# Compliance Assessment Report CAR_NRW0045101

**Permit being assessed:** LP3439HM.

**For:** Roath Dock Treatment and Recycling Centre NRW/EPR/LP3439HM/V003, **held by:** Castle Waste Services Limited

**At:** Roath Dock Transfer Station Old Clipper Road , Roath Dock, Cardiff, CF10 4LX.

**Type of assessment:** Report/Data Review,

**Reason:** Routine.

**On:** 30/07/2024 between 10:30 and 13:30.

**Parts of permit assessed:** Quarterly Returns / Site Visit.

**NRW Lead Officer:** Dale Padfield.

**Report sent to**: -, Operations Director, on 02/09/2024.

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

| Part of permitted activity assessed (compliance criteria) | Assessment result | Permit condition |
|---|---|---|
| IR2E - Installations - Operations - Improvement programme | Assessed (A) | |
| IR4B - Installations - Information - Reporting | Assessed (A) | |
| IR2B - Installations - Operations - The site | Assessed (A) | |
| IR3A - Installations - Emissions and monitoring - Emissions to water, air or land | Assessed (A) | |

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

| Total 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?

No action required.

# 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

Castle Environmental

EPR/LP3439HM

This Compliance assessment report details the following;

- Q1 2024 waste returns
- Q2 2024 waste returns
- Q2 Monitoring returns
- IC 5 submission / monitoring data and monitoring frequency proposal.
- Site visit summary and updates

Q1 (January – March 2024) Waste returns.

Returns submitted on time. All accepted EWC codes were complaint with the permit, including no acceptance of the voluntary prohibited EWC codes listed in CAR_NRW0039332. The returns are accepted.

Q2 (April - May 2024) Waste returns.

Returns submitted on time. All accepted EWC codes were complaint with the permit, including no acceptance of the voluntary prohibited EWC codes listed in CAR_NRW0039332. The returns are accepted.

Q2 (April - May 2024) Monitoring returns.

Report submitted on time. All determinands are below their respective ELV's and analysed by an appropriate method. Hexavalent chrome measured above ELV, however, total chrome for same sample was measured below the hexavalent chrome ELV, as such, it is accepted that the CR(Vi) analysis method is prone to interference and likely over-reporting the true value. Further information on the CR(vi) analysis is provided further within this report.

IC 5 re submission and monitoring frequency proposal

Castle's initial data gathering exercise to close out IC 5 concluded that several of the metal ions were present within the effluent and some of these metals were being detected in the post treated effluent above the newly introduced BAT AELS. This resulted in Castle identifying the need to install an additional 'polishing' step to the ETP, to enable compliance with the new BAT AELs. An agreement was made with NRW, that any non-compliance score relating to effluent ELV exceedances would be suspended until August 2024, whereby,

Castle would have implemented the changes required to meet the new ELVs.

Further discussion and data requests revealed that the analysis methodology being utilised by Castle was not in line with the monitoring standards referenced within the permit and not to the required MCERTS standard. Furthermore, Castle became aware that duplicate samples sent for external analysis was routinely reporting lower concentrations for heavy metals than the on-site analysis. Castles internal analysis was conducted via AAS (atomic absorption spectroscopy) whereas the third-party analysis was conducted by ICP-MS (Induced coupled plasma – mass spectroscopy). The third-party analysis was being conducted to MCERTS and using a standard specified within the permit. As such, the analysis conducted by third party laboratory is seen as more accurate and more reliable than the onsite analysis.

Further investigation by Castle, whereby duplicate samples were sent to an MCERTS accredited laboratory, revealed a continued trend of the on-site analysis over reporting concentrations of heavy metals. A total of 83 duplicate samples were assessed. Of these, no samples analysed by the third-party laboratory had breached the ELVs (with the exception of Cr(vi), discussed further below). When only the third-party analysis is considered, Castle's effluent discharge is within the permitted ELV's. Castle concluded that the internal analysis was not providing accurate data, resulting in the over-reporting of the various heavy metals.

The outcome of this finding has resulted in a change in the initial approach considered, i.e., that a further polishing step was required on the ETP. As it now appears that the effluent is within the permitted discharge ELVS, no additional polishing step will be installed on the ETP.

