Cyfoeth Naturiol Cymru
Natural Resources Wales

# Compliance Assessment Report CAR_NRW0038850

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| **Permit being assessed**: BP1772IZ.<br>For: Poeton Cardiff, held by Poeton (Cardiff) Limited<br>At: Poeton (Cardiff) Ltd, 283 Penarth Road, Cardiff, Cardiff, CF11 8UL.<br><br>**Type of assessment carried out:** Audit, Reason: Routine.<br>On 28/09/2021 between 10:00 and 13:00.<br>Parts of permit assessed: Effluent Treatment Plant<br><br>**NRW Lead Officer:** Geraint Harris, accompanied by Mostyn Wall.<br>**Report sent to**: Jason Hamling, Health, Safety and Environment Manager on 01/11/2021. |

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

| Part of permitted activity assessed (criteria) | Assessment result | Permit condition |
|---|---|---|
| B1 - Infrastructure - Engineering for prevention and control of emissions | Ongoing (O) | permit conditions 3.2.3. |
| B4 - Infrastructure - Containment of stored materials | Ongoing (O) | 3.2.3 |
| C2 - General Management - Management system and operating procedures | Ongoing (O) | permit condition 1.1.1. |

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

| Total number of non-compliances recorded | Total non-compliance score |
|---|---|
| 0 | 0 |

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 | Investigate the condition of the subsurface sumps and channels and make improvements to ensure they are impermeable and well constructed. | 20/01/2022 |
| B4 | Improve the current containment infrastructure to ensure that it is impermeable to the liquid it is designed to hold. | 21/02/2022 |
| C2 | Poeton need to incorporate the inspection and maintenance of the sumps and channels into their EMS. | 20/12/2021 |

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

**Compliance Assessment Report – Poeton Cardiff , Permit EPR- BP1772IZ, 06th October 2021**

**Purpose Of Compliance Assessment**

This CAR Form covers a summary of the findings of an audit on the effluent treatment plant at Poeton in Cardiff, South Wales. Due to the restrictions in place because of the Coronavirus pandemic most of the relevant information pertaining to the effluent treatment plant was provided by email over a course of several weeks. This was then concluded with a site-based audit on the 28th September 2021. As such the audit is now complete and any actions or recommendations will be summarised here. The actual audit template is a separate document submitted with the CAR Form. The text in bold blue in the audit form are the points raised for the operator to consider further.

The treatment plant has predominantly operated within the emission limits stated with Poeton's EPR permit. However due to a few elevated spot sample results taken by Welsh Water and potential contamination of a composite sample in 2021. It was decided to undertake an audit of the treatment plant.

**Areas of concern:**

**Permit condition 3.2.3**
*All liquids in containers, whose emission to water or land could cause pollution, shall be provided with secondary containment, unless the operator has used other appropriate measures to prevent or, where that is not practicable, to minimise, leakage and spillage from the primary container.*

The condition of the subsurface infrastructure is of significant concern and should be addressed immediately. You have a permit condition (3.2.3) to ensure that appropriate measures are used to prevent or minimise leakage. This condition includes your measures to prevent any leaks or accidental releases from tanks, sumps, bunds and containers. If you have any of the subsurface infrastructure and sumps on your site, you need undertake the following:

- establish and record the routing of all site drains and subsurface pipework
- identify all sub-surface sumps and storage vessels
- engineer systems to minimise leakages from pipes and ensure swift detection if they do occur, particularly where hazardous substances or non-hazardous pollutants (as defined by the Environment Permitting Regulations) are involved
- provide secondary/ tertiary containment and/or leakage detection for sub-surface pipework, sumps and storage vessels.

sumps must be:

- impermeable and resistant to stored materials
- looked at regularly and any contents removed after checking for contamination
- where not frequently inspected, fitted with a high-level probe and alarm

- regularly inspected for their condition (normally visual, but extending to hydraulic testing where structural integrity is in doubt).

