

Compliance Assessment Report CAR_NRW0046028

Permit being assessed: TP3639BH.

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

At: Seawall Road, Tremorfa, Cardiff, South Wales, CF24 5TH.

Type of assessment: Report/Data Review,

Reason: Routine.

On: 18/12/2024 between 12:30 and 15:00.

Parts of permit assessed: EAF Dust Waste .

NRW Lead Officer: Dale Padfield, accompanied by Andi Kemp.

Report sent to: -, Head of Sustainability & Public Affairs / Environmental Manager, on 24/01/2025.

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

Part of permitted activity assessed (compliance criteria)	Assessment result	Permit condition
IR3E - Installations - Emissions and monitoring - Monitoring	Action only (X)	
IR2A - Installations - Operations - Permitted activities	Action only (X)	

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?

Criteria	Action needed	Complete by
IR3E	Provide NRW with written confirmation that the monitoring detailed in Action 1 of the report will be undertaken and provide a proposed timeframe for agreement.	28/02/2025
IR2A	Provide NRW with written confirmation that no further EAF dust waste (EWC code 10 02 07) originating from the QT and DOB will be added to the 'stockpile' mound on the minerals site.	07/02/2025

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

CELSA Manufacturing UK Ltd*

EPR/TP3639BH

**CELSA Manufacturing UK Ltd has been sold to Sev.en Global Investments, however, the permit has yet to be transferred and Celsa is technically still the permit holder. As such, this report will reference 'the operator' to mean the holder of the environmental permit EPR/TP3639BH. This will ensure the actions remain relevant and issued against the holder of the permit as these actions are likely to be ongoing during the transition of the permit between holders.*

Brief overview of the situation

The operator notified NRW that the site was 'stockpiling' a problematic hazardous waste stream. The EAF fume extraction system results in three separate EAF dust fractions. A coarse fraction is deposited within the drop-out box, a second fraction is deposited within the quench tower and a third fraction is collected within the filter bag house. Due to the differing physical properties, the dust arising within the drop out box and quench tower typically have a lower zinc concentration than the dust collected within the bag house. The bag house dust is sent to Europe for zinc recovery. However, the concentration of zinc in the drop-out box and quench tower dust has historically been below the accepted threshold at the receiving recovery operation. As a result, the operator has been storing the drop-out box and quench tower dust on a parcel of land within the 'minerals site'. The waste is not being stored on an impermeable surface as is required when storing hazardous wastes. Furthermore no additional containment measures are in place.

The operator reported that this has been on-going for a considerable time ~ estimated to be >10 years. NRW's primary concern was the risk of pollutants leaching from the waste dust, potentially leading to contamination of the surrounding soil and groundwater. NRW requested that the operator undertake a ground investigation, in line with permit condition 3.1.3, a report 'EAF Material Waste Assessment 080724' was received, whereby the operator concluded that no detailed ground investigation would be required.

NRWs Response

The report 'EAF Material Waste Assessment 080724' has been reviewed and although some valid points have been raised, NRW do not agree with the overall conclusion of the report. It is appreciated that some risk of contamination may already exist from the underlying 'base' material from which the site is formed, and it is accepted that there are numerous historical non-engineered waste disposal sites within the area. However, the presence of pre-existing historic contamination is not entirely relevant to the situation. It is agreed that the pollutant linkage will need to be broken, i.e., the EAF waste dust mound will need to be removed, however, a ground investigation will reveal if there is a requirement for any additional measures to mitigate

further impact, as required by the IED.

Permit condition 3.1.3 reflects the IED which states that it is necessary to ensure that the operation of an installation does not lead to a deterioration of the quality of soil and groundwater. In order to detect possible soil and groundwater pollution at an early stage and, therefore, take appropriate corrective measures before the pollution spreads, periodic monitoring is required at least once every 5 years for groundwater and 10 years or soil, unless such monitoring is based on a systematic appraisal of the risk of contamination.

When considering deterioration, this would be a decline in soil and/or groundwater quality when compared to the quality measured within the baseline report. The IED required operators to submit a baseline report before starting the operation of an installation or before a permit for an installation is updated for the first time after the 7th of January 2013.

