

Compliance Assessment Report CAR_NRW0046426

Permit being assessed: BT4885IT.

For: Shotton Paper Mill EPR/BT4885IT, **held by:** Shotton Mill Limited

At: WEIGHBRIDGE ROAD SHOTTON , DEESIDE, DEESIDE, CLWYD, CH5 2LL.

Type of assessment: Report/Data Review,

Reason: Routine.

On: 31/12/2024.

Parts of permit assessed: Quarterly Returns and Annual Reports.

NRW Lead Officer: Stuart Ross.

Report sent to: Technical / Environmental Manager, Technical / Environmental Manager,
on 25/02/2025.

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

Part of permitted activity assessed (compliance criteria)	Assessment result	Permit condition
IR3A(1) - Installations - Emissions and monitoring - Emissions to water	Assessed (A)	
IR3A(2) - Installations - Emissions and monitoring - Emissions to air	C3 Minor	3.1.2
IR1A - Installations - Management - General Management	C3 Minor	1.1.1
IR3A(2) - Installations - Emissions and monitoring - Emissions to air	C3 Minor	3.1.2
IR1A - Installations - Management - General Management	C3 Minor	1.1.1
IR3A(2) - Installations - Emissions and monitoring - Emissions to air	C3 Minor	3.1.2
IR1A - Installations - Management - General Management	C3 Minor	1.1.1
IR3A(2) - Installations - Emissions and monitoring - Emissions to air	C3 Minor	3.1.2
IR1A - Installations - Management - General Management	C3 Minor	1.1.1
IR4B - Installations - Information - Reporting	C4 No impact	4.2.2

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

Total non-compliances recorded	Total non-compliance score
9	32.1

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(2)	Refer details section	31/03/2025
IR1A	Refer details section.	31/03/2025
IR3A(2)	Refer details section	31/03/2025
IR1A	Refer details section	31/03/2025
IR3A(2)	Refer details section	31/03/2025
IR1A	Refer details section	31/03/2025
IR3A(2)	Refer details section	31/03/2025
IR1A	Refer details section	31/03/2025
IR4B	Refer details section	31/03/2025

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.

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

This Compliance Assessment Report follows a review of routine emissions monitoring returns for the period 01/01/24 - 31/12/24 as well as the 2024 annual report. As this period covers four monitoring periods (quarters) these have been assessed individually in accordance with NRW's compliance assessment guidance.

CEMS Data Returns (Emission Point A20)

Permit condition 3.3.5(b) requires that "valid half-hourly average values shall be determined within the effective operating time (excluding the start-up and shut-down periods)..."

Operators must still continuously monitor and record their emissions during start up and

shut down periods, but the results can be excluded from the calculation of half hourly and daily average emissions values and do not need to be reported.

As per previous years, the CEMS data reported for 2024 includes a number of periods of plant down time as evidenced by the operator in the supporting information accompanying the returns. This data has been discounted for compliance assessment against Emission Limit Values (ELVs).

During 2024 a number of Schedule 5 notifications were submitted across the year, some if these relate to periods of IED abnormal operation (e.g. plant start up) and therefore emissions data is not assessed against the ELVs. In other cases there are ELV exceedances during normal plant operation and these have attracted non-compliance scores (refer below).

To address this reporting issue, and following actions set in CAR reference CAR_NRW0044196 and CAR_NRW0042141, work to upgrade the CEMS data handling software and implement process logic for start and shutdown is ongoing and will be revisited by NRW in April 2025.

January - March 2024

1. Emissions to Air (Emission Point A20)

Continuous Emissions Monitoring Data

During this period two Schedule 5 notifications were received for apparent ELV exceedances.

1.1 Oxides of Nitrogen (NO_x)

- On 07/02/24 the NO_x daily average was 200.6 mg/Nm³ versus an (ELV) of 200mg/Nm³

The operator reported that *'the mornings NO_x readings for boiler emissions reading higher than typical levels. Decision made to put boiler on gas so maintenance could clear recirculation fan pressure control transmission pipes. NO_x levels vastly improved and the boiler production was reduced further but the 24hr average exceeded our limits'*.

This is a breach of permit conditions 3.1.2 and 1.1.1, each attracting a non-compliance score of C3.

Action 1 – Ensure the boiler is maintained in good operating condition to minimise emissions and prevent ELV exceedances due to breakdowns and disturbances.

1.2 Carbon Monoxide (CO)

- On 26/03/24 a single CO half hourly average was 103 mg/Nm³ versus an ELV of 100mg/ Nm³.

The operator initially reported that the boiler was *'Suffering with bed temperatures and air flow due to poor bed quality and sand level. This was caused by a failure of metallic*

separator, which removes metals from sand bed'. In response the operator 'screened bed and added more sand to improved combustion quality'.

