

## Compliance Assessment Report CAR\_NRW0042048

**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:** Site Inspection,

**Reason:** Routine.

**On:** 19/04/2023 between 10:00 and 12:00.

**Parts of permit assessed:** Effluent Treatment Plant.

**NRW Lead Officer:** Geraint Harris, accompanied by Dale Padfield.

**Report sent to:** Dave Humphriss, Technical Director, on 30/06/2023.

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

Part of permitted activity assessed (compliance criteria)	Assessment result	Permit condition
IR3A - Emissions and monitoring - Emissions to water, air or land	C3 Minor (Suspended)	Permit Condition 3.1.2
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Result types are explained in more detail in the 'Important Information' section below.

Total non-compliances recorded	Total non-compliance score
6	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
IR3A	Ensure improvements to the ETP are completed by August 2024.	31/08/2024
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Compliance 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

**Castle Waste Services Limited**

**EPR/LP3439HM**

A visit to the Castle Waste facility was completed on the 19<sup>th</sup> of April 2023. The Purpose of the site visit was to hand regulation of the installation under EPR from Geraint Harris to Dale Padfield and to familiarise the new regulatory officer with the site layout and activities.

An overview of the activities conducted at the facility was discussed, along with a brief history of the facility. The workstreams were described, from acceptance of waste to treatment and recovery. During the site walkaround the improvement works were seen to be underway, which included the first phase of the resurfacing of the impermeable surface, the improvement programme for the storage tanks and associated bunds was also discussed. There were no non-compliances seen during the visit, Castle appears to be striving to improve site infrastructure, with investments apparent in this area and in replacing dated and legacy assets, NRW welcomes these improvements.

**CAR NRW0040821 - Action 1**

**Bat 7 and 20**

Castle's permit has been varied following the publication of the revised Best Available Techniques

(BAT) Reference Documents (BREF) for Waste Treatment. As part of this variation and to ensure that Castle are operating to the latest BAT requirements, Castle were required to submit responses to six improvement conditions by February 2022. Details of these improvement conditions along with a discussion on castles responses can be viewed in CAR\_NRW0040821. As detailed in CAR\_NRW0040821, the waste treatment BREF allows for a number of changes to the monitoring regime if certain conditions are met. So far Castle have been able to demonstrate through previous monitoring that several parameters/substances are low and stable enough to allow the monitoring period to be extended. At the time of writing CAR\_NRW0040821 an insufficient amount of monitoring had been undertaken to allow any changes to monitoring for AOX, HOI, BTEX, PFOS and PFOA. However, recently Castle have undertaken additional monitoring of these substances and the results are discussed below.

### **HOI**

9 data points were provided for the monitoring of HOI. The results show zero exceedances of the BAT-AEL. Values show little variance hence it is proposed that this parameter is analysed on a monthly basis. The average value was <0.49mg/l and the 90 percentile was <0.95mg/l. Based on this data NRW are satisfied that the levels of HOI in their waste are low and stable enough to allow the monitoring requirements to be moved to Monthly.

### **BTEX**

16 Samples have been analysed for BTEX. There is no BAT-AEL for BTEX, current monitoring frequency stipulated in BAT 7 is monthly. It is proposed that monitoring is carried out at that frequency, NRW agree.

### **PFOS/PFAS**

16 Samples have been analysed for PFOS / PFAS. There is no BAT-AEL for PFOS/PFAS, current monitoring frequency stipulated in BAT 7 is six monthly. It is proposed that monitoring is carried out at that frequency. NRW Agree.