Castle have proposed conducting monthly monitoring for the following metal ions - cadmium, chromium, copper, nickel, lead, and zinc. Footnote 1 of BAT 7 in the WT BATC allows for reduced monitoring frequency providing the emissions levels are proven to be sufficiently stable. There is currently no guidance on how operators are able to prove the stability of the emissions. Some guidance is being drafted for the food and drinks sector, however, there are some subtle differences, as the guidance is to evaluate stability and minimum data points etc with regards to direct releases to the environment. The full report and proposal is contained in the report submitted by Castle titled - 'Improvement Condition IC 5 Addendum 2024'.

The following conclusions have been drawn from the report and correspondence with Castle Environmental.

- The data provided by Castle does suggest the metal ion concentrations within the effluent discharge to sewer are relatively stable.
- There have been no ELV exceedances across the monitoring campaign for the metal ions in question, when the data obtained via an MCERTs method / laboratory is considered.
- Sample analysis data provided by Dwr Cymru Welsh Water (DCWW) monthly spot checks, supports the data provided by Castle, and provides additional assurance that compliance with effluent discharge ELV's is being upheld.
- Requiring the operator (Castle) to conduct daily sampling with the samples sent for external analysis is seen as onerous and excessively costly and not proportional to the risk.
- Other process parameters are closely monitored, such as pH, which ensure the process is controlled and the

Taking the above points into consideration, the monitoring frequency proposed by Castle for the metal Ions is accepted. However, it should be noted that this is not an indefinite decision, and the agreement may be revoked should, at a later date, NRW decide the proposed frequency is no longer adequate. An increased monitoring frequency may also be requested in the following situations:

1. An ELV relating to any of the determinands, of which a reduced frequency has been agreed is

exceeded.

2. Changes are made to the waste streams being treated, the treatment techniques or the plant and equipment, which could result in a change in the quality of the effluent being discharged.
3. Upgrades to Castles onsite analysis capabilities, resulting in the availability of accurate and reliable on-site analysis. Part of the agreement for a reduced monitoring frequency is based on excessive cost that would be incurred for external analysis of daily sampling, if on-site analysis capabilities change, a higher monitoring frequency will be requested.
4. A method for determining 'sufficient' stability (As per footnote 1 of BAT 7 for the WT BATC) is published for the waste treatment sector, whereby Castle will then need to determine sufficient stability by such a method.
5. Concerns of pollution are brought to NRW's attention relating to the effluent arising from the facility.

Hexavalent Chrome

Castle reported that the analysis for hexavalent chrome (Cr (vi)) has proven difficult. At the time of Castles enquiries, no UK laboratories undertook the analysis to the standard specified within the permit. As the standard was issued in the Waste Treatment Bref, which was an EU wide document, it is likely the standard and subsequent analysis method is more prevalent within the EU opposed to the UK. It was agreed that an alternative method, as provided by an accredited laboratory could be used. This was also aligned with other waste treatment facilities within South Wales.

The Cr(vi) results for analysis conducted by the third-party laboratory were indicating that the concentrations were above the total Chromium concentrations analysed from the same sample. It is not possible for the hexavalent chrome to be present a higher concentration than total chromium, as the total chromium captures all the chromium in both hexavalent and trivalent states.

Internal discussions within NRW revealed that a similar issue had arisen at a different waste treatment site. The issue was identified as interference caused by turbidity within the sample. Castle and the third-party laboratory attempted to resolve the issue, these attempts however, were unsuccessful in eliminating the interference. As such, the data for Cr(vi) remained inaccurate, with sample analysis often reporting concentrations of Cr(vi) higher than the total chromium.

Castle proposed to utilise the total chrome data in place of the specific CR(Vi) data. It was suggested that Castle would assume that the data for total Chrome would be in a hexavalent state and evaluate any total chrome result against the more stringent Cr(vi) ELV. This approach is accepted. Should the total chromium result exceed the Cr(vi) ELV, attempts should be made to quantify the Cr(vi), if un-successful, it will be assumed that the Cr(vi) ELV has been exceeded and a non-compliance will be issued.

