

## Compliance Assessment Report CAR\_NRW0043567

**Permit being assessed:** TP3639BH.

**For:** Tremorfa Melt Shop , **held by:** Celsa Manufacturing UK Ltd

**At:** Tremorfa Works New Melt Shop Seawall Road , Tremorfa, Cardiff, South Wales, CF24 5TH.

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

**Reason:** Routine.

**On:** 31/12/2023.

**Parts of permit assessed:** Annual & Quarter 4 Returns 2023.

**NRW Lead Officer:** Dale Padfield.

**Report sent to:** Hannah Powell, Environmental Manager, on 23/02/2024.

### 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	3.1.2
IR3A - Emissions and monitoring - Emissions to water, air or land	C3 Minor	3.1.2
IR3A - Emissions and monitoring - Emissions to water, air or land	C3 Minor	3.1.2
IR3E - Emissions and monitoring - Monitoring	C3 Minor	3.7.1(c)
IR3A - Emissions and monitoring - Emissions to water, air or land	C3 Minor	3.1.2
IR4C - Information - Notification	C2 Significant	4.3.1(b)(i)
IR3A - Emissions and monitoring - Emissions to water, air or land	C3 Minor	3.1.2
IR4B - Information - Reporting	C4 No impact	4.2.3(b)
IR1A - Management - General management	C3 Minor	1.1.1
IR1C - Management - Energy Efficiency	Assessed (A)	
IR1D - Management - Efficient use of raw materials	Assessed (A)	

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

Total non-compliances recorded	Total non-compliance score
9	59.1

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 compliance with particulate matter ELV on the A5 emission point.	Already completed
IR3A	Ensure compliance with NOx ELV on the A5 emission point.	Already completed
IR3A	Ensure compliance with Particulate Matter ELV on the A1 emission point.	Already completed
IR3E	Ensure continued functioning of the A5 stack CEM and data handling system.	Already completed
IR3A	Ensure compliance with particulate matter ELV on the A5 emission point.	Already completed
IR4C	Investigation on-going, any actions required as a result of this non-compliance will be communicated on conclusion of the investigation.	Already completed
IR3A	Investigation on-going, any actions required as a result of this non-compliance will be communicated on conclusion of the investigation.	Already completed
IR4B	Please ensure reports are submitted by the required deadlines.	Already completed
IR1A	Please see action 2 within the report.	31/03/2024

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

<p>Celsa</p> <p>EPR/TP3639BH</p> <p>This compliance assessment report details the following</p> <ul style="list-style-type: none"> <li>• Annual performance reports as required by permit condition 4.2.2.</li> <li>• Annual monitoring returns for 2023.</li> </ul>
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- Quarterly monitoring returns for Q4 (October – November) 2023.
- Non-compliances and schedule 5 notifications up to 31/12/2023.
- Other updates

#### Annual return forms A2, E1, PI1, R1 and S1.

**Form A2** – All the results submitted on the A2 reporting form for the annual monitoring spot check from the A1 and A2 emission points were compliant with the permitted ELVs. However, some discrepancies were identified with the reported PCDD/F sample, the issues surrounding this are discussed further in the CAR form.

**Form A2 for Emission point A5** - The annual reporting form Air2 was received for the emission point A5 on the 22/02/2024 detailing emissions results for monitoring that was conducted on the 16/02/2023. Please ensure reports are submitted on time. The following non-compliance will be issued for the late report.

**Non-compliance:** A category 4 minor non-compliance is issued for late Air2 monitoring returns for the A5 emission point. Permit condition 4.2.3(b). **It is an offence under Regulation 38(2) of the Environmental Permitting Regulations (consolidated 2016) to breach a permit condition or emission limit. Non-compliance score CCS4.**

The particulate matter result was 41 mg/m<sup>3</sup> against an ELV of 20 mg/m<sup>3</sup>, and the NO<sub>x</sub> result was 23.6 mg/m<sup>3</sup> against an ELV of 12 mg/m<sup>3</sup>. The following non-compliance scores will be issued for the ELV exceedances.

**Non-compliance:** A category 3 minor non-compliance is issued for exceeding the permitted ELV for particulate matter on the A5 emission point. Permit condition 3.1.2. **It is an offence under Regulation 38(2) of the Environmental Permitting Regulations (consolidated 2016) to breach a permit condition or emission limit. Non-compliance score CCS3.**

**Non-compliance:** A category 3 minor non-compliance is issued for exceeding the permitted ELV for NO<sub>x</sub> on the A5 emission point. Permit condition 3.1.2. **It is an offence under Regulation 38(2) of the Environmental Permitting Regulations (consolidated 2016) to breach a permit condition or emission limit. Non-compliance score CCS3.**

No Schedule 5 notification was received in relation to these ELV exceedances, Celsa have stated a retrospective Schedule 5 would be submitted for this breach. The notification failure will be consolidated with the non-compliance score issued later in this CAR. Root cause will also be investigated upon submission of the part 'B'.

