

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

Site	Docksway Landfill	Permit Ref	DP3733BK	
Operator/Permit holder	Newport City Council			
Regime	Installations			
Date of assessment	23/06/2016	Time in	10:30	Out 15:00
Assessment type	Report/Data Review			
Parts of the permit assessed	Fugitive emissions			
Lead officer's name	Willey, David			
Accompanied by	Ward, Tyrone			
Recipient's name/position	Jonathan Davey/ Site Manager	Date issued	13/07/2016	

Section 1 – Compliance Assessment Summary

This is based on the requirements of the permit under the Environmental Permitting Regulations or the licence under the Water Resources Act 1991 as amended by the Water Act 2003. A detailed explanation is captured in "Compliance Assessment Report Detail" (Section 2) and any actions you may need to take are given in the "Action(s)" (section 4). 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	CCS Category	Condition(s) breached
B1 - Infrastructure - Engineering for prevention and control of emissions	C3	3.3
D2 - Incident Management - Accidents, emergency and incident planning	C3	1.2

KEY: See Section 5 for breach categories, suspended scores will be indicated as such.
A = Assessed or assessed in part (no evidence of non-compliance), **X** = Action only,
O = Ongoing non-compliance, not scored.

Number of breaches recorded	2	Total compliance score (see section 5 for scoring scheme)	8
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If the Number of breaches recorded is greater than zero, please see Section 3 for 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 (eg. 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 advice given
- Any other areas of concern
- Any actions requested
- Any examples of good practice
- A reference to photos taken

Docksway site visit – 23rd June 2016

ACTION: Please could NCC / INFINIS provide the gas compound readings (gas quality and flow) on the date of the survey.

ACTION: Please could NCC / INFINIS provide the last 3 months well balancing data for analysis.

An emissions review survey was undertaken by Ty Ward and David Willey with Jonathan Davey from NCC. The scope of the assessment was to identify potential releases of methane. The initial assessment involved a random walkover of the site with the use of a Gazomat Inspectra TDL analyser . The results of which can be seen in the below tables.

Overview

The survey highlighted issues with the gas infrastructure as well as health and safety for the sites workers. These need to be actioned to ensure improved gas extraction and to minimise releases of landfill gas. Hydrogen sulphide has health and safety implications on site as well as having the potential to have an impact on the local community due to the odorous nature of the gas.

Site	Docksway Landfill Permit EPR/DP3733BK	Date	23 rd June 2016	Time	in:	10:30
					out:	15:00
Instrument	Gazomat Inspectra TDL (Serial No.: 110210)	Test gas reading	-	Time	-	
Next Calibration due	22 nd January 2017	Background d reading	1.7ppm	Time	10:55	
Weather conditions:	Dry, part cloud, wind speed variable.			Atm. Press.	1010m b	
Survey Undertaken by:	Ty Ward / Dave Willey					

General comments / observations

This Technical Review follow up is being carried out as a key part of Natural Resources Wales' strategy to reduce methane emissions from landfill sites in Wales. The objectives of the site review include being operated and maintained so as to maximise gas collection efficiency and minimise fugitive landfill gas emissions. Treating the gas in a manner that minimises point source emissions.

An ATEX certified, Gazomat Inspectra Laser Methane Analyser was used to perform emissions testing at the site. Surface capping, seams and structures on the site were randomly tested in order to establish potential sources of methane egress. A description is given at selected points where raised levels of methane were detected.

Officers were accompanied by Jonathan Davey of Newport CC.

Results and notes from monitoring survey

Reference	Location /cell	Methane		Description / Comment
		%	ppm	
1	1	0.4		Rodding points. West Area 2.
2	1	1.7 – 2.1		Three leachate extraction wells. West Area 2. Readings from around pipework at ground level.
3	1		24	Leachate well No.2
4	2	0.1		Leachate well No.2
5	2	0.6		Leachate well to south of Area 2 whilst leachate being extracted
6	2		33	Leachate plume from chamber where leachate being extracted
7	1		<10	Monitoring taken over permanent capped area
8	1			Leachate well 3 NAF
9	1		38	Taken from seal of leachate well 3. Boot area.
10	1		<10	Capped area
11	1			Readings high and area red carded. Gas well 3 appears to have a leak and under positive pressure.
12	1			Gas well ref. 1009. Well turned on. NAF General note that the pipework had good fall in this area.
13	1		770	Gas well feeding gas well 1009. 50% on. Gas well is next to 1009. NAF
14	1	0.1		Ref. 1006. Under positive pressure with associated H&S concerns
15	1		20-600	Uncapped area.
16	1			Leachate well turned off. Corner phase 1 from boot area.
17	1			Gas well in corner 50% on NAF
18	1			1002 damaged NAF
19	1			Phase 1 next area to be tipped. Needs gas extraction.
20	2			Needs gas extraction
21	2		10 - 31	Valley feature as above
22	2		50	Bubbling leachate / puddle
23	2		12	Surface area phase 1
24	2		170	Downward plume 21? One looked at before
25	2	0.3		Base of well 21
26			300	Well 21
27			61	Valve leak
28				1607 NAF
29			42 – 50/88	East side bank. Gas being pushed out of the side of the landfill uncapped area.
30			115	1502 gas well

