

Compliance Assessment Report CAR_NRW0039868

Permit being assessed: WP3836ZF.

For: Wrexham Clinical Waste Treatment Facility (Incinerator), held by Tradebe Healthcare National Limited

At: Wrexham Clinical Waste Treatment Facility (Incinerator) Marlborough Road , Wrexham Industrial Estate, WREXHAM, Clwyd, LL13 9RJ.

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

On 28/04/2022 between 09:30 and 17:20.

Parts of permit assessed: Emissions control & abatement

NRW Lead Officer: Rebecca Harwood, accompanied by Stuart Ross.

Report sent to: Lorna Steel / Peter Stunden, SHEQ Lead / Site Manager on 30/05/2022.

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

Part of permitted activity assessed (criteria)	Assessment result	Permit condition
B1 - Infrastructure - Engineering for prevention and control of emissions	Action only (X)	
C2 - General Management - Management system and operating procedures	Action only (X)	

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

Total number of 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
B1	see actions below	31/07/2022
C2	see actions below	30/06/2022

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.

At this time, we do not intend to take any further action.

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

4. Details of our assessment

An audit of emissions control and abatement was undertaken at Wrexham Clinical Waste Incinerator on 28 April 2022.

The Site Manager, Engineering Manager and SHEQ Lead were on site during the audit.

The current process was discussed to identify whether there had been any changes to the operation of the plant or to the emissions control systems since the permit was granted. Following discussions in the site office and a review of documents a site walk around was conducted.

A small number of changes were identified when reviewing documents A5 Process Block Diagram and A6 Main Plant Equipment Plan. These changes are detailed below.

Waste Feed

The storage hopper with moving floor has long since been removed and bins are now loaded manually at a rate generally between 9 and 13 bins per hour, the rate of which can be controlled manually by the Team Leader via the SCADA system. The current temperature controls that inhibit the waste feed are $<850^{\circ}\text{C}$ and $>1220^{\circ}\text{C}$.

The Operator reported that during the April shutdown the kiln operating software was updated. This has led to the following issues observed on site:

- Kiln hood fugitive emissions during bin loading due to an imbalance in kiln operating pressures.
- The loss of recorded process data during start up.

Following a subsequent visit on 16 May 2022 the fugitive emissions appeared to be improved although the ID was still being run in manual as the software fix had not yet been installed.

Action 1: Please confirm whether the software system is now fully operational, if not timescales for resolution and whether the start up data was able to be retrieved. Report back to NRW by 6 June 2022.

Flu Gas Heat Exchanger / Bag House

The bag filter continues to be a single compartment containing 288 bags, all of which the Operator stated were recently replaced. The bags are dedusted using a timed pulse air system. The filter benefits from differential pressure and temperature monitoring that operates on a control loop with data relayed to the control room. The pulse air system activates at >16 mbar.

The Operator reports that the flue gas heat exchanger is no longer used to cool flue gases pre bag filter, instead exhaust gases can now enter the bag filter at higher temperatures owing to improvements in bag filter technology. The Operator has bypassed the inlet to the exchanger with the gases running directly to the bag filter, however the bag filter exhaust runs through the return leg of the heat exchanger before being discharged into the stack.

The Operator is investigating the cause of particulate emission limit exceedances associated with boiler cleaning. Investigations to date indicate that residual fine material within the heat exchanger is being swept into the stack emissions downstream of the bag filter owing to an increase in ID fan speeds during boiler cleaning. The operator is considering options to remove the heat exchanger in its entirety.

Action 2: Further information and justification is required to assess the proposed changes to the heat exchanger, including the impact any changes would have on emissions. Please supply your proposal by 31 July 2022.

Lime & Carbon Dosing

Lime is received to site in bulk and stored in a silo, carbon is delivered and stored in FIBCs, The silo benefits from an acoustic and mechanical vibrator to try and prevent lime blockages. It was reported that during wet or cold weather conditions condensation can occur in the silo causing caking.

Lime is removed from the silo via a screw conveyer. Since the permit was issued a new system has been installed whereby lime is loaded into a 'day bin' prior to being blown into the reactors and a pre-determined rate. The day bin has a high and low level sensor and if the bin does not fill within 30 minutes as required an alarm is raised.

There are 3 reactors on site prior to the bag filter. Lime and carbon are introduced into the first reactor in the upward flow. The rate of lime introduced varies and reacts to emission levels (CEM output), carbon is dosed at a fixed rate of 2.5kg per hour. The Operator stated that the lime and carbon mix is only 50% utilised and has introduced a process that allows some of the lime/carbon mix to be reused and introduced to the reactors alongside fresh carbon and lime. It was confirmed on the follow up visit on 16 May 2022 that the outlet screw that removes lime/carbon mix from the abatement system for disposal runs at a fixed speed. The Operator confirmed they needed to review the mass balance for the process and the efficacy of the recycled material.

Action 3: Provide rationale behind dosing and recirculation rates, including how the process has been optimised to ensure emissions are compliant. Please supply your proposal by 31 July 2022.

Action 4: As discussed during the visit, please provide the specification for the carbon used on site by 6 June 2022.

Further compliance assessment on the operation of the lime recirculation system will be included in the Compliance Assessment Report for 16 May 2022.

Combustion Control

It is understood that CO and O2 CEMS outputs are used to alter combustion conditions to optimise emissions control. At the time of the visit it was unclear how this system operated as no detail could be provided by the Operator. Further information is required and a follow up discussion with the Process Control Engineer is needed. NRW will look to arrange a follow up meeting.

During the inspection it was noted that the gas supplies to the secondary burners were isolated (isolation valves locked off). The secondary chamber was operating at over 1000°C and the Operator reported that these burners are generally only required during start up, with the primary burner to control operating temperatures. NRW queried whether these should be available for use during normal operation.

Action 5: Provide an explanation as to why the secondary burners were isolated and what impact this may have on emissions control during plant operation. Please provide your procedure(s) as to the use of secondary burners during start up, shut down and normal operations and justify how this practice allows temperatures to be maintained. Please provide this information to NRW by 30 June 2022.

It was observed by NRW and Plant Operatives that the gas isolation valve was locked off but was still allowing a flow of gas. This may pose a health and safety risk and should be investigated.

Process Operating Procedures

There is no single procedure for the operation of the kiln process, a number of existing procedures are linked and the Operator is considering merging some of these.

It was noted that the Team Leader can manually control the primary, secondary and main ID fan. Lime/carbon dosing cannot be manually controlled but the recirculation rate can be by operating a valve.

Action 6: Provide procedures for kiln operation to NRW by 30 June 2022.

Maintenance

Some plant maintenance arrangements were discussed and a follow up visit arranged for the 16 May 2022 to review these in more detail. A separate CAR form will be issued covering maintenance following the visit.

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.