### **Hexavalent chromium**

As seen in CAR\_NRW0040821 Castle have had some issues with the limit of detection for the analytical monitoring of hexavalent chromium in their effluent. The test method used by Castle is in accordance with the relevant standards. However, Castle have provided data that shows some of the hexavalent chromium is detected at higher levels than the total chromium as measured by ICP-MS. ICP-MS for total chromium levels is a superior technique than the test for hexavalent chromium and so it shouldn't be possible for hexavalent chromium to be higher in concentration than the total chromium concentration. Castle's results for total chromium have all been measured as below the BAT-AEL. Castle have stated that when taking a conservative approach that all chromium within the effluent is present in the hexavalent oxidation state, the upper BAT-AEL limit for CR(VI) of 0.1mg/l would have been exceeded on three occasions. Castle have proposed that monitoring for hexavalent chromium be undertaken on a monthly basis with the ability to report total chromium concentration by ICP-MS in the event the Cr(IV) concentration is reported to be higher than that obtained for total chromium from the same sample. This is currently being discussed within NRW's monitoring network. A response will be provided in a later CAR Form.

NRW can confirm that the BAT-AEL limit detailed within the environmental permit of 0.01mg/l was

included in error and the upper end of the range (0.1mg/l) should apply in its place.

### **AOX**

A total of 16 samples have been analysed for AOX. Between January and November 2022, a total of 9 samples were analysed with an average of 0.74mg/l and a single sample above the BAT-AEL limit at 3.82mg/l. Between December 2022 and February 2023 a further 7 samples have been analysed with an average concentration of 1.36mg/, with three results exceeding the BAT-AEL for AOX. Due to the inconsistency of the monitoring results, Castle have begun an investigation to identify the potential source by sampling and analysing a range of incoming wastes. It is Castle's intention to identify any incoming waste that contributes significantly to the AOX concentration and find an alternative treatment methodology or cease treatment of the waste at the site. On the 12<sup>th</sup> of May Castle provided NRW with the following update: "We have received data from external laboratories which indicates the presence of AOX within a particular waste stream. We have therefore paused processing of this waste and transferred any remaining stock from the site whilst we collate additional discharge samples and monitor AOX levels. We have also sourced an alternative analysis provider as we have been having issues with sample turnaround times. We will be running duplicate testing with new and current supplier as we have some uncertainty regarding potential interferences with current method. We will keep you up to date with our investigations". NRW are satisfied with the work being undertaken regarding AOX and are content with the current arrangement of fortnightly sampling as the work continues. However, failure to demonstrate consistent low and stable AOX concentrations within the outgoing effluent will mean that the daily AOX monitoring will have to remain.

With the current exception of AOX and Cr(VI), NRW are satisfied with the proposed monitoring frequency stated within the table below. However, should any of the monitoring of the below parameters measure consistently high NRW will request that the monitoring frequency be increased in line with the BREF.

Table 4: Proposed version of Table S3.3

Parameter	Limit (including units) (BAT 20)	Monitoring (BAT 7)	Frequency	Proposed monitoring frequency
Adsorbable Organically Bound Halogens (AOX)	1 mg/l	daily		TBC following ongoing investigation
Benzene, Toluene, Ethylbenzene, Xylene (BTEX)	No limit set	monthly		monthly
Free Cyanide (CN)	0.1 mg/l	daily		monthly
Hydrocarbon Oil Index (HOI)	10 mg/l			monthly
Arsenic (As)	0.1 mg/l			monthly
Cadmium (Cd)	0.1 mg/l			daily
Chromium (Cr)	0.3 mg/l			daily
Copper (Cu)	0.5 mg/l			daily
Nickel (Ni)	1 mg/l			daily
Lead (Pb)	0.3 mg/l			daily
Zinc (Zn)	2 mg/l			daily
Manganese (Mn)	No limit set			monthly
Hexavalent Chromium (Cr(VI))	0.01 mg/l (TBC as erroneous and replaced by 0.1mg/l)			Monthly with ability to report total Cr by ICP-MS
Mercury (Hg)	10 ug/l			monthly
PFOA	No limit set	every six months		every six months
PFOS	No limit set			every six months