**Form E1** – This form provides a summary of the total energy usage and CO<sub>2</sub> generated per tonne of product made. Total energy use (as primary energy) has continued to decrease but a slight increase in CO<sub>2</sub> produced and CO<sub>2</sub> per unit output. Energy trends are discussed in more detail in the annual performance report breakdown.

**Form PI1** – This provides details on several KPI's including, particulate matter, electricity consumption and water use. Electricity consumption, reported as kWh/ tonne of liquid steel has seen a large increase when compared to 2022 figures, with 2023 being the least efficient year in the last 6 years. Water use has remained comparable to that reported for 2022 and is consistent with previous years. Particulates released – reported as g / tonne of liquid steel, has decreased on the 2022 figure but remains higher than the reported figures

between 2018 and 2021.

**Form R1** – A total of 14,459.59 tonnes of hazardous waste and 80,520.74 tonnes on non-hazardous waste was reportedly removed from the site during 2023. Hazardous waste remains stable and comparable with previous years. Non-hazardous waste has seen a significant decrease, Celsa believes this to be a result of their new waste reduction strategy that focuses on improving segregation of different waste streams at source.

**Form S1** – Results for monitoring of effluent discharge to emissions points S1 and S2. The initial S1 form submitted gave the results for average of the monthly results for each parameter for the S1 emission point. However, it is a requirement that the results submitted for this emission point are the maximum (or minimum where required) result that were obtained during the reporting period. Celsa were asked to review the form and resubmit. The form was resubmitted on the 21/02/2023. All parameters are compliant with the permitted ELVs.

All parameters for emission point S2 were compliant within the permitted ELVs.

### **Annual performance report**

The report met the permit requirements and details the annual performance review as well as annual production data. Celsa have seen a significant decrease in natural gas usage, using 45% less natural gas per tonne of steel produced. Celsa believes this is the result of the Net Zero projects being undertaken at site and the effort being applied to these projects is clear in the outcomes being achieved. Meltshop electricity consumption per tonne of product has increased when compared to 2022, Celsa believes this is partly due to the challenges of maintaining energy efficiency at lower production rates, 2023 production figures are below those reported for 2022.

The A1 stack monthly average concentration of particulate matter, although below the ELV, appears to show an increase between July and December 2023, when compared to the first six months.

**Action 1: Celsa 23/02/2024:** Have Celsa explored the cause of the apparent increase in monthly average particulate readings? Due – 31/03/2024.

### **Fugitive emissions**

Improvements continue to be undertaken at site to reduce the generation and escape of fugitive emissions. These included the replacement and reinforcing of ducting, roof repairs and a new dust suppression system for the slag cooling bay. Celsa have also installed 2 additional ambient air particulate monitors, which are located at either end of the minerals site. These additional monitors should help provide a better understanding and control of any fugitive dust emissions arising from this area. The TOPAS monitor located at the Willows brook suffered several periods of inoperability during 2023, Celsa are in the process of replacing this monitor as its unreliability is becoming apparent.

### **Quarter 4 2023 reports**

The A5 emissions performance report indicated average particulate emissions for October, November and December to be within the normal range. Two schedule 5 notifications were received in relation to this emission point during this quarter, these are detailed below.

The A1 max daily particulate concentrations for October and November were within compliance with the

permitted ELV, an exceedance was recorded in December, a schedule 5 notification was received, and this is detailed below.

The TOPAS ambient particulate data shows average concentrations to be within the usual ranges recorded at this location.

Reporting form W1 was received for the 6 monthly spot sample of the Asphalt plant SUDS. The TPH concentration looks to have decreased when compared to the first 6 monthly report, and those submitted for 2022.

#### **Schedule 5 notifications**

On the 22/12/2023 a schedule 5 notification detailing an exceedance of the daily average particulate concentration was received. A concentration of 6.13 mg/m<sup>3</sup> was recorded against an ELV of 5 mg/m<sup>3</sup>. Celsa are still investigating the root-cause of the elevated particulates and NRW are awaiting the part B of the notification. The result is not significantly above the ELV as is likely to only have minor or minimal environmental impact, as such, the following non-compliance will be issued for the exceedance.

