

Compliance Assessment Report CAR_NRW0044090

Permit being assessed: BP0275401

For: Cardigan WwTW (STW) Cardigan Settled Storm, held by DWR CYMRU CYFYNGEDIG
At: End of Netpool Rd, Cardigan, Dyfed, SA43 1PA.

Type of assessment carried out: Report/Data Review, Reason: Routine.

On 23/08/2023.

Parts of permit assessed: 2.1.1 and 2.3.1

NRW Lead Officer: Bethan Lewis.

Report sent to: CARS mailbox, CARS mailbox, on 07/05/2024.

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

Part of permitted activity assessed (criteria)	Assessment result	Permit condition
WQ-B3 - Water Quality - Operations - Operating techniques	C2 Significant	2.1.1 and 2.3.1

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

2. What action is required?

Criteria	Action needed	Complete by
WQ-B3	Explain why incoming flows between 31/10/2022-04/02/2023 and 11/03/2023-14/04/2023 were diverted to the storm tanks when conductivity levels suggest full treatment would have been suitable.	02/07/2024

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.

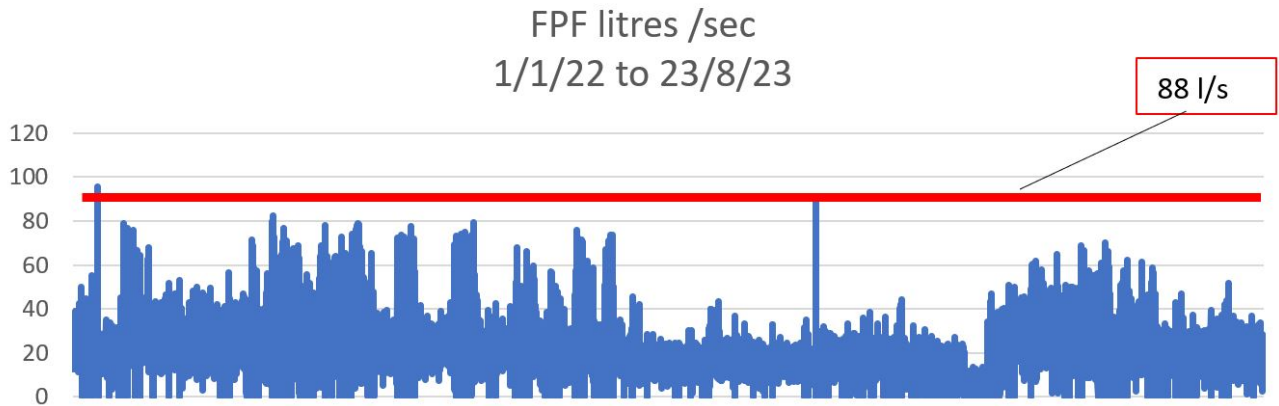
You are non-compliant with your permit.

We are currently considering taking enforcement action against you for the non-compliance recorded above. We will contact you in due course.