### **CAR NRW0040821 - Action 3**

#### **CAR\_NRW0040821 Correction**

*Castle must undertake the required monitoring within the required frequency as stated within BAT 7. Castle must submit quarterly monitoring results to NRW for all the parameters given in Table S3.3 of their permit using the latest issue of form S1. Any emissions above these limits must be reported as soon as they are discovered using the Schedule 5 Notification procedure. Castle must make the necessary improvements by August 2024.*

In car form CAR\_NRW0040821 it was requested that Castle report their sewer discharge monitoring quarterly using the latest issue of form S1. Even though the latest iteration of the permit requires 6 monthly reporting, NRW will require Castle to undertake the monitoring within the required frequency as stated within the table above and report it quarterly (correction to the above action) until the improvement have been completed to the effluent treatment plant as agreed in CAR\_NRW0040821.

The following monitoring parameters/substances were reported as being in excess of the BAT AEL's and a schedule 5 was provided:

Parameters/Substances	Result	BAT AEL
AOX	3.39 mg/l	1 mg/l
Cr	0.7 mg/l	0.3 mg/l
Cu	1.7 mg/l	0.5 mg/l
Ni	1.072 mg/l	1 mg/l

Pb	0.66 mg/l	0.3 mg/l
Cr(VI)	0.364 mg/l	0.1 mg/l

NRW assess exceedances of different determinants separately and cannot consolidate them together. We do however consolidate into reporting quarters. Therefore, a noncompliance score is being issued for each of the parameters in exceedance of the BAT AEL and immediately suspended as agreed. Consequently **6 x Category 3 non-compliances are being issued against permit condition 3.1.2**. As mentioned in CAR Form CAR\_NRW0040821 any exceedances of the BAT AEL's will be scored and suspended until August 2024 where, at this point, Castle will have made the necessary improvements to their treatment plant, or the suspension will be lifted.

Castle reported the following: "Cr, Cu, Ni, Pb - As the BAT-AEL requires daily monitoring for these parameters I have provided data obtained from on-site analysis using Atomic Absorption Spectroscopy. This data is typically higher than the data collected by third party ICP-MS during third party analysis which is collected on a less frequent basis. For example, AA analysis on 18/01/23 for chromium was 0.697 mg/l, duplicate analysis on ICP-MS was 0.235 mg/l".

**Action1:** Does the on-site analysis using Atomic Absorption Spectroscopy comply with the monitoring standards stated in Table S3.3 of the permit? **Due 20th July.**

#### **CAR NRW0040821 - Action 2**

Please provide a plan detailing the *trigger levels for each of the relevant parameters highlighted in BAT 3 and 7 along with associated procedures if trigger levels are exceeded. Due 1st of March 2023.*

In response castle states "Certain parameters shall have in place trigger levels, where a specified concentration is exceeded, prescribed actions will be undertaken. The trigger levels and the actions specified will be reviewed following the completion of Action 3". Action 3 is stated above, and the proposed Trigger levels are mentioned below. Please submit a schedule 5 at the end of each quarter if any of the BAT AEL's have been exceeded and a schedule 5 straight away if the trade effluent consent by DCWW is exceeded. Action complete.

*Table 4: Trigger values and actions*

Trigger	Action	Further
Exceedance of limit in TE consent	Inform NRW using schedule 5 notification. Submit duplicate sample for analysis at external laboratory.	Complete investigation to ascertain route cause
Exceedance of BAT-AEL limit – Daily parameter (tested using in-house laboratory)	Record as an internal non-conformance. Submit duplicate sample for analysis at external laboratory.	Complete investigation to ascertain route cause
Exceedance of BAT-AEL limit – Monthly parameter	Record as an internal non-conformance.	Complete investigation to ascertain route cause
Exceed 90% of BAT-AEL limit – Free CN, HOI, As, Mn, Hg, AOX, Hg.	Increase monitoring frequency to fortnightly.	If no exceedances occur return to Monthly sampling.

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](mailto: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](mailto: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.