Poeton's management system should reflect these requirements within its operating procedures and preventative maintenance plans. Regrettably the subsurface infrastructure was found to be in poor condition during the audit and not fit for its purpose. They are currently constructed from concrete of an unknown standard and permeability without any liners or impervious coatings. It was also evident that there was a lack of inspection routine or preventative maintenance for any of the pits within the treatment plant. The Industrial Emissions Directive (IED) introduced requirements in relation to the protection of soil and groundwater from relevant hazardous substances (RHS). For installations such as Poeton, NRW satisfied this requirement within Poeton's permit, with a condition requiring Poeton to carry out periodic monitoring of groundwater at least once every five years and soil at least once every ten years. If the site is decommissioned in the future and the pollution risks removed, Poeton will need to show that this process has not polluted the land and groundwater. IED requires that upon cessation of activities at a site any significant pollution is addressed. Therefore, there is a real concern that the failure to maintain the sumps to a condition that protects the surrounding environment could have already caused the release of relevant hazardous substances to the local subsurface environment. The condition of the subsurface infrastructure coupled with the lack of an inspection and maintenance regime within Poeton's EMS, constitutes a breach in Poeton's permit conditions against permit conditions 1.1.1. and 3.2.3. In addition to the condition of the sumps the degradation of the bunds and the support structure for the Sodium Metabisulphate and Sulphuric Acid tanks are significant. NRW categorise a non-compliance based on the level of impact it might have. We do this by deciding what level of impact is reasonably foreseeable, were the non-compliance to result in an environmental incident. Prior to making a decision on the severity of the non-compliance Poeton should undertake the following actions:

**Action 1:**
Undertake a full investigation into the condition of the sites subsurface infrastructure including the sumps and influent channels, highlighting any areas of erosion, cracks and unsuitable containment materials. **Please undertake this and provide a report by the 20th January 2022.**

**Action 2:**
Provide a plan for how you intend to investigate if any Relevant Hazardous Substances have leaked into the surrounding soil and water. **Due date is one month following your investigations in action 1.**

**Action3**
Review the past groundwater monitoring results to investigate if there has been any elevated levels of Chromium Cadmium and Cyanide in the groundwater surrounding the treatment plant. **Please provide evidence this was completed by 20th November 2021.**

**Action 4:**
Provide a plan on how you intend to improve the subsurface infrastructure including providing suitable impermeable containment throughout. **Due date is one month following your investigations in action 1**

**Action5:**
Improve your management system to include the inspection, maintenance and monitoring of all containment including above ground and subsurface infrastructure. **Please complete and provide evidence by 20th December 2021.**

**Action 6:**
Repair the support structure under the sulphuric acid tank as a matter of urgency and provide evidence that this has been completed. **Please complete and provide evidence by 20th November 2021.**

**Action 7:**
A number of cracks were seen on bunding. Please inspect the bunding for cracks and holes and repair any deficiencies. Incorporate routine bund inspections into your planned preventative maintenance schedule. Provide evidence that this was undertaken. **Please complete and provide evidence by 20th December 2021.**

**Action 8:**
The bunded area has become a storage area for a number of containers and bags. These should be removed and stored in a more appropriate location. Storing items in a bund reduced the bunds capacity to store spillages or leaks and may exacerbate a potential incident. **Please complete by 20th November 2021.**

**Action 9:**
Modify the bunding adjacent to the sulphuric and sodium hydroxide tanks so that any leaks or toppling of tanks are directed into the treatment plant pits and not onto the adjacent road. **Please complete by 20th December 2021.**

**Action 10**:
The Zinc/nickel tank does not have appropriate bunding for the size of the tank. It is currently stored above the treatment pits which in the event of a leak would capture the majority of liquid. However, there is a risk that the liquid run off the current base and onto the adjacent road. Please review the location of this tank and provide a plan to ensure that any leak can be contained within the bunded area. **Please complete by 20th December 2021.**