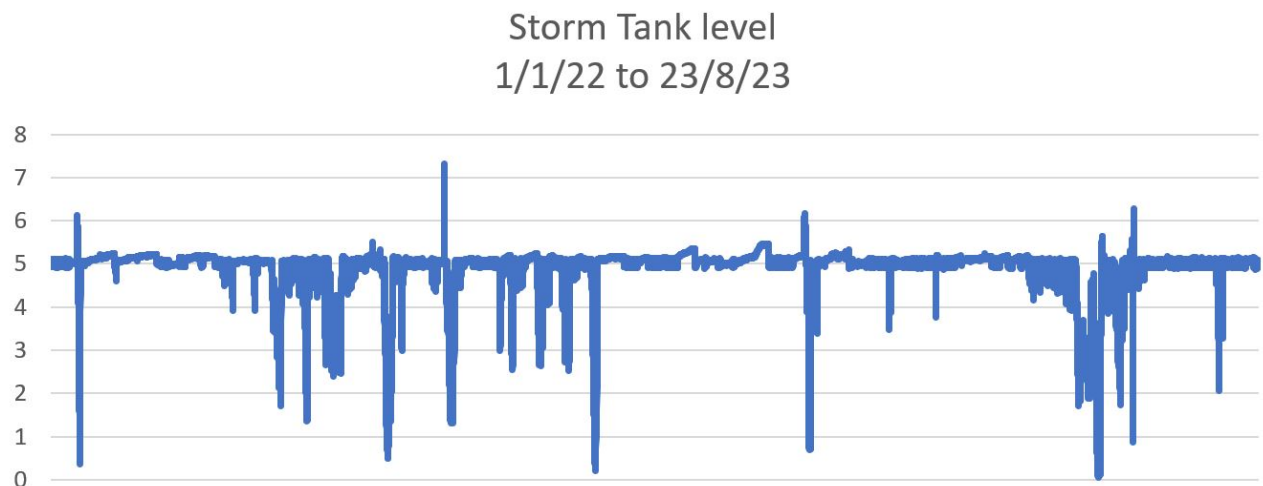
4. Details of our assessment

On the 23 August 2023, Natural Resources Wales (NRW) requested Event Duration Monitoring (EDM) spill block times, storm tank levels and Flow Passed Forward (FPF) data for Cardigan Wastewater Treatment Works (WwTW) covering the period between the 01 January 2022 and 23 August 2023. This data was received on 23 October 2023. NRW later requested further EDM spill and conductivity data for Cardigan WwTW to cover the same period. This additional data was received on 30 November 2023.

The FPF, or flow to full treatment, is graphed below for the whole period between 01 January 2022 and 23 August 2023. The red line represents 88l/s which is the flow required by Cardigan's storm permit BP0275401 to be treated prior to flow being sent to the storm tanks.



Storm tank 3 levels which represent all storm tank levels at Cardigan WwTW is graphed for the same period below.



The graph above demonstrates that flow entered the storm tanks on multiple occasions between 01 January 2022 and 23 August 2023. Analysis of the FPF data shows that there were only five readings, amounting to 75 minutes, where FPF was 88l/s or greater. There were therefore multiple breaches of condition 2.3.1 as below throughout the period in question.

2.3 Operating techniques

2.3.1 For the discharge specified in table S3.3:

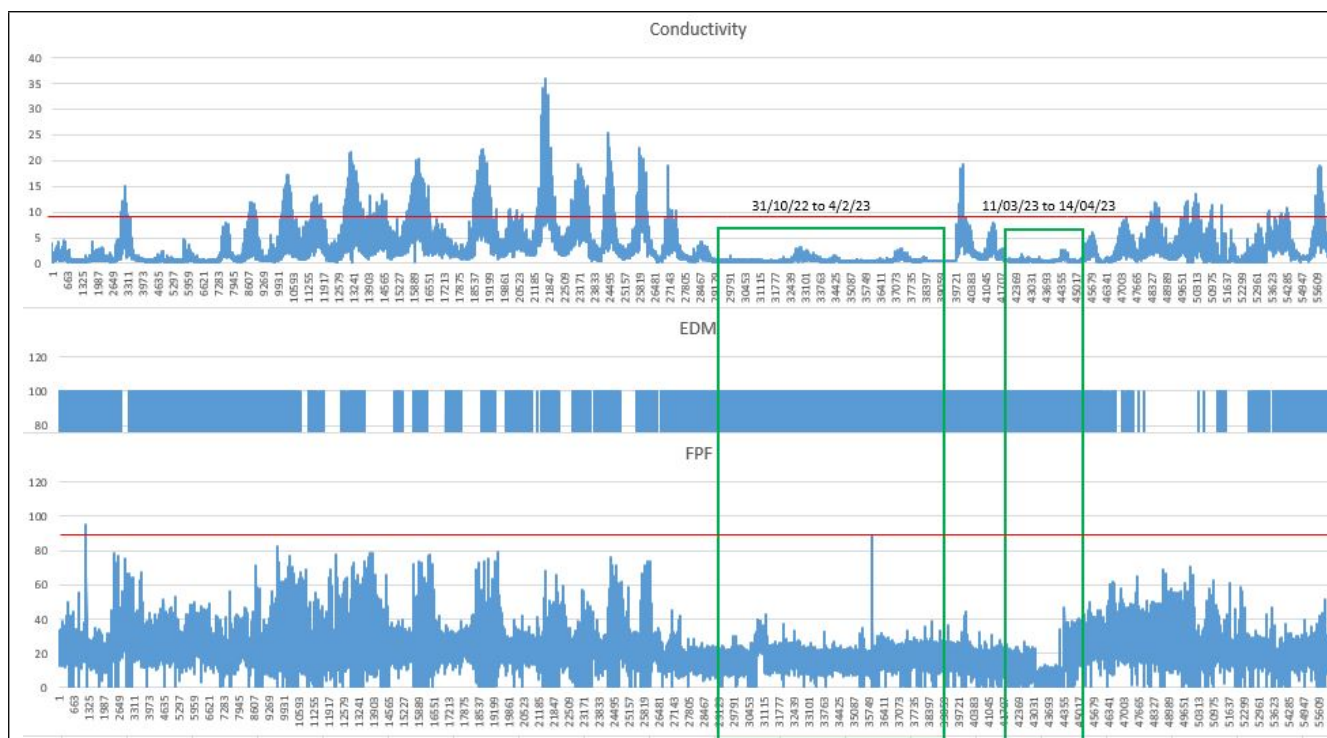
- (a) The discharge shall only occur when and only for as long as either:
- (i) the flow passed forward is equal to or greater than the overflow setting indicated due to rainfall and/or snow melt or
 - (ii) the hydraulic capacity of the sewer network downstream of the combined sewer overflow is reached due to rainfall and/or snow melt and the level of storm sewage in the sewer at the combined sewer overflow is greater than the weir level of the overflow structure which is specified as an overflow setting in table S3.3.

