

Compliance Assessment Report CAR_NRW0037179

Permit being assessed: FP3232KG.

For: Cardiff East Wastewater Treatment Works CHP Facility, held by Dwr Cymru

Cyfyngedig

At: Dwr Cymru Welsh Water, Rover Way, Cardiff, Cardiff, CF24 2RX.

Type of assessment carried out: Site Inspection, Reason: Routine.

On 25/11/2020 between 09:00 and 13:20.

Parts of permit assessed: As detailed

NRW Lead Officer: Toby Griffiths, accompanied by Mostyn Wall.

Report sent to: Keith Harris, Operations Supervisor on 01/12/2020.

1. Summary of our findings (full details in section 4)

Part of permitted activity assessed (criteria)	Assessment result	Permit condition
B4 - Infrastructure - Containment of stored materials	Assessed (A)	
B1 - Infrastructure - Engineering for prevention and control of emissions	Action only (X)	
G4 - Monitoring and Records, Maintenance and Reporting - Reporting and notification to Natural Resources Wales	Action only (X)	
G4 - Monitoring and Records, Maintenance and Reporting - Reporting and notification to Natural Resources Wales	C4 No impact	4.3.2
G4 - Monitoring and Records, Maintenance and Reporting - Reporting and notification to Natural Resources Wales	Action only (X)	
E2 - Emissions - Land and groundwater	C3 Minor	3.1.1
D1 - Incident Management - Site security	Assessed (A)	
B5 - Infrastructure - Plant and equipment	Assessed (A)	

Result types are explained in more detail in the 'Important Information' section below.

Total number of non-compliances recorded	Total non-compliance score
2	4.1

How we use the non-compliance score to calculate your annual fee is explained in the 'Important Information' section below.

2. What action is required?

Criteria	Action needed	Complete by
B1	Action #1. NRW considers that repairs to the flare should expedited to ensure proper performance and that emissions	30/12/2020

Criteria	Action needed	Complete by
	are within those specified in the permit. Please confirm timelines and proposals with NRW.	
G4	Action #2. Please provide an update on progress with the monitoring and assessment at A9.	30/12/2020
G4	Action #3: With reference to permit conditions 4.3.1 – 4.3.7, please confirm that the arrangements for notifying NRW of incidents / exceedances have been updated in site procedures.	30/12/2020
G4	Action #4. Please notify NRW if any supply issues occur due to Brexit. (Date is for tracking only)	30/03/2021
E2	No action required.	Already completed

Action criteria codes are listed in the 'Important information' section below.

3. What will happen next?

Any non-compliance we have identified and recorded on this form is an offence. It can result in criminal prosecution and/or suspension or revocation of your permit.

You are non-compliant with your permit.

At this time, we are issuing you with a warning for the non-compliance recorded above. Warnings may influence future enforcement response for continued or further non-compliance.

This statement does not stop us from taking additional enforcement action if further relevant information comes to light or offences continue.

4. Details of our assessment

Visit of 25th November 2020

DCWW: Gavin Stephens, Keith Harris, Faye Ward
NRW: Toby Griffiths, Mostyn Wall

1. Introduction

Due to Covid-19 the compliance visit was carried out after a review of risk assessments and a site induction. The visit was conducted using social distancing, and PPE when required; mask, gloves, eye protection, hi-viz, safety boots, Crowcon gas monitor. Mostyn Wall was introduced as the interim site compliance officer for NRW, and a permanent officer will be assigned in the New Year. The visit was routine, and also to allow the new officer to familiarise with the site. Other items were discussed as below:

2. Last CAR form actions

The last CAR form was issued on 29th June 2020 in response to the annual returns reporting, but also recapped on some of the actions from the last compliance visit in February 2018. These actions were reviewed as follows (referred to as A1, A2, A3):

Additional comments were provided by Andrew Dixon (AD) of DCWW by email on the 24th November 2020 which are summarised below.

