

Compliance Assessment Report

Report ID:
CAR_NRW0031976

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	27/07/2017	Time in	14:40	Out	16:40	
Assessment type	Audit					
Parts of the permit assessed	All Below					
Lead officer's name	Ellis, Rhys					
Accompanied by	Ross, Stuart,McClymont, James					
Recipient's name/position	Paul Murphy, Harvey Mitchell, Paul Murphy/ Site Manager, Streetscene Manager	Date issued	15/08/2017			

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
C2 - General Management - Management system and operating procedures	C3	1.1.1
E1 - Emissions - Air	C3	3.1.1
E2 - Emissions - Land and groundwater	C3	3.1.1
G4 - Monitoring and Records, Maintenance and Reporting - Reporting and notification to Natural Resources Wales	C3	4.3.1

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	5	Total compliance score (see section 5 for scoring scheme)	20
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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

This report covers a site visit on the 16th June following a recent complaint of a gaseous odour possibly coming from the landfill Site Incident notification reference WIRS 1703051 (dated 13th June 2017) and an email received from Garry Nancarrow- Manager (Minerals & Waste) Flintshire County Council (dated 15th June 2017) and a subsequent visit to site on the on the 27th July 2017.

This report also reviews the emissions testing data for the engine unit and flare stack, as required by Action 1 of CAR form NRW0031266 (003) and analysis of Trace landfill gas at Brook hill Landfill site (5th April 2017).

Emissions testing data for the engine (Dated 4th and 5th April 2017) R17136

We note that the emissions testing data for the engine unit concludes that NO₂ levels appear low (158 against a limit of 500 mg/Nm³) and the carbon monoxide appears to be low having a value of 733.

It is acknowledged that VOC have exceeded but the results are compliant when the measurement uncertainty is applied.

Emissions testing data for the Flare (Dated 4th and 5th April 2017) R17136

NO₂ emissions for the flare stack has been breached with a value of 178.8 over 150. Please note that no Part A and B Notification was not received notifying NRW of this breach (Please refer to G4 Reporting and Notifying)

ACTION 1: Please investigate this breach and report back with findings by 22nd September 2017.

Analysis of the Trace Landfill Gas (5th April 2017)

We make note from the report that Benzene and Toluene in the Trace Gases are high. This may be a concern if gas is unburnt in the process of engine combustion or is released in the form of raw gas.(i.e venting or migrating gas).

Visit/inspection to site on the 16th June 2017 and 27th July 2017.

As a result of recent reports of gas odours, on the 16th June regulatory officers walked between the landfill gas compound close to the Hammer-head by Custom Precision Joinery on Catheralls Industrial Estate and all along the footpath following the palisade security fencing to the old Railway line. Weather was sunny, dry and warm. No odour was detected, the flare was operational.

Officers proceeded to site and met with site operative who took us to the site compound. At the time of the inspection we were advised that the engine on site was running at around 300kw with the remaining gas diverted to flare. The reason the engine was not running at full capacity was the fact that the site had ran out of coolant for the engines.

It was explained to officers that on the 15th of June 2017 the Flare had been venting for two hours as it wouldn't ignite, this occurred 14:00 in the afternoon. The cause of the venting in summary was as a result of the ignitor on the flare not working which resulted in a manual switch by the site operative to vent the gas to atmosphere. The venting will be covered in more detail below. The reason for the diversion of gas to the flare was as a result of a water pump failure on the engine.

E1 – Emission to air – CCS 3.

The following breaches of permit conditions for emission to air have been noted in this CAR from -

Condition 3.1.1 -As explained above there has been a point source emission to air that is not listed in schedule 3 tables S3.2 and S3.3 of the permit as a result of venting unburnt gas through the flare for 2 hours.

Condition 3.1.1 Table S3.2 Emissions testing data for the concludes an emission breach in regards to NO₂. A value of 178.8 over

an emission limit value of 150

Condition 3.1.1 table S3.2 It has also come to our attention that in November 2016, the best NO₂ reading the engine could provide was 5000. This is 10 times the Emission limit value of the permit

A CCS Score of 3 has been applied on this occasion.

