

Compliance Assessment Report

Report ID:
CAR_NRW0031266

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

Site	Brookhill Landfill Site EPR/AP3739KS	Permit Ref	AP3739KS		
Operator/Permit holder	Flintshire County Council				
Regime	Installations				
Date of assessment	20/02/2017	Time in	N/A	Out	N/A
Assessment type	Audit				
Parts of the permit assessed	All Below				
Lead officer's name	Ellis, Rhys				
Accompanied by					
Recipient's name/position	Paul Murphy, Harvey Mitchell, / Site Manager. Streetscene Manager	Date issued	24/02/2017		

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
C1 - General Management - Staff competency/training	C3	1.1.1
E1 - Emissions - Air	X	
E2 - Emissions - Land and groundwater	C3	3.1.5
F3 - Amenity - Dust/fibres/particulates and litter	X	
G1 - Monitoring and Records, Maintenance and Reporting - Monitoring of emissions and environment	C3	2.7.1
G4 - Monitoring and Records, Maintenance and Reporting - Reporting and notification to Natural Resources Wales	C4	3.5.1 4.2
H2 - Resource Efficiency - Energy efficiency	X	

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	4	Total compliance score (see section 5 for scoring scheme)	12.1
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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

G4) Reporting and notifications.

Thank you for providing your monthly and quarterly monitoring results.

This report reviews the monitoring reports submitted for October - December 2016 as part of the Quarterly and monthly reporting and the annual reporting requirements.

Unfortunately the required information was late being submitted (submitted 10th February 2017). Please note that condition 4.2.4 references the need to submit reports of the monitoring and assessments carried out in accordance with the conditions of this permit.

There was also a delay in Landfill gas lateral migration parameters as required by 3.5.1 which should be submitted monthly. Data for November were not received until January 2017.

As a result of the late submission a CCS4 has been noted.

C1- General Management

A CCS breach of 3 has been recorded against Permit condition 1.1.1. Permit condition 1.1.1 stipulates that the activities shall be carried out using sufficient competent person and resources. Relevant staff should ensure that reporting of information is submitted on time. Please ensure that procedures are also updated to ensure that monitoring and notifications are submitted on time.

E1 - Emissions to air

Flare and gas engine

Your monitoring reports conclude that monitoring of the emissions from the flare and landfill gas engine was carried out on the 6th of May 2016. Engine and flare exhaust were both sampled for oxides of nitrogen (as NO₂), carbon monoxide CO), Volatile organic compounds(VOCs as carbon), moisture and oxygen in accordance with the requirements in Table S4.2 in the Environmental permit.

Concentrations of NO₂ for both flare and engine were below their respective compliance limits. The CO concentration at the engine was above the emission limit value (1500mg(N)m⁻³) with a concentration of 1648 mg (N)m⁻³ and a +/- 65 estimate of uncertainty. VOC concentrations at the engine was also above the emission limit value (1750mg(N)m⁻³) with a concentration of 1835 mg(N) m⁻³ and a +/- 65 estimate of uncertainty.

Although technically this is a breach of condition 3.1.2, by adding the additional uncertainty to the measurement uncertainty (referencing Guidance for monitoring landfill gas engine emissions) of 30% for nitrogen oxides and 40% for VOC you are within maximum uncertainty. No breaches are being noted.

Your reports stipulates that the CO and VOC were below the emission limit at the flare.

In November 2016 you did notify Natural Resources Wales that you were having issues with your gas engine at Brookhill Landfill Site and that you decided to downsize and install a temporary smaller hired 400kW unit, the smaller unit should be able to operate at nearer its optimum running capacity thereby making it more efficient. You advised that this engine should be up and running by end of December to early January 2017.

ACTION 1

Please can you provide an update on the installation process. Can you also confirm if there are any emission testing data for this new engine? Please respond no later than 31st March 2017. It may be prudent to undertake an emission test in line with your permit to substantiate a baseline as soon as possible.

G1) Monitoring of emissions and environment

Leachate levels.

The leachate levels in the majority of monitoring wells have generally remained within trigger. Although there is a marginal exceedance with Cell 1, the trends seem to be decreasing and in December 2016 was 0.07 over the trigger limit. Although there is an exceedance in Cell 5 in October the leachate levels have improved in November and December to an extent that they are now marginally below the trigger levels.

Due to the breach in trigger levels with Cell 5 a CCS3 breach has been noted against permit condition 2.7.1.

ACTION 2

- Please can you provide an explanation to the decrease trend specifically in R1 and R5?
- In regards to cell 5 your data comments that its 'dry', however a head of 2.96 is reported in both November and December, please can you provide more information in regards to this.

ACTION 3

- Please ensure that all current leachate chamber depths are reported on an annual basis as required to ensure reported leachate levels are correct. (this is a permit requirement under table S3.8 of your permit).

ACTION 4

You advised that you have instructed SGG (who service your pneumatic pumps on Brookhill) to install new independent counters on your leachate chambers and that you have instructed SGG to remove pumps from R1 and R5 in order to hard dip the chambers, so you can verify the depth to base are correct.

- As above depth to base should be reported annually. Please can you provide a summary of these findings together with raw data to support your findings. Please provide this by 31st march 2017.

ACTION 5

It has been highlighted in previous CAR forms that NRW is still awaiting a report about the recharge rate of leachate across the site, and information about the amount of leachate pumped from the cells (especially cell 5 and 1). Please can you provide an update on this, including the work that SGG are currently undertaking.