*A1: Please amend the "Performance 1" report to reflect the flare burner operation as a percentage of plant operation. **Complete.***

*A2: Please submit a report on the performance of the flare, including a review of how flare temperature affects CO emissions so that NRW can agree appropriate temperature limits. **Ongoing.***

AD Comments: The Waste Gas Burner operation in 2017 has been reviewed internally and is in our investment priority list. Modifications would only now be made to the asset were funding to become available or there to be further issues with the asset. 2017 was an abnormal year for its operation, hence the Part A and Part B notifications and subsequent investigation. It does not normally operate for anywhere near the 10% threshold within our permit;

NRW Comments: We recognise that 2017 may have been an unusual year for the flare operation, however, even when operating below <10% of the time, the flare still needs to perform correctly and achieve the ELVs in the permit. This would include maintaining the temperature at >1000 C which is a permit requirement. Table 3.1 allows for alternative temperatures to be agreed with NRW if it can be shown that the other ELVs (CO, SO₂ and NO_x) can be met at the lower temperature. We have not received a report which demonstrates that the ELVs can be met at the current level of performance. During the visit, the flare unit was noted to be in very poor condition and supported by scaffolding. This indicates that maintenance has not been addressed for some time. As DCWW already plan to repair/replace the unit, NRW has not recorded a non-compliance at this point. However, the flare was seen to be operating during the visit as 2 of the gas engines were offline. This indicates that the flare is still regularly used and should be repaired as soon as possible to avoid permit non-compliance.

Action #1. NRW considers that repairs to the flare should expedited to ensure proper performance and that emissions are within those specified in the permit. Please confirm timelines and proposals with NRW.

*A3: Please provide an update on the current status of the monitoring, impact assessment and associated report for the siloxane plant (Permit ref Table S1.3). This is an impact assessment for A9 emissions. **Ongoing.***

AD Comments: The Siloxane Removal System is to be tested by Environmental Compliance in December. There have been two attempts to sample the stack since we last corresponded but due to its design this proved problematic for the testing company.

*NRW Comments: Your points are noted. **Action #2.** Please provide an update on progress with the monitoring and assessment at A9.*

*Action 4: Please provide the reports for permit condition 4.2.2(a) for 2019. **Ongoing.***

AD Comments: As I have previously stated, NRW are provided a summary of plant performance within the annual permit return. I do not believe there is any further action for

DCWW in this instance.

NRW Comments: For 2019 we accepted the summary given on the annual return (performance 1 form) as the submission for condition 4.2.2(a). However, we usually expect a separate document with more detail included, such as a review of emissions data trends, maintenance, progress with EMS targets relating to the AD / CHP and comments on efficiency trends, water and raw material use etc. NRW acknowledges that you have covered some of this in the 2019 response, so for 2020 (submission by 31st Jan 2021) it would be a matter of expanding on this, noting that it should not be a large document.

3. WT BREF – progress.

The permit review for the Waste Treatment BREF is underway. As with other DCWW assets in Wales, the provision of secondary / tertiary containment will be a priority area to address. NRW has a separate meeting on 2nd December to discuss this and other matters relating to the review.

NRW notes that permit condition 3.2.3 already requires that all liquids which may cause pollution should have secondary containment, unless there are alternative measures in place which would achieve a similar level of protection. We recommend that the review should refer to the methodology in Ciria C736 which includes a risk assessment based on the source - pathway - receptor model. NRW noted that the seaward side of the site next to the digesters has limited protection should there be a large spill. This will need to be considered in the review.

4. Foaming incident 10th August 2020

DCWW provided an incident review as part of the Schedule 5 response in August 2020. The incident was briefly reviewed by NRW during the site visit and is summarised as follows.

A power fluctuation from the grid during stormy weather caused a control unit to fail, which prevented the digester mixing, recirculation and feed pumps from re-starting. One of the digesters had a higher loading of digestate to allow routine maintenance of the second digester. The combination of the higher loading and the failure of the pumps meant that foam began to generate and fill the air space at the top of the tank. The lack of spare control unit on site led to a delay in re-starting the pumps manually. Foam was able to leave the top of the digester and instead of flowing out through the usual bell mouth weir, the lightweight foam was blown by winds onto the site boundary and onto the nearby coastal path. This was cleaned up by DCWW and the impact was considered minor.

During a power fluctuation of this type, a “trip” of the plant would signal a variety of alarms in the control room SCADA system, which are addressed in order of priority. DCWW considered that the alert for the pumps being offline would be one of many to address. In addition, DCWW stated that the lack of mixing does not inevitably lead to foaming, but the higher loading of the tank was a contributory factor. It was stated that the pumps were routinely taken offline in sequence for maintenance, however in this case, both pumps were offline.