G4 Reporting and notifications to EA – CCS 3

Natural Resources Wales did not receive a timely Schedule 5 Notification for the venting episode and no notification for the NO₂ breach in relation to the Flare (Dated 4th and 5th April 2017) and NO₂ emission breach in relation to the engine in November 2016 This is a breach of permit condition 4.3.1 which stipulates that Natural Resources Wales shall be notified without delay following the detection of any malfunction, breakdown or failure of equipment , or emission of a substance not controlled by an emission limit which has caused , is causing or may cause significant pollution. A subsequent notification has been submitted.

ACTION 2- In regards to the above please can the site submit a schedule 5 (Part A and B) for the NO₂ breach in relation to the Flare (Dated 4th and 5th April 2017) and the extremely high NO₂ readings noticed by Cory Environmental Resource management (November 2016)

A CCS 3 has been noted on this occasion.

C1 – Staff Training – CC3 3

Permit Condition 1.1.1 (b) of permit has been breached.

Lack of training and awareness by staff of operational procedure has contributed to a breach of a permit condition (Emission of unburnt gas and failure to notify NRW). There was a failure to follow operational procedures such as instruction number ENVWI/6 (Flarestack monitoring and maintenance) . There was also a failure to inform Natural Resources Wales of breaches noted under G4.

A CCS 3 has been noted on this occasion.

ACTION 3: Relevant site staff should be trained and refreshed on relevant procedures and records should be maintained (Especially Flare monitoring and maintenance procedure ENVWI/6 and reporting and notification)

C2 Management system – CC3 3

Poor management procedures are identified as one of the root causes of the breach noted against permit condition 3.1.1 which stipulates that there shall be no point source emission to water, air or land except from sources and emissions points listed in schedule 3 tables S3.2 and S3.3. The site has emitting raw gas through a point source to atmosphere without being burnt by the flare for an unacceptable period of time of 2 hours, this gas release has risks associated with it such as explosion and health and safety risk (Particularly due to the proximity of sensitive receptors nearby). It also must be noted that from your recent trace gas analysis dated (5th April 2017) compounds such as Benzene and Toluene are high.

ACTION 4: The current procedures needs updating in order to ensure compliance with permit conditions, especially in regards to the operation of the flare and to avoid venting of unburnt gas and also to ensure the safe management of landfill gas.

Your procedures should include but not limited to,

* Detailed contingency measures/procedures in the event where flare fails. (Detailing exactly how the operator will be notified, when and what actions will be taken). This should include the arrangement between YLEM and the site operator.

*Contingency measures for utilisation of candle flare (If site deem this as an option in emergency and safe to use)

* It the flare is run off mains , will there be a standby generator in case of power failure?

* Is there a contingency to Hire a Flare in?

* There needs to be a process flow diagram explaining clearly the chain of event from engine going down to flaring. This flow diagram should include what happens when flare goes down and the procedures and actions that the site should follow)

Please can the site review this procedure and submit the revised version no later than 22nd September 2017.

ACTION 5

Please submit your most up to date Gas management Plan no later than 22nd September 2017

B5 Plant and equipment

Flare and associated gas management infrastructure.

A Flare on site has failed to ignite upon failure of gas engine, resulting in an unauthorised gas emission contrary to permit condition 3.1 and 2.9.

You advised that the cause of the failure was a Igniter electrode failure, which you advised has not been a common occurrence on this flare. You have also advised that you have now ordered a spare igniter electrode on site.

The flare is maintained by BioGas and is under a regular quarterly service contract and a copy of the quarterly service quote was provided.

ACTION 6

The information provided in the quote mentioned above does not detail what is actually serviced. Please can site confirm what is checked, serviced and maintained. (Specifically the flare and associated infrastructure including standby candle flare) Please also confirm if this recorded and if so, please supply this information.

If necessary please update EMS to reflect maintenance schedule and details of what is serviced and maintained and forward a copy of this section to Natural Resources Wales no later than 22nd September 2017.

ACTION 7: It has also become apparent that the Manometer needs recalibrating and also the gas flow reader for the incoming gas from the landfill site needs re calibrating. Please can you confirm when this will be undertaken. It is crucial that these measure gas flow accurately.