**Non-compliance:** A category 3 minor non-compliance is issued for exceeding the permitted ELV for particulate matter on the A1 emission point. Permit condition 3.1.2. **It is an offence under Regulation 38(2) of the Environmental Permitting Regulations (consolidated 2016) to breach a permit condition or emission limit. Non-compliance score CCS3.**

NRW are awaiting 'Part B' of the notification. Root cause will be investigated once this has been received.

On the 30/11/2023 a schedule 5 notification was received detailing a loss of data from the A5 particulate CEM which explained the CEM had failed to record any emission data since 14:00 on the 23/11/2023. A part B notification was received on the 20/12/2023 detailing the root-cause to be a power issue, whereby a damaged battery was preventing the unit from capturing and storing data. It was stated that the Steelphalt plant staff have now included pre-shift inspections of the monitor to ensure it's functional. It was also noted that there was a 6-day gap between the fault developing and being discovered. Celsa have instigated daily visual checks into their pre-shift inspections to ensure prompt discovery of any issues and stated all CEM data is reviewed on a daily basis for the previous days data. Capturing and storing this data is a requirement of the permit, without the data being captured there is no assurance that the plant was operating below the hourly average ELV. Also, it is assumed that the data logger plays a part in the CEM alarm, and without data being recorded the alarm would fail to trigger when the hourly average reading reaches the 15 mg/m<sup>3</sup> set point. The following non-compliance will be issued.

**Non-compliance:** A category 3 minor non-compliance is issued for failing to continuously monitor particulate matter levels from the A5 stack. Permit condition 3.7.1(c). **It is an offence under Regulation 38(2) of the Environmental Permitting Regulations (consolidated 2016) to breach a permit condition or emission limit. Non-compliance score CCS3.**

The battery for the data logger is a key piece of equipment, and without the battery functioning correctly the CEM is unable to store any of the captured data. It is expected that any equipment, the functioning of which minimises the risk of pollution, should be subject to robust maintenance procedures. In this case, the CEM was allowed to fall into a non-functional state and remained in this state for an extended period before the issue was identified and rectified. The following non-compliance will be issued for the root cause.

**Non-compliance:** A category 3 minor non-compliance is issued for the management system failing to account

for the maintenance requirements and failing to incorporate adequate pre-shift inspections on the of the A5 CEM data logger. Permit condition 1.1.1. **It is an offence under Regulation 38(2) of the Environmental Permitting Regulations (consolidated 2016) to breach a permit condition or emission limit. Non-compliance score CCS3.**

**Action 2: Celsa 23/02/2024:** What is the life expectancy of the battery used within the CEM data logger? How often does the manufacture suggest this is replaced? When was the battery last replaced? Does this now form part of the planned preventative maintenance for the CEM unit? Due 31/03/2024

On the 15/12/2023 a schedule 5 notification was received detailing an exceedance of the A5 emission point particulate ELV of 20 mg/m<sup>3</sup>, with an hourly average of 30 mg/m<sup>3</sup> being recorded at 08:00 on the 11/12/2023. A mechanical check found that the transfer screw gearbox for the bag house had failed. The failure had resulted from the gearbox chain snapping due to wear and tear, the service life of the chain was reported as approximately 15,000 hours depending on frequency of use and load. Celsa stated that the chain had been in service for approximately 12952 hours when it had failed, and this chain was last replaced on the 03/01/23.

The hours of use (12952 hours) are beyond the total hours within a single year (8670 hours) and far beyond the total hours the plant would be capable of operating in the 47 weeks between replacement and failure of the part (3619 – approximately, 11 hours a day for 47 weeks). Celsa have been asked to provide some clarification.

The following non-compliance will be issued for the elevated particulate result.

**Non-compliance:** A category 3 minor non-compliance is issued for exceeding the particulate ELV on the A5 emission point. Permit condition 3.1.2. **It is an offence under Regulation 38(2) of the Environmental Permitting Regulations (consolidated 2016) to breach a permit condition or emission limit. Non-compliance score CCS3.**

Within the schedule 5 notification under 'measures taken to minimise the impact', it was stated that the plant operations were suspended immediately following the alarm from the data logger. Review of the CEM data for the 11/12/2023 indicated that the alarm would have been triggered at around 08:00, however, the data trend for the particulate emissions appears to show that the plant continued to operate until around 11:30. This contradicts the statements made in the schedule 5 notification. It also contradicts Harsco's operating procedures, submitted as part of the permit application. The operating procedures state that the plant operations should be suspended when the emissions remain high and the alarm is triggered, and not recommence until the issue has been identified and resolved.

NRW are awaiting a response from Celsa once they complete their investigation.

