

Compliance Assessment Report CAR_NRW0041893

Permit being assessed: BL1096IB.

For: Padeswood Cement Works , held by Castle Cement Limited

At: PADESWOOD WORKS , PADESWOOD, MOLD, MOLD, CLWYD, CH7 4HB.

Type of assessment carried out: Audit, Reason: Routine.

On 09/05/2023 between 10:00 and 16:20.

Parts of permit assessed: See report

NRW Lead Officer: Lara Cubley, accompanied by Philip Harper.

Report sent to: David Quick, Plant Manager on 05/06/2023.

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

Part of permitted activity assessed (criteria)	Assessment result	Permit condition
C1 - General Management - Staff competency/training	C3 Minor	1.1.1
E5 - Emissions - Waste	Action only (X)	
E3 - Emissions - Surface water	C3 Minor	3.1.1

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

Total number of non-compliances recorded	Total non-compliance score
2	8

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
C1	See Actions 1, 2, & 3	28/07/2023
E5	See Action 4	30/06/2023
E3	Action 5	28/07/2023

Action criteria codes are listed in the 'Important information' section below.

3. What will happen next?

Any non-compliance we have identified and recorded on this form is an offence. It can result in criminal prosecution and/or suspension or revocation of your permit.

You are non-compliant with your permit.

At this time, we are issuing you with a warning for the non-compliance recorded above. Warnings may influence future enforcement response for continued or further non-compliance.

This statement does not stop us from taking additional enforcement action if further relevant information comes to light or offences continue.

4. Details of our assessment

1) Introduction

NRW conducted an announced inspection of the Padeswood Cement Works site on the 09/05/23. This was primarily to audit the waste acceptance at the site but to also review progress with some previous Compliance Assessment Report (CAR) actions and conduct a site walkover inspection.

2) Waste Acceptance

Operator Environmental Management System (EMS)

NRW received the following procedures related to waste acceptance from the operator prior to the inspection:

- UKCP07 Receipt, storage and handling of waste for recycling including fuel
- UKCP07.G2 Guidance on the Receipt storage and handling of alternative raw materials for recycling in cement manufacture including fuels
- PL-003 Acceptance & Compliance Procedure for Cemfuel
- PL-024 Sample Collection, Preparation and Formation of Composites, and Emissions Trading Scheme Task Schedule for Process Materials

Permit Requirements

Permit requirement specifically related to waste acceptance at the site are 1.1.4, 2.3.2, 2.3.3, 2.3.6, 2.3.7, 2.3.8, 2.3.9, 2.3.10, and 2.3.11, 4.2.5, 4.2.6. The following Best Available Techniques (BAT) Conclusions from the BAT Reference Document (BREF) for the Production of Cement, Lime, and Magnesium Oxide are also applicable to waste acceptance:

- **BAT 11** Waste Quality Control – Quality Assurance (QA) and analysis of WDF and ARM to reduce emissions. Controlling the amount of relevant parameters in waste such as chlorine, metals, sulphur, and total halogens.
- **BAT 28** In order to minimise the metals from the flue gases, BAT is selecting materials with a low concentration of relevant metals and limiting the content, especially Mercury and using a QA system to guarantee the characteristics of waste materials used.

Pre-Acceptance

The Quality & Environment Manager explained the process for pre-acceptance of any

alternative raw materials (ARMs) and waste derived fuels (WDFs) so as to satisfy themselves that the permit requirements are met. Prior to supply of any WDF or ARM the Quality & Environment Manager is reportedly consulted so that a supplier specification can be developed and conformance with the permit requirements are considered. The Manager responsible for procuring WDFs was not available on the day of the audit. However, we were able to speak with the Manager involved in pre-acceptance of ARMs.

As a sample NRW looked to review the recent introduction of Norox as an ARM. The responsible manager was unable to provide an updated assessment of cumulative impact for the fuels and materials used at the same time in accordance with UKCP07.F2 Multiple material impact assessment of UKCP07.G2. The operator was unable to provide a copy of this form and commented that work is required to update this form for future use in fate analysis.

NRW is of the opinion that this is a breach of permit condition 1.1.1 because the operator is not operating the activities in accordance with their management system (C1 Management Systems – Competence & Training – Minor C3). The potential impact has been assessed as minor given that emissions monitoring is generally compliant, with only mercury having approached the emission limit value).

ACTION 1: Review training plan to ensure all staff involved in waste procurement and acceptance are identified and tracking is implemented for appropriate training in EMS procedures related to waste acceptance. This should include refresher training.

ACTION 2: Provide management systems training to all staff involved in waste procurement and acceptance and provide evidence of completion to NRW by 28/07/23.

