

Compliance Assessment Report CAR_NRW0044778

Permit being assessed: BP0236601

For: Swansea Waste Water Treatment Works, held by DWR CYMRU CYFYNGEDIG
At: Dwr Cymru Welsh Water, Waste Water Treatment Works, Fabian Way, Crymlyn Burrows, Swansea, Swansea, SA1 8QP.

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

On 28/06/2024, between 11:20 and 13:05.

Parts of permit assessed: Permitted Activities, The site, Operating Techniques

NRW Lead Officer: Catherine Tucker, accompanied by: Sarah Bennett, Hamish Osborn.

Report sent to: CARS@dwrwymru.com, CARS Mailbox, on 18/07/2024.

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

Part of permitted activity assessed (criteria)	Assessment result	Permit condition
WQ-B1 - Water Quality - Operations - Permitted activities	Assessed (A)	
WQ-B2 - Water Quality - Operations - The site	Assessed (A)	
WQ-B3 - Water Quality - Operations - Operating techniques	Assessed (A)	
WQ-B3 - Water Quality - Operations - Operating techniques	Action only (X)	

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	Confirm the timeframe for fixing the penstock valve and when the storm tanks will be cleaned.	30/08/2024

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.

At this time, we do not intend to take any further action.

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

This Compliance Assessment Reports relates to a site inspection of Swansea Waste Water Treatment

Works on the 28th June 2024. The weather was dry during the visit with very light rain the day before.

The permit covers the Ultra Violet treated Final Effluent and Storm discharge. There is no permit in place for a discharge in an emergency. My understanding is that there is a historic emergency outfall at the inlet chamber but as the inlet penstock has been removed and flows to the works are primarily managed by Langdon Road SPS, this outfall would not be utilised in an emergency.

At the beginning of the inspection, you informed us that the works has suffered from historic subsidence and many of the buildings and works processes have been affected, requiring remedial action and interventions to parts of the treatment process and building.

Inlet flows

You told us that all of the flows in to the WwTW, including storm, enter via 5 rising mains and are screened by a course screen at the inlet chamber.

The flows then enter through the penstock which works on a differential duty screen system in case of mechanical failure. The 6X6mm mechanical escalator screens are relatively new and are alarmed.

Rag from the screening is removed to skips which are then sent for recycling or disposal off site. You told us that the quantity of rag is generally consistent apart from during the first autumn storms when the flows are very high into the works. You told us that you prepare for this increase before the end of Summer.

Grit Tanks

After screening, the flows enter the back of the offline grit tanks. There were 3 grit tanks in operation. You told us that you were trialling pumps in the tanks to help increase the efficiency of the grit removal.

Storm and Storm Storage

The flows from the grit tanks then combine within the main channel which had a weir over to the storm tanks. The permitted storage is a minimum of 9548 m³. Any storm sewage remaining in the storm tanks at the end of a storm event is automatically returned for full treatment. We were unable to inspect the storage tanks during the inspection due to their location underground. You told us that the storm tanks were fully operational and are due to be cleaned this summer. You told us that this had been delayed due to final effluent being returned to the storm tanks as you've identified a fault with a penstock valve on the outfall.

Action

Please confirm the timescales for fixing the penstock valve on the outfall and when the storm tanks will be cleaned in order to restore to minimum permitted storage.

You informed us via an OPNOT on the 12th July 2024 that you have carried out an inspection on the penstock to identify the issue and what works will need to be required to fix the valve.

The flows coming into the works during our inspection at 13:00hrs were 465 l/s. The permitted flow

that has to be achieved prior to a spill to the storm tanks are 1300 l/s, therefore none of the flows were being diverted to the storm tanks at that time.

Primary Treatment

The flow to the primary tanks pass through a hunting penstock which offers a rate of flow control if needed. You told us that this is rarely adjusted as the flows are consistent through the works.

The 4 primary tanks operate a scraper system and hoppers to collect the sludge. Primary tanks 1 & 3 were running during the inspection. The subsidence was noticeable in this area and you told us that primary tanks 1 & 4 are in poor condition as a result. The chains and tracks were visibly under strain and weren't operating as designed. You told us that maintenance of the tracks is carried out periodically and you've carried out repairs on some of the rails to mitigate the issue of the scraper not operating as designed.

Following the sludge removal, the flows then enter the biological treatment tanks which uses a mix of aeration and media. There were 4 tanks in operation during the inspection and we observed the 4 MCERTS monitors in place as permitted.

Final Settlement Tanks

The flows then enter the final DAF tanks for settlement. There were 12 tanks and the flows are evenly split to flow through the tanks once. You informed us that a polymer is added referred to as 'white water' this creates a bond which causes the sludge to rise. There is a scraper which runs on a timer, scraping the sludge into hoppers leaving the final product.

You told us during the inspection that you have identified that operating issues with this part of the process could lead to Suspended Solids Operator Self-Monitoring failures. The OSM frequency sampling is 12 times per year and 24 times per year under the Urban Waste Water Treatment Regulations. In 2023 you informed us of one LUT exceedance for 67mg/l Suspended Solids. In accordance with condition 3.1.2 of the permit the limit of 60mg/l can be exceeded twice in any period of twelve consecutive months as long as the sample does not exceed the Maximum limit of 250mg/l.

You told us that due to the tank construction you've found that by turning the recirculating equipment upside down, which encourages the sludge to rise, it has improved the quality of the effluent and reduced the Suspended Solids in the samples.

Ultra Violet Treatment

After the final treatment the flows combine from all 12 tanks to continue through to Ultra Violet treatment. During the inspection we observed 3 banks of standby UV which you informed us were duty standby.

All flows from the final UV treatment and storm combine within the final effluent wet well chamber and are then pumped via the 5 pumps to the long sea outfall. The final effluent looked visually clear during the inspection.

The EDM monitor was located at the permitted location within the final effluent well chamber.

The annual EDM data submitted for 2023 showed that it was recording 99.30% of the time with 19 significant spills recorded. The Bathing Water EDM data submitted showed that it was recording 98.76% of the time with 5 significant spills during the bathing water season

Sludge treatment and collection

You showed us the sludge treatment which is a combination of sludge from the primary tanks and thickened sludge from the DAF tanks. You told us that this is then pumped to an outside sludge tank and skips and then into the centrifuge for drying. You told us that you aim for 25% moisture.

During the inspection you also showed us the mitigation measures put in place to prevent waste sludge materials from escaping from the sludge storage located outside of the building, this was installed in response to an incident in 2023. You informed us that you had added a bund and interceptor drain to the enclosure where the sludge containers are collected.

During this inspection, we did not identify any non-compliances or issues relating to the final effluent.

Thank you.

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 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.