31			500 / 530	Near 1502, south of 1502. No extraction, negative pressure
32		5		Leachate extraction 3 (east side)
33		7.5		Leachate extraction 1 (east side)
34			25	Cables in chamber – piezometer.
35		12.4		Leachate well 2
36			25	NE corner area 2 / ambient levels
37			35	North flank ambient
38			17	North flank surface uncapped
39			37	North flank surface uncapped
40			218	Leachate well north flank. At base.
41			NAF	Gas well 1505
42		0.5		Gas well 1506
43			600	Surface North Flank near 1506
44			150	Surface North Flank south of 1506
45			50	Ambient north flank
46			78	Valley, bubbling through water, uncapped – see photo

The results of the survey highlight some extraction issues. Those that require immediate attention are referenced 11, 13, 14, 16, 17, 18, 19, 26, 27, 28, 31, 32, 33 and 35. These are discussed in more detail below.

Methane is a major constituent of landfill gas and has a global impact as a greenhouse gas. The gas management systems at a landfill site must minimise the total emissions of methane to the atmosphere.

Reference location 11

Readings were high and area red carded. H₂S alarm was triggered. Gas well 3 appears to have a leak and under positive pressure and there is no apparent flow (NAF). Gas is not being drawn into the wells and is leaking out of the side of the site itself. LF08_07 could be perched therefore impacting on the gas collection.

ACTION: In cell 1, gas wells XX recorded levels of XX methane with associated strong odour. These wells appeared to be under positive pressure with a visible plume. Please can you arrange for these to be investigated as a matter of urgency, and either repaired or replaced. An associated strong odour was detected in the surrounding area, and we advised that operational staff and visitors should avoid this part of the site until negative pressure can be resumed. Taken in total, this area represents a significant fugitive emission and is a main source of odour (**Infinis**)

Long term exposure limit (8 hours) for hydrogen sulphide is 5ppm

Short term exposure limit (15 minutes) for hydrogen sulphide is 10ppm

ACTION: Infinis to investigate the health, and provide timelines for completing any works, of gas well 3 and the other gas wells in this area.

ACTION: A random inspection of gas extraction wells revealed several had no apparent flow. Please can you provide the last 3 month's balancing data for analysis (NCC/Infinis)

ACTION: Infinis to provide update plans for leachate wells and gas wells and ensure that the wells are clearly signed.

General note that the pipework had good fall in this area.

Considered a category 3 breach of permit condition 3.3 Fugitive emissions of substances where there has been fugitive releases of methane as a result of issues with the gas collection infrastructure.

Reference location 13

Gas well feeding gas well Ref.1009. 50% on. Gas well is next to 1009. NAF and a reading of 770ppm.

ACTION: Infinis to investigate the health, and provide timelines for completing any works, of gas well Ref. 1009 and associated pipework.

Reference location 14

Ref. 1006. Under positive pressure with associated H&S concerns

ACTION: Infinis to investigate the health, and provide timelines for completing any works, of gas well Ref. 1006.

Reference location 16

Leachate well turned off, located at the corner phase 1 from boot area.

ACTION: Infinis to investigate why this leachate well was turned off.

Reference location 17

Gas well in corner 50% on with NAF.

ACTION: Infinis to investigate the health, and provide timelines for completing any works, of the gas wells in the south west area of Area 2.

Reference location 18

Well Ref.1002 damaged NAF.

ACTION: Infinis to investigate and fix the gas well Ref.1002.

Reference location 19

Cell 1 next area to be tipped. Needs gas extraction.