When considering this site, the requirement came into force following implementation of the BAT conclusions under IED, and with issuing of Version 3 of the permit. During the request for information (Regulation 60(1) notice) regarding Celsa's compliance to the then newly issued BAT conclusions and compliance with the IED, the following response was provided by Celsa.

“3.0 Baseline Report

As you are aware the CELSA melt Shop installation is relatively new and commenced operation in November 2007. A Site Condition Report was prepared and submitted as part of the permit application for the installation and incorporated a risk assessment considering soil and ground water contamination. A further site condition report was undertaken in 2009 for the Mineral Site activities which were consolidated into permit TP3639BH.

As this plant was designed and built within the last ten years due consideration has been taken in respect of pollution minimisation of soil and groundwater contamination. Following issue of the permit CELSA implemented a Site Protection Monitoring Plan and has a fully certified Environmental Management System to control the risks of its activities, as well as robust emergency response procedures.

During the operation of the CELSA Melt Shop installation there have been reportable pollution incidents that may have given rise to soil and groundwater pollution. Over the last five years CELSA has decommissioned different parts of the 'Old Melt shop' facility, a decommission plan was developed for these activities and this process has been carried out without known significant environmental impact.

It is therefore deemed by CELSA that the existing Site Condition Report remains relevant and the baseline data for the state of soil and groundwater contamination is current. This will allow a quantified comparison upon cessation of the activity at the Melt Shop.”

The operator has failed to appropriately manage a hazardous waste stream and has failed to conduct monitoring in line with permit condition 3.1.3. The waste EAF dust has been shown to be highly leachable for several heavy metals, with the potential to exceed EQS thresholds. As such, there is a reasonable risk that a deterioration in the groundwater and soil quality has occurred.

During the meeting held on the 18th of December 2024, the operator indicated that there had been difficulty finding the baseline data referenced within the regulation 60 (1) response, and the data that was available may not adequately cover the area in question. Our records indicate that the report referenced in the response is likely the 'minerals yard extension site condition report – EAWML30093'. The sampling conducted for the report focused on a parcel of land in the Southwest corner of the minerals site for the purpose of establishing site conditions for the proposed extension. If this is the only data available, it is unlikely to meet

the requirements of establishing baseline criteria for the minerals site. As such, it may be that there is inadequate baseline data for this area of the site.

It is accepted that the area is highly likely to have varying degrees of historical contamination present, due to the make-up of the ground (reclaimed land utilising steel production wastes as the backfill material) and a long history of heavy industrial use. However, as explained above, the purpose of establishing baseline criteria was to quantify historic contamination enabling comparisons to be made during the lifetime and eventual surrender of the permit and to enable identification of any ongoing pollution to mitigate at an early stage.

Poor quality or missing baseline data is likely to be problematic when the permit is eventually surrendered, and we may need to further explore the issue. However, regardless of having sufficient baseline data and the likely presence of pre-existing contamination, the operator is still required to undertake the monitoring as per permit condition 3.1.3, as there is a reasonable risk of contamination. Furthermore, undertaking the monitoring will help develop and maintain a record of the site condition, which may be of increased relevance given the likely gap in the current data. The monitoring data should be used to update the site condition report, which should be kept as a live document during the lifetime of the permit and updated with any matters concerning potential impact on soil or groundwater quality.

To comply with permit condition 3.1.3 the entire footprint of the permit needs to be considered. The operator should use the monitoring results to assess any areas where pollution may be occurring, investigate and implement corrective measures as necessary.

Additionally, an action will be issued for the operator to provide NRW with an evaluation of the monitoring data, specifically concerning the minerals site, to determine if the EAF dust mound has impacted the soil and groundwater, the extent of any likely impact and an evaluation of any risk this may pose to nearby receptors. This will provide a clear understanding on the condition of the soil and groundwater and provide insight into any potential impact. This will then help inform the requirement for any further measures, should they be justified, for example - increased monitoring or removal of soil to prevent further leaching and mobilisation of contaminants etc. Any such requirement will be carefully considered when the information is available and the cost/benefit of any such actions will be taken into account along with potential risk.