#### **PCDD/F ELV exceedance**

Review of the annual monitoring submission for the A1 emission point revealed some discrepancies with the reported PCDD/F result. The discrepancies indicated that a re-test had been conducted, suggesting a potential ELV exceedance had occurred. A phone call with Celsa on Friday the 2<sup>nd</sup> of February confirmed that a PCDD/F sample that had been taken on the 24/10/2023 and had exceeded the permitted ELV. NRW requested that Celsa retrospectively submit a schedule 5 notification for the exceedance. When questioned as to why Celsa have failed to notify NRW of this exceedance, Celsa stated that they believed this approach was acceptable

as they were only required to submit 1 result for PCDD/F to cover the monitoring period.

As explained in the email sent on the 06/02/2024 any results submitted on the monitoring reporting form are caveated with;

"[1] The result given is the maximum value (or the minimum value in the case of a limit that is expressed as a minimum) obtained during the reporting period, expressed in the same terms as the emission limit value. Where the emission limit value is expressed as a range, the result is given as the 'minimum – maximum' measured values."

This requirement exists to prevent operators from conducting multiple monitoring / sampling campaigns or re-tests with the intention of 'cherry picking' data to fit the ELV requirements of the permit. NRW expect that operator self-monitoring is conducted to a high standard with any subsequent reporting adhering to the conditions of the permit, including ELV exceedances being reported via a schedule 5 notification, as required by permit condition 4.3.

Celsa became aware of the ELV exceedance on the 12/12/2023 and should have notified NRW within 24 hours, as required by the schedule 5 notification. It would appear that Celsa made the decision to not report the exceedance to NRW and instead undertook additional monitoring, the results of which were compliant with the permit ELV and were subsequently submitted on the annual returns.

NRW are treating this apparent deliberate attempt to conceal a dioxin monitoring result above the ELV as a serious matter. Failing to notify NRW immediately upon discovery of the ELV breach is considered to be potentially significant in its possible effects. The significant nature of this non-compliance is considered appropriate as concealing permit breaches prevents NRW from making any formal investigation and assessment of the potential impacts and prevents any action from being taken to mitigate any significant environmental impacts.

Investigation into the matter is ongoing, and a full assessment of Celsas procedures detailing notification and management of ELV exceedances will be made once the relevant information has been received. However, the following significant non-compliance will be issued for the notification failure, further scoring may be issued should the investigation reveal additional non-compliances.

**Non-compliance:** A category 2 significant non-compliance is issued for failing to notify NRW of an ELV exceedance. Permit condition 4.3.1(b)(i). **It is an offence under Regulation 38(2) of the Environmental Permitting Regulations (consolidated 2016) to breach a permit condition or emission limit. Non-compliance score CCS2.**

The PCDD/F result from the sample taken on the 24/10/2023 was 0.18 ng/m<sup>3</sup> against a limit of 0.1 ng/m<sup>3</sup>. PCDD/F ELV exceedances that occurred in 2020 resulted in Celsa conducting a Human Health Risk Assessment (HHRA) to assess the significance of any impact of the high dioxin results. The HHRA concluded that there was no significant impact associated with the elevated dioxin release that had occurred at this time. Given the concentration measured on the 24/10/2023 is below the concentrations used for the 2020 assessment, it is likely that impact of the 24/10/2023 is also not significant, as such, the following category 3 minor non-compliance will be issued. However, NRW are awaiting the findings from Celsas investigation into the root cause of the elevated results, the scoring may be elevated if further investigation reveals that the severity or duration has likely resulted in a greater release than what has been anticipated from the information currently available.

**Non-compliance:** A category 3 minor non-compliance is issued for exceeding the PCDD/F ELV. Permit condition 3.1.2. **It is an offence under Regulation 38(2) of the Environmental Permitting Regulations**

**(consolidated 2016) to breach a permit condition or emission limit. Non-compliance score CCS3.**

Some information has been received regarding the PCDD/F exceedance and failure to notify. A full investigation will be captured in a separate CAR form.

#### **Updates**

Actions form CAR\_NRW0041768

Action 1 can now be closed. Celsa have concluded that the total oil content of the millscakes is below 0.1% and can continue to be classified as non-hazardous.

Action 2 can now be closed. Celsa have confirmed the correct reference conditions are applied to any air emissions monitoring.

With regards to Action 3, Harsco are now in the processes of defining the start-up and shut down periods, which will allow omission of any particulate data from the averaging periods for the particulate data, Celsa are awaiting submission from Harsco to review.

Backdated waste returns 2018 to 2022 have been received, these will be reviewed and captured in a later CAR. NRW are awaiting submission of the quarterly waste returns for 2023.

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.