**Monitoring:**
Poeton relies on the treatment plant remaining within the parameters measured by the pH and redox probes. The permit requires that a weekly composite is tested for a number of parameters to ensure that the plant is running correctly and within permit requirements. To fulfil this requirement a weekly sample is sent to the Gloucester site where AAS analysis of the metals is undertaken. Furthermore, Welsh Water undertake a monthly test using a sample from the composite sampler and a spot sample. The concern is both sources of results can take up to a month to return. Due to the delay in time between sending the sample and receiving the results, Poeton, will not be aware of a breach for a considerable time until they receive the results of the above testing.

**Action 11:**
Please provide the original or a new validation of the current continuous controls (pH/Redox) for maintaining compliance with the weekly average permit. **Please provide evidence this was completed by 20th November 2021.**

**Action 12:**
In-house or contractor pH slope and offset checks should normally be used to ensure that pH probes are functioning correctly. Please review the manufactures guidelines for calibration of the pH and Redox probes to see if the current calibration routine is sufficient. Investigate whether more regular in-house calibration should be undertaken. **Please provide evidence this was completed by 20th November 2021.**

**Action 13:**
Since the operation of the treatment plant is reliant on the correct functioning of the pH and redox probes please provide details on what would happen in the event the each of the probes were to become faulty. For example what would happen to effluent treatment if the neutralisation pH probe was to become faulty? Would the plant and hence site operations shut down for the length of time it took to get a replacement?

**Please complete by 20th November 2021.**

**Considerations:**

Within the original permit application, it was stated that the neutralisation pit pH probe was fitted with an alarm that sounded in the anodising room. This is no longer the case. The operator may want to consider reinstating this or something similar to ensure better control of the treatment plant. The operator may want to consider the use of a level sensor in the caustic tank to minimise the risk of running out of caustic which will have a detrimental effect on the treatment process.

There are a number of Standard operating procedures (SOP's) and other such documents relating to the treatment plant. These are stored on Poeton's database and can be accessed by all staff. However, the site could benefit from incorporating a number of SOP's to assist in the event of any incidents and/or non-conformances. Please consider the following:

- A procedure to follow if the effluent treatment monitoring shows breaches in permit ELV's.
- A procedure for stating what to do and who to inform if the daily pH test falls out of the limit.
- A general trouble shooting procedure highlighting possible problems with the ETP and how to resolve them.
- A procedure for checking all dosing tanks are suitably full and the actions to follow should they need filling.
- A procedure if the treatment tank was out of action but the site needed to continue operating.
- A general procedure for operating the treatment plant.
- Develop a procedure to monitor the levels of sediment within the settlement tank that ensure the risk of sediment carryover is reduced as much as possible.

**New treatment Plant:**

When designing the new Effluent treatment plant the following things need to be considered:

- Separation of cyanide and chrome treatment prior to combined neutralisation
- The use of waste alkali's and acids in controlling the treatment plants pH
- Prior to designing your new treatment plant you should carry out a BAT gap analysis, which demonstrates how you currently meet or intend to meet each of the BAT conclusions for The Surface Treatment of Metals and Plastics. Additional guidance is stated in the How to comply with your environmental permit Additional guidance for: The Surface Treatment of Metals and Plastics by Electrolytic and Chemical Processes (EPR 2.07).
- You will need to ensure adequate protection for the environment. Therefore, the treatment plant should be designed to incorporate the latest containment requirements. CIRIA report C736 Containment systems for the prevention of pollution should be considered.
- Generation of turbulence by hydraulic power and eductors for improved treatment.
- Consider the use of buffer tanks to counter act the effects of influent variation
- When designing the new effluent treatment plant to future proof it, the benchmark ELV's should be used as the target ELVS's.
- Poeton should investigate options for closing the loop for cadmium when designing their new treatment plant.

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.