ADVICE & GUIDANCE: The Operator's attention is drawn to Section 9.2 of ISO 14001 on internal audits and management systems guidance in NRW's How to comply with your environmental permit [How to comply with your environmental permit \(cyfoethnaturiol.cymru\)](http://cyfoethnaturiol.cymru). Internal audits serve to check the implementation and effectiveness of procedures. This can lead to early preventative & corrective action to minimise breaches and non-compliances.

It is also advisable to ensure robust audit procedures of suppliers of ARMs & WDFs.

Conformity of Wastes

Permit Condition 2.3.11 requires the operator to take representative samples of all waste derived fuels (WDFs) delivered to site and test a representative selection of these samples to verify conformity with pre-acceptance characterisation of WDFs and ARMs as per Table S2.1 of the permit.

The operator's procedure PL-024 appears to document procedures for sample collection and analysis for all raw materials and WDFs apart from meat and bonemeal (MBM). However, this procedure appears to relate more to emissions trading rather than the environmental permit compliance.

UKCP07.G2 section 3.5.2 states, *'New fuels or raw materials shall be sampled and analysed to ensure compliance with existing permit requirements and/or agreed material specifications. The sampling requirements will be developed depending upon the outcome of the AFR risk assessment.'* 'UKCP07.G5 Sample AFR risk assessment' is referenced in this procedure.

This risk assessment template was requested following the audit to try and establish permit specific sampling requirements to ensure compliance. The template provided lists changes in composition as a hazard, with the additional control measure of periodic analysis. However, the risk assessment developed for Norox does not appear to consider a sampling plan in order to obtain a representative selection of samples to verify conformity to permit Table S2.1.

Sampling of ARMs and WDFs as per procedures PL-024 and PL-003, (specifically for Cemfuel), generally involves a sample of material per load which go to form a monthly composite sample for each waste type and supplier. This sample is sent away for laboratory analysis. Cemfuel also involves pre-acceptance of batches by provision of chemical analysis results from the supplier to the Shift Manager for prior acceptance to site. A batch is reportedly no more than 5 tanker deliveries.

It was noted that, for quite a few waste streams, a sample is provided with the load being delivered. No particular checks are made to ensure this sample is representative of the load being delivered. This sample also goes to make up the composite sample for analysis upon which permit compliance is assessed. As such, there is a big element of trust with the suppliers of ARMs & WDFs. For some waste streams obtaining a representative sample and checking compliance from a visual perspective can be difficult. In particular, solid recovered fuel (SRF) delivered in walking floor trailers which are docked directly to the facility.

NRW is of the opinion that this is a breach of permit condition 1.1.1 because the operator is not operating the activities in accordance with their management system (C1 Management Systems – Competence & Training – Minor C3 consolidated). The operator is not developing sampling plans based on the risk assessment to ensure compliance with permit requirements. The potential impact has been assessed as minor given that emissions monitoring is generally compliant, with only mercury having approached the emission limit value).

See actions 1 & 2 above and action 3 below.

ACTION 3: The Operator should review risk assessments for all ARMs & WDFs accepted to site and ensure appropriate sampling plans are in place to enable compliance with permit conditions 2.3.3, 2.3.6, 2.3.7 and 2.3.11. A summary of the review together with sampling & analytical plans for all ARMs & WDFs accepted to site shall be provided to NRW by 28/07/23.

ADVICE & GUIDANCE: The operator should consider sampling points in the design of the new SRF facility that would enable representative samples of SRF to be obtained.

A sample of results of chemical analyses were reviewed for waste accepted. The following laboratory certificates of SRF were inspected:

- Sample number 868708, representing a pelletised form of SRF known as 'sub coal' for the period December 2022
- Sample number 868709, SRF for the period December 2022
- Sample number 873375, representing a pelletised form of SRF known as 'sub coal' for the period February 2023
- Sample number 873376 SRF for the period February 2023

All analyte results were available as required by permit Table S2.1 and concentrations were well within these requirements for use of ARM & WDFs. A new source of SRF has recently been introduced (WKE). The sample has been sent off for laboratory analysis and the results are awaited.

Analytical results of pulverised fly ash (PFA) related to waste acceptance were requested for review following the audit. PFA is no longer classed as a waste when used in accordance with the quality protocol. PFA has been listed in the permit as a raw material for some time and is largely accepted as part of the cement manufacturing process. Some results from January & February 2021 were made available for review by the operator. These were provided by the supplier of PFA. Since approaching the permitted limit for mercury, the operator has been doing mercury analysis on PFA from January 2022. The Operator provided laboratory certificate reports number 4703533, 4758659, and 4758659 of mercury results for two suppliers of PFA for the periods of October, November, and December 2022. Concentrations varied between 187ng/g and 434ng/g (0.187 – 0.434mg/kg). The operator reports that one of the sources supplied has contains a significantly higher concentration of mercury than the other.