E1 Emissions to Land and Groundwater

Groundwater depth and quality monitoring was carried out as required by the permit. The levels of Chloride and Ammoniacal Nitrogen were consistently breached in boreholes GW2A, GW3A and GW4 with concentrations continuing to fluctuate. Maximum concentrations of ammoniacal nitrogen in GW2A, GW3A and GW4 were 14.4mg/l, 64.8mg/l and 44mg/l respectively.

Exceedance of the Environmental permit for chloride were also observed in GW2A, GW3A and GW4 during the review period. Maximum chloride concentrations were 136mg/l, 160mg/l and 96mg/l respectively.

Maximum ammoniacal nitrogen concentrations in the remaining locations ranged between <0.2 mg/l in GW6 and 23.3mg/l in GW8.

Chloride concentrations in locations with no environmental permit limits ranged between a minimum of 30.5mg/l in GW6 and a maximum of 365 mg/l in GW1.1. As in previous review period, chloride concentrations in GW1.1 remained relatively high throughout the review period.

According to your report no xylenes or toluene were detected in any of the locations, where's last quarters reported confirmed the detection of Toluene.

It is acknowledged that historic readings have shown constant breaches in these groundwaters (specifically Chloride and Ammoniacal Nitrogen), and that you have sent a schedule 5 recently notifying of this (dated 12th October 2016). The schedule 5 does stipulate that ongoing GW investigation to discover cause is being undertaken and that you will be in consultation with NRW to have these limits raised as part of the closure plan.

Due to the breach of permit limit in regards to trigger levels or emissions into groundwater a CCS3 breach has been noted against permit condition 3.1.5.

ACTION 6

Please provide a timescale for submissions of the Hydrogeological risk assessment (HRA) and closure plan no later than 31st March 2017.

As previously discussed a Hydrological risk assessment is still required. The groundwater trigger levels will be reassessed as part of the HRA review.

It is important that you look into these matters as soon as possible to enable the potential discussions of re evaluating trigger levels to proceed to avoid further breaches of your permit occurring.

F3) Amenity- Dust /fibres/Particulates.

Dust monitoring was undertaken between the 09/12/2016 to the 09/01/2017 as required by the permit.

Deposited dust concentration was slightly above the permit trigger level at location 2 only. Your report states that this is likely to be an anomaly as an algae bloom was observed in the water sample. You confirmed that currently no operations at the closed landfill site that would likely result in dust emissions.

Natural Resources Wales will review next quarter's results to confirm if this was an anomaly.

Landfill gas from capped surfaces .

Condition table S3.6 stipulates that on permanently capped area should be monitored for Average methane flux using flame ionisation detector walkover , flux box method.

You have provided a report detailing a FID detector walk over and that indicates one point source emission (R1B) OF 5000PPM. Please can you confirm what actions has been taken in regards to this emission.

ACTION 7

Please also confirm the date of the last Quantitative flux box survey which are required every 4 years. Please respond no later than 31st March 2017.

Landfill Gas

In waste Boreholes.

Data collected between the 1st January 2016 and 31st December 2016 is summarised in appendix 1 of your annual report.

In accordance with you permit condition table Table S3.7 it stipulates that where oxygen levels exceed 5% v/v an assessment of air ingress into the system shall be undertaken. Looking at Appendix 1 of your annual report it appears that a number of wells exceed this value e.g GV13 reports a average value of 12% ,

In addition where the concentration of carbon monoxide exceeds 100ppm further investigation should be undertaken it is noted that GV15 is one that has had exceedances with a max value of 911 ppm

ACTION 8

Please can the site detail any investigations or findings relating to the above and forward your reply no Later than 31st March 2017.

Topographical survey

Condition 4.2.3 (d) request the topographical surveys required by condition 3.5.3 other than those submitted as part of the CQA validation report and condition 4.2.3 (f) requests for an assessment of the settlement behaviour of the landfill body based on the difference between the most recent topographical survey and previous annual topographical survey for the areas of the landfill which did not receive waste between the surveys.

ACTION 9 Natural Resources Wales do not appear to have received the above reports for 2016. Please can you confirm if these have been completed and if so please forward to Natural Resources Wales.

Annual Production/Treatment

It appears that by comparing 2015 data with this year's data it seems there has been a substantial decrease in combustion of landfill gas in the engines from 1.6 million cubic meters to 148,855. This would indicate approximately 10 times reduction.

The same applies to the flare which has gone down from 657000 to 55537 cubic meters .

ACTION 10 Is this a reporting error? Please clarify no later than 31st March 2017.

EPR Compliance Assessment Report

**Report ID:
CAR_NRW0031266**

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Site	Brookhill Landfill Site EPR/AP3739KS	Permit Ref	AP3739KS
Operator/Permit holder	Flintshire County Council	Date	20/02/2017

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.

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.

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			
E1	X	Respond to Action 7 and	31/03/2017
F3	X	Review next quarters results to confirm if this was an anomaly.	30/06/2017
G1	C3	Bring leachate levels down within limits and respond to Action 2 , 3 , 4 and 5.	31/03/2017
C1	C3	Ensure that relevant site personnel are aware of the permit requirement in regards to monitoring, reporting and notifications. Ensure that relevant procedure within the EMS are reviewed.	24/02/2017
G4	C4	Please ensure that relevant monitoring and review of results and reporting is undertaken within the timescales stipulated in permit.	24/02/2017
H2	X	Please refer to action 10	31/03/2017
E2	C3	Refer to Action 6.	31/03/2017

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.