requires an assessment of air ingress into the gas management system where Oxygen levels exceed 5%, or where the addition of carbon dioxide and methane percentages is less than 80%.

Findings - It is noted that Oxygen levels at individual gas wells regularly exceed 5% during both monitoring periods, data from individual wells suggests that the gas extraction system is not being managed correctly and that in-waste gas readings are not being acted upon, examples of this are evident in the tables below:

- Gas well C135 regularly exceeded 5% oxygen during the monitoring period, yet continued to receive extraction:

C135	CH4	CO2	H2S	LFG-Bal	O2	Rel Press	Val Adj	Val Pos
19/02/2013	3.2	20.9	94	62.1	14.5	-93.8	10	10
05/03/2013	1	8.7	0	74.8	17.9	-90.07	10	10
20/03/2013	18.1	26.7	117	51.6	4.7	-97.65	10	0
12/04/2013	1.1	6.4	2	73.7	18.8	-90.05	0	0
29/04/2013	21.3	28	122	48.4	2.3	-4.84	0	0
11/06/2013	2.7	14.8	0	67.8	16.2	-86.98	5	5
26/06/2013	26.5	23.6	0	49.9	0.5	-83.27	1	10

(cont.)

- Gas well B83 is showing signs of methane enrichment and high negative pressures. This suggests that the well is blocked with perched leachate and little real flow:

B83	CH4	CO2	H2S	LFG-Bal	O2	Rel Press	Val Adj	Val Pos
21/02/2013	65.5	36.8	24	0	0.9	-86.77	20	20
27/03/2013	66.3	37.4	23	0	0.9	-81.64	20	20
05/04/2013	65.8	36.6	5	0	0.1	-81.63	5	5
02/05/2013	65.4	35.6	3	0	0	-87.01	5	5

- Gas well D185R shows a similar trend to the above, with a positive gas pressure also recorded on the 23/07/13:

D185R	CH4	CO2	H2S	LFG-Bal	O2	Rel Press	Val Adj	Val Pos
27/02/2013	59.7	32	126	5.9	2.4	-71.29	0	0
05/03/2013	55.2	24.7	0	16.2	3.9	-92.27	10	10
04/04/2013	53.1	30.9	19	12.2	3.8	-80.31	5	5
19/04/2013	61.1	33.3	14	4.2	1.4	-89.32	10	10
01/05/2013	63.4	33.3	19	2.7	0.6	-84.57	5	5
15/05/2013	21.4	9.3	3	54.1	15.6	-108.41	5	5
30/05/2013	63.8	32.9	0	3.1	0.7	-87.69	10	20
27/06/2013	66.3	31.6	1	3.1	0.2	-85.1	10	20
23/07/2013	67.1	34.4	>	0	0.4	-70.34	10	10

- Gas Well D227 shows three occasions with > 5% oxygen is recorded, yet is shown to be still under extraction:

D227	CH4	CO2	H2S	LFG-Bal	O2	Rel Press	Val Adj	Val Pos
27/02/2013	9.8	8.4	18	65.8	18.7	-73.66	0	20
25/04/2013	52.7	35.7	0	9.8	1.8	-96.31	5	5
15/05/2013	58.7	39.6	1	1.3	0.4	-93.06	5	5
13/06/2013	1.2	3.7	0	74.2	20.9	-89.22	10	10
19/06/2013	16	12.7	0	56	15.3	-83.94	5	5
08/07/2013	52.3	33.2	0	15	2.2	-87.19	2	5
24/07/2013	40.5	29.4	254	25.4	6	-79.22	1	5

- Gas Well D241 exhibits data consistent with the well drawing in air, yet continues to receive extraction for the whole monitoring period:

D241	CH4	CO2	H2S	LFG-Bal	O2	Rel Press	Val Adj	Val Pos
09/05/2013	0.6	4.1	485	81.8	17.2	-89.2	20	20
21/05/2013	0.9	3.1	1	75.7	20.5	-87.69	5	5
13/06/2013	3.4	5.5	0	72.5	20.4	-88.93	10	10
28/06/2013	4.6	4.1	0	71.8	19.5	-85.61	5	5
09/07/2013	0	4.2	0	77	20.6	-85.67	1	5
23/07/2013	2.9	2.2	311	75.9	19	-78.73	0	5

The above data only represents a small extract of wells within the monitoring submitted; there are a number of other wells that exhibit similar concerning data trends, such as high relative pressures, methane enrichment, high oxygen levels etc.

The above gas balancing data was subsequently discussed at a meeting held between NRW and FCC Staff and their contractors (Infinis) on the 28/10/13.

It was clarified that the above findings are a result of how the balancing data is imported from the GARD system used by Infinis for operating the gas extraction system and presented into the quarterly monitoring format for submission. Further data is available demonstrating that the gas wells are being balanced appropriately and that any gas wells showing non-complaint readings are acted upon by Infinis and 3C Waste Ltd.

Action - As a result a summary of all the balancing data and remedial actions for the above wells should be submitted. Future quarterly monitoring reports should include an addendum of the information from GARD so that balancing data can be interpreted more thoroughly and any exceptions investigated.

The above data has not been scored as a breach of the permit requirements for these monitoring submissions as a result.

Fugitive Emissions Monitoring.

Requirements - Condition 3.3.5 states the limits for landfill gas arising from the installation shall not exceed the limits set in table S.4.11. Flame Ionisation Detector (FID) surveys are required to be conducted monthly at the site boundary and in the immediate vicinity of gas and leachate well heads and monitoring points.

Findings - FID surveys carried out during the monitoring period 6th of February - 5th of May found a total of 53 breaches of the 1000ppm permit limit for fugitive methane emissions.