The Best Available Techniques (BAT) Conclusions for the cement sector are relevant to quality assurance of materials with respect to relevant metals. BAT 10 & 28 are concerned with selecting material with a low content of relevant metals and limiting their content, especially mercury. Using a QA system to guarantee the characteristics of the waste materials is BAT in order to minimise the emissions of metals from the flue-gasses. BAT-AELs (associated emission levels are as per emission limit values (ELVs) in the permit.

ADVICE & GUIDANCE: In developing sampling plans the operator should take into consideration issues such as: the potential process giving rise to the waste/material and as such the potential relevant constituents, how homogenous or variable the waste/material is, the likely fate of relevant metals, the proportion and volume of usage etc, as these are likely to impact on risk of emissions of metals from flue gases.

Tracking & Documentation

A review of documentation and tracking of materials to include ARM and Fuels was undertaken. In general, the documentation was in good order and records were good.

Some of the duty of care noted (DoC) accompanying wastes received were of a poor standard.

ADVICE & GUIDANCE: The Operator should ensure they are satisfied that they have enough information regarding wastes received on site and encourage suppliers to improve

DoC documentation.

Tare weights of deliveries are not obtained as a matter of course. The empty weight of wagons is no longer a requirement under new procedures.

ADVICE & GUIDANCE: The operator should consider introducing weighing out all wagons on tipping even if not leaving site to improve accuracy of data.

3) Site Inspection and CAR Actions

CAR 40629 Action 9 – Some work has been done on the mapping of the crane bay but unable to get a drawing of wall heights. There is still work to do to complete this action.

CAR40629 Action 12 – push walls of the coal shed have all been replaced with new panels down one side. The next side is programmed later this year.

The operator reports that electrostatic precipitators (ESPs) have been installed at a number of clinker transfer points and on transport to the mills as identified in the best available techniques (BAT) dust review 10/12/19. The collected dust discharges back onto conveyors.

During the site inspection, it was noted that a stockpile of discarded rubble, bagged cement, pallets and plastic had built up directly east of the limestone intake building.

ACTION 4: The operator is to provide NRW with a plan in writing to deal with this waste by 30/06/23.

During the site inspection, NRW noted that surface water drainage from a manhole by the clinker dome, (thought to be S141 on site drainage plan attached), discharged into the ditch around the coal store. See CAR40097 Action 11 – This ditch area then discharges to the Black Brook and is not currently an emission point listed in the permit. This action had required the operator to apply for a permit variation by 31/12/22 but this is still outstanding.

NRW is of the opinion that the sweeper pit discharge and run-off from the coal shed area to a tributary of the Black Brook is an unauthorised emission and breach of Permit Condition 3.1.1 (E2/E3 Emissions to land/water = C3).

ACTION 5: The operator should review drainage plans in this area and conduct any necessary surveys to ensure drainage plans are up to date and accurate. Submit review in writing to NRW with up to date draining plans by 28/07/23.

ACTION: See CAR40097 Action 11 which is still outstanding and well overdue. The operator should progress a variation application without delay to prevent further repeat non-compliances and potential escalation in enforcement action.

ADVICE & GUIDANCE: As discussed, the operator is required to progress improvement condition IC4 which is not entirely complete. This is around priority hazardous substances (PHS) and discharge to surface water and may wish to be considered in tandem with the

variation application above.

If you have any queries about this report, or to discuss completion of any actions, please contact the NRW Officer named above.

Important information

Legal status of this report

Your permit is issued to you under the Environmental Permitting Regulations. You have a responsibility to comply with the conditions of your permit and prevent pollution/harm of the environment. You must also ensure that you comply with any other relevant legislation that may apply to your site's operations.

This report explains the findings of our assessment and any action you are required to take. We categorise non-compliance using our guidance for assessing non-compliance at regulated sites.

When we find potential non-compliance/s we will normally give you advice on how to maintain compliance.

To correct non-compliance, we may:

- require you to take specific actions
- issue a notice
- review the conditions of your permit.

Any advice and guidance we give will be without prejudice to any other enforcement response that we consider may be required.