Compliance with BAT-AELS has been resolved. The non-compliance scores will remain suspended and will not be issued. No further score suspension for effluent ELV exceedance will be undertaken should further ELV exceedances occur.

Site visit

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A site visit was undertaken on the 30/07/2024. The primary purpose of the visit was to conduct the site aspect of the hazardous waste audit conducted by NRW officer Lianne Bacon-Weeks – Lead specialist Hazardous Waste Officer. The scope, outcome and details of the audit will be captured in a Waste Assessment Report'

which will be issued separately to this CAR form.

Officers were shown around the site, with the process flow and waste acceptance procedures explained. No non-compliances were identified during the visit.

Plans are in place to vary the permit, and some of Castles plans for the future were discussed. These will be detailed as and when a permit variation is issued. As a reminder, NRW are currently experiencing significant permit delays, with the current queue resulting in an approximate 12 month wait from application submission to determination.

Change in Operating techniques to introduce $CO_2$ as a neutralisation agent for the APCR treatment.

Castle submitted a proposal indicating their intentions to introduce $CO_2$ as a neutralisation agent in the APCR treatment process. The change would constitute a change in permitted operating techniques, permit condition 2.3.1 does allow some flexibility in allowing operators to make changes to the process without requiring a permit variation. However, this is limited to minor changes, the change proposed by Castle would require some level of technical assessment and is therefore beyond the scope of this permit condition.

Castle have stated that the existing neuralisation procedure is not included in the operating technique documents listed within the permit. This procedure should have been incorporated within the permitted operating techniques / procedures during issuing of the permit. The omission of an operating technique relating the neutralisation of the APCR is likely an oversight / error from the permit application and permit issuing stage.

Although no techniques are currently referenced within the permit, as a change is proposed on site, it is still captured by the requirement to vary the permit, and in this case, update the permit to reflect all the operations and associated operating techniques conducted on site.

NRW's current position in these circumstances is as follows;

- **NRW cannot give permission for the proposed change to take place prior to submission of a permit variation and subsequent determination.**
- **Giving permission could be considered as pre-determination.**
- **Any changes involving investment would be done so at the operator's risk.**
- **If the operator choses to proceed with their proposal, they will be in breach of their permit.**
- **NRW will respond to any identified permit breach in accordance with our compliance classification scheme and our published policy and guidance on enforcement.**
- **The reasons for the breach and actions taken by the operator to try and remain complaint (for example, having submitted a variation application) would be considered in determining a suitable enforcement response.**
- **NRW cannot disapply the law, however, we will be pragmatic in our response, and any enforcement response will be proportional to the non-compliance and any environmental risk or impact.**

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.

**If your assessment result in Section 1 is suspended, what does this mean?**
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 compliance criteria** (used in section 1 and 2):

**1. Management**
- IR1A – General management
- IR1B – Finance (only applicable to Landfill)
- IR1C – Energy efficiency
- IR1D - Efficient use of raw materials
- IR1E - Avoidance, recovery and disposal of wastes produced by the activities
- IR1F - Multiple operator installations

**2. Operations**
- IR2A – Permitted activities
- IR2B – The site
- IR2C – Operating techniques
- IR2D – Technical requirements
- IR2E – Improvement programme
- IR2F – Pre-operational conditions
- IR2G – Landfill engineering (only applicable to Landfill)
- IR2H – Waste acceptance (only applicable to Landfill)
- IR2I – Leachate levels (only applicable to Landfill)
- IR2J – Closure and aftercare (only applicable to Landfill)
- IR2K – Landfill gas management (only applicable to Landfill)

**3. Emission and Monitoring**
- IR3A – Emissions to water, air or land
- IR3B – Emissions of substances not controlled by emission limits
- IR3C – Odour
- IR3D – Noise and vibration
- IR3E – Monitoring
- IR3F – Pests
- IR3G – Air quality management plans
- IR3H – Monitoring for the purposes of the Industrial Emissions Directive (this heading includes Large Combustion Plants)
- IR3I – Fire

**4. Information**
- IR4A – Records
- IR4B – Reporting
- IR4C – Notification

**Enforcement response**
Any non-compliance with a permit condition 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 twenty 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 to 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.