Gas engine failure and replacement

The site has confirmed that the engine was offline between 18th November 2016 and 2nd March 2017 and in the interim all gas was flared. Natural Resources Wales view this as a long period of time and lost opportunity to recover energy.

It appears from correspondence and from indications such as engine consuming 4 times more oil than normal, high NO₂ emissions (of which were not reported to Natural Resources Wales) and ash build up that the engine was struggling.

As a result of this, the engine had to be replaced and gas from site had to be flared for more than 3 months.

In addition to this it is also noted from your emissions testing data for the flare stack (see below) that NO₂ emissions were high, burning gas for such a long period has increased NO₂ emissions from site.

To avoid a similar situation occurring in future it is important that the operator manage and operate the activities in accordance with a written management system that identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances and also using sufficient persons and resources.

Actions and attention should have been given sooner to the deteriorating engine which in turn would have helped to minimise the amount of downtime of engine and the duration that gas was burnt by the flare.

It is concerning that the site are still having issues with the engine, as demonstrated on the 16th June the site again were flaring some of the gas due to the fact that there was no coolant on site.

Although this could have been a subcontractor's responsibility in ensuring supplies on site this failure again ultimately falls under a failure of the site's overall management system and critical parts remit.

ACTION 8

Please can the site provide the following information

- Run time of the new engine
- Percentage downtime of the new engine
- * Maintenance schedule of the engine
- * Control of contractors procedures
- Number of hours the flare has been running
- Maintenance schedules for the new engine.
- The lift of the booster

Please can the site submit this information no later than 22nd September 2017

Other matters

E2- Emission to ground.

On the visit on the 16th June 2017 It was noted that sweepers were being washed by the weighbridge. Washings were flowing along the surface and soaking into ground above the canteen/office portacabin. Further conversation with the operator confirmed that all effluent should be flowing towards the old waste transfer pad where there is a sump.

Condition 3.1.1 stipulates that there should be no point source emissions to land except from the sources and emissions listed in schedule 3 tables S3.2 and S3.3.

As a result of unauthorised discharge of contaminated water to ground a CCS score of 3 has been applied.

You have subsequently advised that sweeper drivers not to use the weighbridge area and only use the transfer pads to wash down sweeper waste.

ACTION 9. Please can you forward the most up to date drainage plan for both waste transfer pads including areas around the weighbridge etc. Please can you provide these no later than 22nd September 2017.



N.B

Subsequent visit was undertaken on the 27th July 2017. The aim of the visit was to gather further information on gas management (particularly the flare compound and gas engine compound)

Samples were taken from gas main (post blower) at the flare compound and by the engine and also a sample taken from the main gas main (Negative pressure).

Sampling was performed with a calibrated Geotechnical Instruments GA2000+

Operator confirmed that engine during time of visit was running at 400KW,
Manometer reading – 250NM3/ HR

Location	Post Blower near gas compound (positive pressure)	Near the engine (positive pressure)	Mains negative
Temperature	70		
CH ₄	57.7 %	56.7%	57.3%
CO ₂	39.3 %	39%	39.6%
O ₂	00.3 %	02.5%	0.3%
BAL	2.7%	01.5	2.7%
H ₂ S	17PPM	24PPM	32PPM
CO	4PPM	5PPM	9PPM
Pressure			-8.8 to 8.9

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EPR Compliance Assessment Report

**Report ID:
CAR_NRW0031976**

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	Date	27/07/2017

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			
G4	C3	Operator to ensure that they comply with the reporting requirements with immediate effect	28/07/2017
E1	C3	Avoid emission of unburnt gas and bring emission values within permit compliance limits.	28/07/2017
E2	C3	Stop discharge immediately and refer to actions in CAR form.	22/09/2017
C1	C3	Site on staff to be made aware of relevant procedures and refresher training to be undertaken	22/09/2017
C2	C3	The current flare stack monitoring and maintenance procedure needs updating in order to improve procedures to ensure compliance with permit conditions (See actions)	22/09/2017

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.