Assessment results and non-compliance categories (used in section 1):

Assessment result	Description
Assessed (A)	Assessed or assessed in part, no evidence of non-compliance found
Action only (X)	Action only relating to the activity assessment
Ongoing (O)	Ongoing non-compliance, not scored

Non-compliance category	Description	Score
C1 Major	Potential to have a major, serious, persistent and/or extensive impact or effect on the environment, people and/or property	60
C2 Significant	Potential to have a significant impact or effect on the environment, people and/or property	31
C3 Minor	Potential to have a minor or minimal impact or effect on the environment, people and/or property	4
C4 No environmental impact	Non-compliance at a regulated site that cannot foreseeably have any impact on the environment, people and/or property	0.1

How we use assessment scores

The number and severity of non-compliances recorded in a year will affect your annual subsistence fee the following year. A non-compliance factor is added to your site's Operator

Performance Risk Appraisal (OPRA) score when we calculate your fee to reflect the additional resource we use to assess permit compliance.

What are suspended scores?

In line with our guidance, we may suspend scores for up to six months to allow time for remedial action to be taken. Suspended scores will be re-instated if the action is not completed.

Full list of Industry and Waste action criteria (used in section 1 and 2):**A: Permitted activities**

- A1 Specified by permit

B: Infrastructure

- B1 Infrastructure – Engineering for prevention and control of emissions
- B2 Infrastructure – Closure and decommissioning
- B3 Infrastructure – Site drainage engineering (clean and foul)
- B4 Infrastructure – Containment of stored materials
- B5 Infrastructure – Plant and equipment

C: General management

- C1 General management – Staff competency/training
- C2 General management – Management system and operating procedures
- C3 General management – Materials acceptance
- C4 General management – Storage, handling, labelling and segregation

D: Incident management

- D1 Incident management – Site security
- D2 Incident management – Accidents, emergency and incident planning

E: Emissions

- E1 Emissions – Air
- E2 Emissions – Land and groundwater
- E3 Emissions – Surface water
- E4 Emissions – Sewer
- E5 Emissions – Waste

F: Amenity

- F1 Amenity – Odour
- F2 Amenity – Noise
- F3 Amenity – Dust/fibres/particulates and litter
- F4 Amenity – Pests/birds and scavengers
- F5 Amenity – Deposits on road

G: Monitoring and records, maintenance and reporting

- G1 Monitoring and records, maintenance and reporting – Monitoring of emissions and environment
- G2 Monitoring and records, maintenance and reporting – Records of activity, site diary/journal/events
- G3 Monitoring and records, maintenance and reporting – Maintenance records
- G4 Monitoring and records, maintenance and reporting – Reporting and notification to Natural Resources Wales

H: Resources efficiency

- H1 Resource efficiency – Efficient use of raw materials
- H2 Resource efficiency – Energy efficiency

Enforcement response

Any permit condition non-compliance is an offence and we may take legal action against you. Action we take can include prosecution, serving a notice on you and/or suspension or revocation of your permit. See our Enforcement and Sanctions Guidance for further information.

Data protection notice

You should make sure that anyone named in this report knows that the information it contains will be processed by Natural Resources Wales to fulfil its regulatory and monitoring functions and to maintain the relevant public register(s).

We may also use and/or disclose the report in connection with:

- offering or providing you with our literature or services relating to environmental matters
- consulting with the public, public bodies and other organisations (e.g. Health and Safety Executive, local authorities) on environmental issues
- carrying out statistical analysis, research and development on environmental issues
- providing public register information to enquirers
- investigating possible breaches of environmental law
- assessing customer service satisfaction and improving our service
- Freedom of Information Act or Environmental Information Regulations requests.

We may also pass it on to our agents or representatives to do these things on our behalf.

Disclosure of information – this report will be available to view on-line

If you think this report contains commercially confidential information that should not be placed on our public register, you must contact your local Natural Resources Wales office within **fifteen working days** of receiving this report, using the contact details in the accompanying email or letter. You must give a full explanation of why it should not be added to our public register, including specifying which information is commercially confidential. We will assess your request and respond to you within 20 working days to let you know if we agree to your request.

What do I do if I disagree with the report or have a complaint?

If you disagree with this compliance assessment report, you should contact the lead officer without delay to discuss your concerns.

If you are unable to resolve the issue with the lead officer or their line manager you should contact our Customer Contact team on 0300 065 3000 (Monday to Friday 08:00 – 18:00), or email enquiries@naturalresourceswales.gov.uk for details of how to raise your dispute further through our Complaints and Commendations procedure.

If you are dissatisfied with our response, you can contact the Public Services Ombudsman for Wales by phone on 0300 7900203 or by email at ask@ombudsman.wales

Welsh Language Standards

We are committed to establishing Natural Resources Wales as a naturally bilingual organisation. We will provide compliance reports in your preferred language.