The capacity of the sewer network downstream of the combined sewer overflow shall not be altered in any way which would lead to a significant increase in the frequency or volume of the discharge.

EDM spill block data for the period between 01 January 2022 and 23 August 2023 indicates that there were 485 spill events equating to 4,370 hours of discharge from the storm tanks. At least 4,369 hours of these will have been in breach of permit. At times, the FPF was considerably lower than 88l/s when flows were entering the storm tanks. This would have resulted in discharges of settled sewage rather than settled storm sewage which is a breach of permit condition 2.1.1.

From previous discussions with Dŵr Cymru Welsh Water (DCWW), it is understood that saline intrusion into Cardigan's sewer network presents a significant risk of damage to the Membrane Bioreactors (MBRs) at Cardigan WwTW. This compromises the ability of the asset to treat sewage. To prevent damage to the MBRs, once sewage conductivity levels exceed 9µS/cm, DCWW divert flows to the storm tanks. It is understood that flows with conductivity less than 9µS/cm can be successfully treated by the works.

FPF, EDM spills and conductivity data are graphed below for the period between 01 January 2022 and 23 August 2023. As the date ranges for each graph are the same, the readings can be compared with the reading directly above or below.



The 'Conductivity' graph shows fluctuating conductivity levels from around zero (no salinity) to 36 (saline). The red line at $9\mu\text{S}/\text{cm}$ represents the level above which incoming flows are diverted to the storm tanks.

The 'EDM' graph shows times when discharges were made from the storm tanks to the environment. Blue columns represent discharges whilst white areas represent no discharges.

The 'FPF' graph shows the flow being passed forward to full treatment at the works. The red line at $88\text{l}/\text{s}$ represents the minimum flow rate required by condition 2.3.1 before flow is diverted to the storm tanks.

There are two obvious lengthy periods highlighted in green when influent conductivity was well below $9\mu\text{S}/\text{cm}$ ($<4\mu\text{S}/\text{cm}$). These were between 31 October 2022 and 04 February 2023, and 11 March 2023 and 14 April 2023.

31 October 2022 - 04 February 2023

Between 31 October 2022 and 04 February 2023 there were 97 EDM block spill events equating to $6100 \times 15 = 91,500$ minutes. Apart from 195 minutes, these spill events occurred when FPF was below $40\text{l}/\text{s}$; that is at least $48\text{l}/\text{s}$ below the required FPF rate. This would have allowed up to 262 million litres to have been discharged via the storm tanks that should have received full treatment.

11 March 2023 - 14 April 2023

Between 11 March 2023 and 14 April 2023 there were 35 EDM block spill events equating to $2435 \times 15 = 36,525$ minutes. Apart from 45 minutes, these spill events occurred when FPF was below $40\text{l}/\text{s}$; that is at least $48\text{l}/\text{s}$ below the required FPF rate. This would have allowed up to 105 million litres to have been discharged via the storm tanks that should have received full treatment.

In response to these breaches of permit, a category 2 non-compliance has been recorded above. A category 2 non-compliance represents a non-compliance which could have a significant environmental effect.

DCWW are asked to explain why incoming flows during the two periods in question (31 October 2022 until 04 February 2023, and 11 March 2023 until 14 April 2023) were diverted to the storm tanks when conductivity levels suggest full treatment would have been suitable. DCWW are asked to provide a response by no later than the **02 July 2024**.

In this document 'Natural Resources Wales' means the Natural Resources Body for Wales established by Article 3 of the Natural Resources Body for Wales (Establishment) order 2012.

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

If your assessment result in Section 1 is suspended, what does this mean?

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

Full list of water quality action criteria (used in section 1 and 2):**WQ A: Management**

- WQ-A1 General management

WQ B: Operations

- WQ-B1 Permitted activities
- WQ-B2 The site
- WQ-B3 Operating techniques
- WQ-B4 Improvement programme
- WQ-B5 Pre-operational conditions

WQ C: Emissions and monitoring

- WQ-C1 Emissions to water
- WQ-C2 Emissions to land
- WQ-C3 Emissions of substances not controlled by emission limits
- WQ-C4 Installation of monitoring boreholes

WQ D: Information

- WQ-D1 Records
- WQ-D2 Reporting
- WQ-D3 Notifications

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.