FID surveys carried out during the monitoring period 6th of May - 31st of July found a total of 36 breaches of the 1000ppm permit limit for fugitive methane emissions, with the survey carried out on 16th of July only showing 7 points exceeding this limit.

Identification and remediation of fugitive emissions has improved over the course of the monitoring period as a result of new procedures introduced since March. There is an encouraging reduction in the amount and frequency of breaches towards the latter end of the most recent monitoring submission as a result.

****The breaches for monitoring period 6th Feb - 5th May will not be scored as these were recorded during the audit carried out on the 15/03/13. The breaches for monitoring carried out for the period 6th May - 31st July have been suspended as this breach was also documented during the technical landfill gas review carried out on the 23-24/07/13. Although it is recognised that there has been an improvement in reducing fugitive emissions, some reoccurring point sources breaching permit limits still remain.***

Lateral Migration of Gas.

Requirement - Condition 3.1.2 Schedule 4, S4.5 requires Methane concentrations in perimeter boreholes to be less than 0.5% above background.

Findings - There are no breaches of permit limits in perimeter monitoring boreholes for this monitoring period.



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Operator/ Permit	3C Waste Limited	Date	17/09/2013

Section 3- Enforcement Response

Only one of the boxes below should be ticked

You must take immediate action to rectify any non-compliance and prevent repetition.

Non-compliance with your permit conditions constitutes an offence and can result in criminal prosecutions and/or suspension or revocation of a permit. Please read the detailed assessment in Section 2 and the steps you need to take in Section 4 below.

Other than the provision of advice and guidance, at present we do not intend to take further enforcement action in respect of the non-compliance identified above. This does not preclude us from taking enforcement action if further relevant information comes to light or advice isn't followed.

In respect of the above non-compliance you have been issued with a warning. At present we do not intend to take further enforcement action. This does not preclude us from taking additional enforcement action if further relevant information comes to light or offences continue.

X

We will now consider what enforcement action is appropriate and notify you, referencing this form.

Section 4- Action(s)

Where non-compliance has been detected and an enforcement response has been selected above, this section summarises the steps you need to take to return to compliance and also provides timescales for this to be done.

Criteria Ref.	CCS Category	Action Required/Advised	Due Date
See Section 1 above			
E1	C3	Any emission points identified above 1000ppm should be investigated and appropriate repair or sealing work carried out to prevent future reoccurrence.	31/10/13
E2	C4	The operator should continue to monitor for any notable changes in groundwater quality and consider varying the permit limit for potassium in this groundwater borehole.	N/A

Section 5 - Compliance notes for the Operator

To ensure you correct actual or potential non-compliance we may

- advise on corrective actions verbally or in writing
- require you to take specific actions in writing
- issue a notice
- require you to review your procedures or management system
- change some of the conditions of your permit
- decide to undertake a full review of your permit

Any breach of a permit condition is an offence and we may take legal action against you.

● We will normally provide advice and guidance to assist you to come back into compliance either after an offence is committed or where we consider that an offence is likely to be committed. This is without prejudice to any other enforcement response that we consider may be required.

● Enforcement action can include the issue of a formal caution, prosecution, the service of a notice and or suspension or revocation of the permit.

See our Enforcement and Civil Sanctions guidance for further information

This report does not relieve the site operator of the responsibility to

- ensure you comply with the conditions of the permit at all times and prevent pollution of the environment
- ensure you comply with other legislative provisions which may apply.

Non-compliance scores and categories

CCS category	Description	Score
C1	A non-compliance which could have a major environmental effect	60
C2	A non-compliance which could have a significant environmental effect	31
C3	A non-compliance which could have a minor environmental effect	4
C4	A non-compliance which has no potential environmental effect	0.1

Operational Risk Appraisal (Opra) - Compliance assessment findings may affect your Opra score and/or your charges. This score influences the resource we use to assess permit compliance.

Section 6 – General Information

Data protection notice

The information on this form will be processed by the Natural Resources Wales (NRW) to fulfill its regulatory and monitoring functions and to maintain the relevant public register(s). The NRW may also use and/or disclose it in connection with:

- offering/providing you with its literature/services relating to environmental matters
- consulting with the public, public bodies and other organisations (e.g. Health and Safety Executive, local authorities) on environmental issues
- carrying out statistical analysis, research and development on environmental issues
- providing public register information to enquirers
- investigating possible breaches of environmental law and taking any resulting action
- preventing breaches of environmental law
- assessing customer service satisfaction and improving its service
- Freedom of Information Act/Environmental Information Regulations request.

The NRW may pass it on to its agents/representatives to do these things on its behalf. You should ensure that any persons named on this form are informed of the contents of this data protection notice.

Disclosure of information

The NRW will provide a copy of this report to the public register(s). However, if you consider that any information contained in this report should not be released to the public register(s) on the grounds of commercial confidentiality, you must write to your local area office within twenty working days of receipt of this form indicating which information it concerns and why it should not be released, giving your reasons in full.

Customer charter

What can I do if I disagree with this compliance assessment report?

If you are unable to resolve the issue with your site officer, you should firstly discuss the matter with the officer's line managers. If you wish to raise your dispute further through our official Complaints and Commendations procedure, phone our general enquiry number 0300 065 3000 (Mon to Fri 08.00–18.00) and ask for the Customer Contact team or send an email to enquiries@naturalresourceswales.gov.uk. If you are still dissatisfied you can make a complaint to the Public Services Ombudsman for Wales. For advice on how to complain to the Ombudsman phone their helpline on 0845 607 0987.