ACTION: There is a large area of cell 1 where there is no gas extraction at all (this includes a flat valley feature) Action **NCC/Infinis/NRW** to discuss further, including filling sequence, improving local profiles and timing for the next round of gas extraction wells.

ACTION: NCC to demonstrate how gas extraction will be incorporated into the current tipping area as well as ensuring there is good fall from the wells.

ACTION: NCC to look into removal or a reduction of the valley feature which may, under certain metrological conditions, act as a confined space. Also recommend that landfill workers who are on the open tipping area are provided with H2S monitors at all times.

Reference location 26

ACTION: Infinis to investigate the health, and provide timelines for completing any works, of gas well 21.

Reference location 27

ACTION: Infinisto investigate and fix the valve leak at Well 21.

Reference location 28

ACTION: Condensate blockages were found in transmission pipe-work low points for wells the cell2 east flank; please investigate and improve falls (Infinis)

ACTION: Infinis to investigate the health, and provide timelines for completing any works, of gas well Ref. 1607.

Reference location 31

Near 1502, south of 1502. No extraction, negative pressure

ACTION: Infinis to investigate the health, and provide timelines for completing any works, of gas wells Ref. 1502.

Reference location 32

Leachate extraction point 3 on the east side of the site had monitored methane levels of 5%. The Landfill Technical Guidance Note 03: Guidance on the management of landfill gas states, *Methane is a flammable gas, with a calorific value of 35.9 MJ/m³, which forms explosive mixtures with air when present between the concentration limits of 4.4 per cent and 16.5 per cent v/v at 20°C and 1 atmosphere pressure. These limits are known as the lower explosive limit (LEL) and upper explosive limit (UEL) of methane, or the upper and lower flammable limits, respectively.*

ACTION: NCC to ensure that all employees are aware that no naked flames are permitted in this area.

Considered a category 3 breach of permit condition 1.2 Accidents that may cause pollution where there is the potential for explosion as a result of the high methane levels. Controls need to be implemented through the AMP and associated signage on site.

Reference location 33

Leachate extraction point 3 on the east side of the site had monitored methane levels of 7.5%.

ACTION: NCC to ensure that all employees are aware that no naked flames are permitted in this area.

Reference location 35

Leachate extraction point 3 on the east side of the site had monitored methane levels of 12.4%.

ACTION: NCC to ensure that all employees are aware that no naked flames are permitted in this area.

The site has undertaken litter picks on the road around near phase 1 and looks in good condition. NCC now have a dedicated team to undertake these litter picks. NCC will continue these litter picks around the North side of Area 2.

Whilst undertaking the survey the water discharge point SW26 was clear and free from any obstructions.

The leachate well chambers have had work undertaken on them to limit the amount of LFG released as well as improving health and safety when leachate samples are taken. Photos below are some examples of the wells before and after the work.

Figure one



With the waste input changing from municipal waste more fines from trommels are being accepted to site that contain gypsum. This gypsum produces H₂S in surface emissions. Due to the current profile of the landform gas migration is typically lateral, with higher readings obtained on the uncapped flanks. These lateral emissions are likely to be the main source of odour from the site. Capping of these areas will ensure that more gas can be captured and odour impact reduced.

NCC confirmed that capping of Phase 1 will be undertaken this year (2016).

ACTION: Please could NCC provide the timelines for the capping in Area 2?

A follow up survey is to be arranged using Archer GPS for emissions mapping (**NRW**)

Waste returns

The CAR Form confirms receipt of the waste returns for the period January to October to March 2016.

END

EPR Compliance Assessment Report

**Report ID:
CAR_NRW0023762**

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

Site	Docksway Landfill	Permit Ref	DP3733BK
Operator/Permit holder	Newport City Council	Date	23/06/2016

Section 3 – Enforcement Response

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.

Section 4 – Action(s)

This section summarises the actions identified during the assessment along with the timescales for when they will need to be completed.

Criteria Ref.	CCS Category	Action required/advised	Due Date
See Section 1 above			
D2	C3	Controls need to be implemented through the AMP and associated signage on site.	30/09/2016
B1	C3	Ensure gas infrastructure in working order	30/09/2016

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 verbally or 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 that 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 fulfil 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 (eg. 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
- Assessing customer service satisfaction and improving its service
- Freedom of Information Act/Environmental 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 fifteen 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 officer's line managers using the informal appeals procedure. 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.

Welsh Language

If you would like this form in Welsh please contact your Regulatory Officer.