Since the incident, actions taken by DCWW include:

- Retaining critical spares on site to prevent delays should a similar issue arise again.
- Foaming potential is checked during the regular health check samples of the digesters
- The tanks have high level alarms, but these are designed for liquid rather than foam
- Foam is visually checked via the sight glass on the digesters
- Updating notification requirements in procedures

There were delays in the reporting of the incident to NRW due to a lack of clarity on the correct route. Notification arrangements are being updated to ensure the correct department of NRW are informed by DCWW. The following contact information is recommended:

- Incident hotline 03000 653000 (24hrs). This will ensure the issue is logged and passed to the correct team for their attention.
- Follow up information such as Schedule 5 form should be emailed to:
The site officer (e.g. Mostyn Wall) and CC to:
industryregulation.southcentral@cyfoethnaturiolcymru.gov.uk
Elizabeth.Parr@cyfoethnaturiolcymru.gov.uk

At this stage, NRW considers that there are two non-compliances in relation to the incident.

3.1.1 – As there was an unplanned emission to land. This is considered minor (Category 3) and would primarily affect the amenity value of the coast path. The clean up will have prevented any ongoing issues. [No ongoing actions]

4.3.2 – the Schedule 5 notification should have been sent within 24hrs of the incident. Category 4 (no impact) [see Action #3]

Action #3: With reference to permit conditions 4.3.1 – 4.3.7, please confirm that the arrangements for notifying NRW of incidents / exceedances have been updated in site procedures.

There remain some queries over the delays in placing the pumps into manual mode, particularly as the foam was visible at the digester weir box. NRW will send further questions regarding the foaming incident to determine root causes and any learning points.

5. Site tour

A site tour of all the main process areas was undertaken including, the Cambi units, siloxane removal unit, the CHP engines, the digesters, gas holders and flare. Only one gas engine was running due to maintenance. The flare was also running – and was noted to be in poor condition [Action #1]. No other issues were noted, although spill containment is due to be discussed with DCWW in December as part of the Waste Treatment BREF permit review.

6. Brexit Preparations

The impact of Brexit was discussed to gauge the potential impact on the operations. DCWW have an internal Brexit steering group and are part of the UK wide water industry body preparing for Brexit. DCWW commented that they see no potential problems in their supply chain as the polymer flocculants used on site are produced in the UK.

Action #4. Please notify NRW if any supply issues occur due to Brexit.

Actions Summary

Action #1. NRW considers that repairs to the flare should expedited to ensure proper performance and that emissions are within those specified in the permit. Please confirm timelines and proposals with NRW.

Action #2. Please provide an update on progress with the monitoring and assessment at A9 (Siloxane plant).

Action #3: With reference to permit conditions 4.3.1 – 4.3.7, please confirm that the arrangements for notifying NRW of incidents / exceedances have been updated in site procedures.

Action #4. Please notify NRW if any supply issues occur due to Brexit.

Please provide a response to the actions by **30th December 2020**.

END.

If you have any queries about this report, or to discuss completion of any actions, please contact the NRW Officer named above.

Important information

Legal status of this report

Your permit is issued to you under the Environmental Permitting Regulations. You have a responsibility to comply with the conditions of your permit and prevent pollution/harm of the environment. You must also ensure that you comply with any other relevant legislation that may apply to your site's operations.

This report explains the findings of our assessment and any action you are required to take. We categorise non-compliance using our guidance for assessing non-compliance at regulated sites.

When we find potential non-compliance/s we will normally give you advice on how to maintain compliance.

To correct non-compliance, we may:

- require you to take specific actions
- issue a notice
- review the conditions of your permit.

Any advice and guidance we give will be without prejudice to any other enforcement response that we consider may be required.