Action 1: The operator is to undertake groundwater and soil monitoring to comply with permit condition 3.1.3. Furthermore, provide NRW with an evaluation of the monitoring data, specifically concerning the minerals site, to determine if the EAF dust mound has impacted the soil and groundwater, the extent of any impact and an evaluation of any risk this may pose to nearby receptors. Provide NRW with written confirmation that this will be undertaken and provide a proposed timeframe for agreement. **Due 28/02/2025.**

The operator has indicated that the stockpiled waste EAF dust (EWC code 10 02 07) has reached an approximate quantity of 30,000 tonnes, and its storage at this location has been ongoing for several years (>10 years). An early version of Celsa's permit issued a permit limit of 1000 tonnes to prevent future legacy waste issues. This waste has been stored in an inappropriate manner, in an open 'stockpile' on potentially permeable ground with no containment or mitigation measures in place.

The storage of this waste stream had not been subject to any formal risk assessment and the operator had failed to recognise the potential environmental impacts or had neglected to act on any recognised risks. Under the landfill directive this stockpiled waste EAF dust mound is considered an illegal hazardous waste landfill.

This constitutes a breach of the environmental permit; non-compliance scoring will be issued, and further

enforcement action will be considered.

Due to the nature of the abatement system, the ongoing generation of this waste stream is unavoidable. Therefore an effective management strategy is required to ensure the risk of pollution is minimised and the waste is appropriately managed.

During the site meeting on the 18/12/2024, the operator provided details on the development of several strategies to deal with both the stockpile of EAF dust and a means to manage the on-going generation of this waste stream. A summary is provided below.

- The trial (detailed in CAR_NRW0045001) showed promising results with the zinc extraction proving successful. Further work was now being undertaken on the non-zinc 'Sterile fraction' to assess if it can be successfully used as a cementitious product. If this further step provides promising results, the operator will then investigate the possibility of using this material as an aggregate replacement to 'backfill' disused subsurface areas on site. This route may require an end-of-waste proposal which can be explored further pending the results. This would provide an opportunity to utilise approximately 10,000 tonnes of the stockpiled EAF dust.
- Global economics concerning the zinc market have resulted in the EAF dust stockpile becoming potentially economically viable as a potential zinc source. A first round of sampling was undertaken by the recovery facility was successful, a second higher tonnage sample is now scheduled to be taken and assessed. If successful, and the recovery facility is happy with the results / quality of the material, they have agreed to accept 1000 tonnes of the stockpiled material per shipload, which translates to approximately 1000 tonnes a quarter. Although the removal rate will take some time to clear the entire stockpile, it does provide a solution to clear the stockpiled waste with a good environmental outcome.
- A potential solution has been found for the source material (drop-out box (DOB) and quench tower (QT) dust). Celsa have proposed re-introducing the QT and DOB dusts with the primary dust, following crushing and screening to ensure homogeneity and consistency. This would result in a slight reduction in the overall zinc concentration of the final bagged EAF dust, however, the concentration will be significantly above the threshold accepted by the recovery facility. This solution makes sense both environmentally and economically.

With regards to the re-introduction of the QT and DOB dust back into the de-dusting system. This proposed change will be required to be varied into the permit. The activity will likely be considered a DAA and will be listed as such within the permit, subject to a successful variation application. A variation application is currently sitting in the permit queue, as the change is likely to be considered relatively minor, this change can be included with the current application, providing the relevant information can be submitted prior to the application being allocated for duly making.

The operator has indicated that as of January 2025, no further EAF dust waste from the QT and DOB will be added to the stockpile mound located at the minerals site. It was stated that all new arisings of DOB and QT dusts would be consigned as waste to an authorised and permitted facility until the change discussed above is implemented.

Action 2: Provide NRW with written confirmation that no further EAF dust waste (EWC code 10 02 07)

originating from the QT and DOB will be added to the 'stockpile' mound on the minerals site. **Due 07/02/2025**

As indicated above, the operator now has a means of returning to compliance. It is appreciated that the removal of the 'stockpile' in its entirety will likely take some time and the timeframe is also dependant on the outcome of several factors as discussed above. Once further information is available on the feasibility of undertaking the strategies detailed above, NRW will look to formalise an agreed timescale for the complete removal of the illegal stockpile and a return to compliance.

The operator has shown a commitment to rectifying the non-compliance, and we greatly appreciate the initiative. Please keep NRW updated with any developments regarding this matter.

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.