Later in the Part B the operator stated that 'Originally it was attributed to the difficulties experienced with the boiler bed temperature control. After interrogating the trends though, it was noticeable that the stack oxygen reading was 20%. Each morning CEMS performs a self-calibration test which uses oxygen to calibrate the system. Gasmet have advised us that Nitrogen should be used during the self-test. Automation have begun a modification process to change over to Gasmet recommendations. All other 30 minute averages look well within control'.

Action 2 – Refer to Action 8 below.

B) Six Monthly Extractive Monitoring Data

No data reported for this quarter.

2. Emissions to Surface Water (Emission Point W1)

Emissions compliant

3. Emissions to Sewer (Emission Point E1)

Emissions compliant

4. Other Returns

Form Performance 2 received - nil return

Form Residue 1 received, Incinerator Bottom Ash (IBA) Loss on Ignition (LOI) <0.2%

April - June 2024

1. Emissions to Air (Emission Point A20)

A) Continuous Emissions Monitoring Data

During this period four Schedule 5 notifications were received for apparent CO ELV exceedances.

- On 25/04/24 a single CO half hourly average was 117 mg/Nm³ versus an ELV of 100mg/Nm³.

The operator reported that 'Boiler bottom ash system went offline due to conveyor malfunction. Boiler bed condition deteriorated overnight due to sand being contaminated by fuel with no screening ability. Fuel screw 2 failed due to blockage. This upset the furnace conditions causing a higher CO 30-minute reading.

Boiler production was reduced and fuel screw 2 reset and back in production. Boiler settled

and all following CO readings well within limits.

Boiler production rate reduced for the following 24hrs, Bottom Ash Conveyer repaired.'

This is a breach of permit conditions 3.1.2 and 1.1.1, each attracting a non-compliance score of C3.

Action 3 – Refer Action 1.

- On 21/05/24 a single CO half hourly average was 148 mg/Nm³ versus an ELV of 100mg/Nm³.

The operator reported that the *'maintenance team investigating issues with Day Silo 2 fuel feeding screw caused unstable combustion conditions. All following CO measurements within consent limits'*.

Trends provided *'indicate fuel feeding interruption from Day Silo 2, repairs effected to screw within day silo and typical boiler conditions resumed. Boiler production reduced by 25% during higher CO readings to try and bring down the 30 minute average'*.

This is a breach of permit conditions 3.1.2 and 1.1.1, each attracting a non-compliance score of C3. Scores are consolidated against each permit condition for this quarter.

Action 4 – Refer Action 1.

- On 22/05/24 two consecutive half hourly averages were exceeded at 22:30 and 23:00 at 450.5 and 247mg/Nm³ versus an ELV of 100mg/Nm³. This also lead to a marginal exceedance of the daily ELV with 51mg/Nm³ versus the ELV of 50mg/Nm³.

The operator reported that the *'boiler tripped at 22:00hrs due to a PLC failure in the baghouse'*. The CO exceedances occurred whilst the boiler was out of service (no solid fuel fed) and therefore no non-compliance is recorded

- On 19/06/24 - a single CO half hourly average was reported at 101.6 mg/Nm³ versus an ELV of 100mg/Nm³.

The boiler was in start-up and therefore no non-compliance is recorded.

B) Six Monthly Extractive Monitoring Data

Emissions monitoring data was provided as required – emissions fully compliant.

2. Emissions to Surface Water (Emission Point W1)

Emissions compliant

3. Emissions to Sewer (Emission Point E1)

Emissions compliant

4. Other Returns

Form Performance 2 received - nil return

Form Residue 1 received, IBA LOI <0.2 %

July - September 2024

1. Emissions to Air (Emission Point A20)

A) Continuous Emissions Monitoring Data

During this period two Schedule 5 notifications were received for apparent CO ELV exceedances.

- On 25/07/24 a single CO half hourly average was reported at 103.8 mg/Nm³ versus an ELV of 100mg/Nm³.

Subsequent information supplied in the Part B stabilised that '*solid fuel feeding lost on one side of the boiler due to feeding screw securing bolts shearing. During this interruption the gas burners kicked in for a short time. Boiler conditions settled after very short time but the increase in stack oxygen level caused a high CO reading towards the end of the 30 minute average.*

Boiler compensated for unsteady conditions and following 30 minute average controlled within limits. Fuel feeding screw repaired and normal operating conditions followed'.

This is a breach of permit conditions 3.1.2 and 1.1.1, each attracting a non-compliance score of C3.

Action 5 – Refer Action 1

- On 15/09/24 a single CO half hourly average was reported at 102 mg/Nm³ versus an ELV of 100mg/Nm³.

Subsequent information provided in the Part B stated that the CO reading spiked whilst CEMS unit performed self-calibration. Oxygen level in stack reading 20%. Process data was supplied to evidence this.

Action 6 – Refer to Action 8 below.

B) Six Monthly Extractive Monitoring Data

No data reported for this quarter.