Assessment results and non-compliance categories (used in section 1):

Assessment result	Description
Assessed (A)	Assessed or assessed in part, no evidence of non-compliance found
Action only (X)	Action only relating to the activity assessment
Ongoing (O)	Ongoing non-compliance, not scored

Non-compliance category	Description	Score
C1 Major	Potential to have a major, serious, persistent and/or extensive impact or effect on the environment, people and/or property	60
C2 Significant	Potential to have a significant impact or effect on the environment, people and/or property	31
C3 Minor	Potential to have a minor or minimal impact or effect on the environment, people and/or property	4
C4 No environmental impact	Non-compliance at a regulated site that cannot foreseeably have any impact on the environment, people and/or property	0.1

How we use assessment scores

The number and severity of non-compliances recorded in a year will affect your annual subsistence fee the following year. A non-compliance factor is added to your site's Operator

Performance Risk Appraisal (OPRA) score when we calculate your fee to reflect the additional resource we use to assess permit compliance.

What are suspended scores?

In line with our guidance, we may suspend scores for up to six months to allow time for remedial action to be taken. Suspended scores will be re-instated if the action is not completed.

Full list of Industry and Waste action criteria (used in section 1 and 2):**A: Permitted activities**

- A1 Specified by permit

B: Infrastructure

- B1 Infrastructure – Engineering for prevention and control of emissions
- B2 Infrastructure – Closure and decommissioning
- B3 Infrastructure – Site drainage engineering (clean and foul)
- B4 Infrastructure – Containment of stored materials
- B5 Infrastructure – Plant and equipment

C: General management

- C1 General management – Staff competency/training
- C2 General management – Management system and operating procedures
- C3 General management – Materials acceptance
- C4 General management – Storage, handling, labelling and segregation

D: Incident management

- D1 Incident management – Site security
- D2 Incident management – Accidents, emergency and incident planning

E: Emissions

- E1 Emissions – Air
- E2 Emissions – Land and groundwater
- E3 Emissions – Surface water
- E4 Emissions – Sewer
- E5 Emissions – Waste

F: Amenity

- F1 Amenity – Odour
- F2 Amenity – Noise
- F3 Amenity – Dust/fibres/particulates and litter
- F4 Amenity – Pests/birds and scavengers
- F5 Amenity – Deposits on road

G: Monitoring and records, maintenance and reporting

- G1 Monitoring and records, maintenance and reporting – Monitoring of emissions and environment
- G2 Monitoring and records, maintenance and reporting – Records of activity, site diary/journal/events
- G3 Monitoring and records, maintenance and reporting – Maintenance records
- G4 Monitoring and records, maintenance and reporting – Reporting and notification to Natural Resources Wales

H: Resources efficiency

- H1 Resource efficiency – Efficient use of raw materials
- H2 Resource efficiency – Energy efficiency

Enforcement response

Any permit condition non-compliance is an offence and we may take legal action against you. Action we take can include prosecution, serving a notice on you and/or suspension or revocation of your permit. See our Enforcement and Sanctions Guidance for further information.

Data protection notice

You should make sure that anyone named in this report knows that the information it contains will be processed by Natural Resources Wales to fulfil its regulatory and monitoring functions and to maintain the relevant public register(s).

We may also use and/or disclose the report in connection with:

- offering or providing you with our literature or 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
- assessing customer service satisfaction and improving our service
- Freedom of Information Act or Environmental Information Regulations requests.

We may also pass it on to our agents or representatives to do these things on our behalf.

Disclosure of information – this report will be available to view on-line

If you think this report contains commercially confidential information that should not be placed on our public register, you must contact your local Natural Resources Wales office within **fifteen working days** of receiving this report, using the contact details in the accompanying email or letter. You must give a full explanation of why it should not be added to our public register, including specifying which information is commercially confidential. We will assess your request and respond to you within 20 working days to let you know if we agree to your request.

What do I do if I disagree with the report or have a complaint?

If you disagree with this compliance assessment report, you should contact the lead officer without delay to discuss your concerns.

If you are unable to resolve the issue with the lead officer or their line manager you should contact our Customer Contact team on 0300 065 3000 (Monday to Friday 08:00 – 18:00), or email enquiries@naturalresourceswales.gov.uk for details of how to raise your dispute further through our Complaints and Commendations procedure.

If you are dissatisfied with our response, you can contact the Public Services Ombudsman for Wales by phone on 0300 7900203 or by email at ask@ombudsman.wales

Welsh Language Standards

We are committed to establishing Natural Resources Wales as a naturally bilingual organisation. We will provide compliance reports in your preferred language.