2. Emissions to Surface Water (Emission Point W1)

Emissions compliant

3. Emissions to Sewer (Emission Point E1)

Emissions compliant

4. Other Returns

Form Performance 2 received - nil return

Form Residue 1 received.

October - December 2024

1. Emissions to Air (Emission Point A20)

A) Continuous Emissions Monitoring Data

During this period two Schedule 5 notifications were received for apparent CO ELV exceedances.

- Between 23:30 on 01/11/24 and 01:30 on 02/11/24 half hourly CO emissions exceeded the ELV with results ranging from 127.4 to 219.7mg/Nm³, versus ELV of 100mg/Nm³.

The operator reported that they were '*attempting to start up furnace after a 30 day maintenance shut. operator was in the process of introducing solid fuel then turning of the gas burners. Whilst trying to establish solid fuel CO readings continued to be high. Shift Automation Technicians investigated the issue and found a leak in pneumatic pipe feeding the oxygen probe within the furnace. Once this leak was repaired all following CO readings returned to healthy reading*'

The operator reported that the work order for the oxygen probes has been modified to include pipework condition checks to prevent a recurrence and that this will be carried out in all future maintenance tasks.

Based on the information provided NRW considers that these ELV exceedances occurred during start up and therefore no non-compliance is recorded.

- On 05/11/24 two CO half hourly averages were recorded at 138.6 and 127.3 mg/Nm³ versus an ELV of 100mg/Nm³.

The operator subsequently reported that '*fuel feeding on one side of the boiler lost due to blockage detector activating. Operator tried to run boiler with fuel feeding on once side and gas burner. Second 30 minute CO reading continued to read excessively, decision made to cease burning solid fuel in the 30 minute average period.*

After boiler ceased to burn solid fuel, fault finding diagnosed a short circuit in the blockage detector loop, This fault was rectified by the shift automation technician. Boiler started up with normal conditions for fuel feeding. All following CO readings within tolerances’.

This is a breach of permit conditions 3.1.2 and 1.1.1, each attracting a non-compliance score of C3.

Action 7 – Refer Action 1.

- At 07:00 on 10/12/24 a single CO half hourly average was recorded at 109.7mg/Nm³ versus an ELV of 100mg/Nm³.

The operator reported that at the time of the exceedance *‘the CEMS was performing self calibration, stack oxygen reading 0%. CO reading increased during this period, all following CO readings well within limits. This is the 2nd time this has happened this year.*

After guidance from Gasmot, we changed our calibration gas from oxygen to nitrogen. But this does not look as though the issue is rectified. We will see further guidance from Gasmot’.

Action 8 – Provide NRW with a technical summary of the test gas requirements for the installed MCERTS oxygen analyser and associated advice received from Gasmot to change test gas from Oxygen to Nitrogen. Also provide subsequent advice received from Gasmot following the CO spike 10/12/24 along with the steps you are taking to address this issue. Please do so by 31/03/25.

Action 9 - Permit condition 3.3.3 (c) includes provisions for invalidating half hourly periods for CEMS calibration. Where the specified criteria are met half hourly averages affected by CEMS calibration may be invalidated and you should implement accordingly. This action must be form part of the CEMS data handling software improvements.

B) Six Monthly Extractive Monitoring Data

Emissions monitoring data was provided as required – emissions fully compliant.

2. Emissions to Surface Water (Emission Point W1)

Emissions compliant

3. Emissions to Sewer (Emission Point E1)

Emissions compliant

4. Other Returns

Form Performance 2 received - nil return

Form Residue 1 received.

Annual Report

Permit condition 4.2.2 requires that;

'For the following activities referenced in schedule 1, table S1.1 (A1 to A6.) A report or reports on the performance of the activities over the previous year shall be submitted to Natural Resources Wales by 31 January (or other date agreed in writing by Natural Resources Wales) each year. The report(s) shall include as a minimum:

(a) a review of the results of the monitoring and assessment carried out in accordance with the permit including an interpretive review of that data;

(b) the annual production /treatment data set out in schedule 4 table S4.2;

(c) the performance parameters set out in schedule 4 table S4.3 using the forms specified in table S4.4 of that schedule; and

(d) the functioning and monitoring of the incineration plant in a format agreed with Natural Resources Wales. The report shall, as a minimum requirement (as required by Chapter IV of the Industrial Emissions Directive) give an account of the running of the process and the emissions into air and water compared with the emission standards in the IED'.

The operator submitted an annual report that includes a review of monitoring data for the Boiler 7 emissions and discharges to surface water from W1. Given no paper making activities are underway no other emissions are considered in the report.

However, the report does not cover the full requirements of Table S4.2 and form 'Performance 1 and 3 have not been received as listed in table S4.3.

This is a breach of permit condition 4.2.2 and attracts a non compliance score of C4.

Action 10 - Submit the outstanding information detailed in Table S4.2 and S4.3 by 31/03/25. You can provide a 'NIL Return' for any parameters associated with papermaking.

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.