

Compliance Assessment Report CAR_NRW0041200

Permit being assessed: EP3738NG.

For: Bridgend Paper Mill EPR/EP3738NG, held by WEPA UK Ltd

At: BRIDGEND PAPER MILLS , LLANGYNWYD, MAESTEG, MAESTEG, MID GLAMORGAN, CF34 9RS.

Type of assessment carried out: Report/Data Review, Reason: Routine.

On 31/12/2022 between 09:00 and 17:00.

Parts of permit assessed: Emissions control, waste assessment, efficiency, monitoring, reporting and emissions

NRW Lead Officer: Antony Leakey, accompanied by Kelly Sherratt.

Report sent to: Richard Lewis, Energy & Environment Manager on 16/02/2023.

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	Assessed (A)	
B4 - Infrastructure - Containment of stored materials	Assessed (A)	
C2 - General Management - Management system and operating procedures	Assessed (A)	
E1 - Emissions - Air	Assessed (A)	
E3 - Emissions - Surface water	Assessed (A)	
E5 - Emissions - Waste	Assessed (A)	
F1 - Amenity - Odour	Assessed (A)	
G4 - Monitoring and Records, Maintenance and Reporting - Reporting and notification to Natural Resources Wales	Assessed (A)	
H1 - Resource Efficiency - Efficient use of raw materials	Assessed (A)	
H2 - Resource Efficiency - Energy efficiency	Assessed (A)	

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?

No action required.

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

Bridgend Paper Mill

Emissions and reporting review and update – 31 December 2022

Summary of previous CAR action status			
Permit condition	Action summary	Due date	Action status
n/a	Provide an update with eel screening progress.	31/12/22	Complete, but further review required (see action below)
1.1.1	Provide an update on wet NOx control installation progress.	31/12/22	Ongoing. Installation delays due to plant availability. This will need to be completed as a matter of urgency.
n/a	Review NOx mass emissions estimation.	31/12/22	Complete.
n/a	Consider the need for review of effluent metals bioavailability	Ongoing	Ongoing
n/a	Check metal concentration and energy usage units and update reports if necessary.	Ongoing	Ongoing
n/a	Consider the need for review of effluent metals bioavailability.	Ongoing	Ongoing
n/a	Review options to improve effluent pH control.	31/12/22	Complete.

Eel Regulation compliance proposals

Abstraction screen installation is understood to be complete but was not operational during the site inspection on 8/9/22 because the mill was on 100% recycle while the main clarifier was undergoing repair.

ACTION: WEPA to provide an update with eel screen performance at next compliance meeting.

CHP GT NOx emissions – Improvement Condition ref. IC9 Update

Wet NOx control is still not fully installed, and commissioning of the system delayed into 2023. Now that CHP NOx emissions have effectively doubled following commissioning of Neptune it is important that reductions are achieved without further significant delay. Current emission levels are well above historic BAT benchmarks (125 mg NOx/Nm³) and current BAT standards (75-80 mg NOx/Nm³) for this scale of gas turbine. Previous non-compliance with permit condition 1.1.1 (management of processes in accordance with BAT to minimise emissions) was suspended pending completion of this long-duration project. However, further delay in 2023 will necessitate a review of this position.

ACTION: WEPA to provide an update on progress with GT NOx emissions reduction and adoption of reduced ELVs in compliance with IC9 at next compliance meeting.

The regulatory implications of re-adoption of supplementary firing into the gas turbine exhaust ducts to boost steam production and follow steam load more efficiently than using the standby boiler were discussed.

WEPA will need to check that the potential benefits are worth-while and the rating information used below to illustrate the regulatory implications.

Assuming that each GT is rated at 18 MW_{th} (approx. 5 MWe), there is about 7 MW_{th} head room per unit before the Large Combustion Plant (LCP) threshold (50 MW_{th}) is exceeded for the combined CHP:

$\{50 - [2 \times 18]\} / 2$ – the standby boiler is not included in the LCP calculation because its flue is separate from the common windshield of the GTs. However, it should be noted that upgrading of this boiler to meet BAT requirements may be necessary if high load factors are maintained. Low load factor operation is likely to mean that only MCPD minimum standards need to be achieved and this avoided investment may be another advantage of resuming supplementary firing.

It is assumed that the standby boiler is rated for 13 MW_{th} and WEPA could, in principle, match the steam capacity of the boiler using GT supplementary firing without becoming subject to IED LCP Chapter III and Bref requirements. This assumes that there is sufficient capacity in the HRSGs.

If the CHP rated thermal input were to exceed 50 MW_{th} then the Large Combustion Plant (LCP) Bref requires CEMs for all LCPs operating >1500 hours per annum, i.e. there is no lower threshold. This is a BAT requirement and there may be scope to consider reduction of the requirements for a CEM on each unit, i.e. one unit with a CEM and the second unit with predictive emissions monitoring (PEM).

ACTION: WEPA to review and provide an update on potential to reinstate supplementary firing at next compliance meeting.

Waste review

WEPA has confirmed that no direct land spreading of paper sludge is taking place.

Pre-operational measure PO1 response

A commissioning plan was received 7/4/22 in compliance with this permit condition 2.5.1 before start-up of the Neptune paper machine in May.

A few points of clarification were sought by email to confirm that key environmental protection procedures/checks were in place:

- Completion of post-construction CCTV surveys of effluent and drainage systems to confirm there are no misconnections that might cause a polluting release to surface water/groundwater. CCTV surveys were conducted for Departments A (Stock Yard), B (Stock Preparation) and department C (Neptune machine area). No issues were reported.
- Measures to ensure that any unplanned increases in effluent load can be managed by the wastewater treatment plant. Modelling at the design stage confirmed that any additional load can be managed.
- Hood exhaust NOx emissions monitored in real time to ensure that ELV compliance is managed during burner set up.
- Steam blowing activities restricted to daytime only. All local neighbours were notified prior to this activity taking place. No complaints were received.
- Chemical handling operations commenced only after verification that water testing was successfully completed.

The initial start-up and commissioning phases were completed without any environmental incidents or complaints.

Site Inspection

A site inspection was undertaken on 8/9/22 when progress with commissioning of the new Neptune paper machine and current performance was reviewed. Water use per ADT of paper production is significantly lower than for the existing Jupiter machine and the improved water treatment arrangements have enabled the mill to operate on 100% recycle for 4 weeks at the time of the visit. Overall water recycling increased to 66% during 2022 compared to 40-50% typical recent performance.

A Schedule 5 notification was received from WEPA on 15/7/22 following failure of the main rotary bridge alignment. The final settlement tank repairs and failure of the main rotor were reviewed. It appears that previous repairs or original fixing of the central column had not utilised resin-set bolting which resulted in failure of the fixing over a period of many years.

The effluent treatment process was continuing to operate by use of a spare primary clarifier as a final settlement clarifier using a temporary diesel-powered pump around system. This work around appears to have been successful and no emission limits were exceeding during the period.

Some sludge solids were noted on the ground around the temporary clarifier and were contributing to some localised hydrogen sulphide odour, although this was not likely to cause offsite odour.

The Neptune chemical storage area was inspected. This facility was fully contained and appeared to be constructed to a good standard.

Emissions review

The mill has operated normally during 2022, with increased output following the commissioning of the new Neptune paper machine.

2022 sludge analysis – it is noted that despite periods of 100% water recycle the sludge metal analysis has not increased. However, the pH has reduced, particularly in July 2022 and this may have implications for mobility of metals during and post-use.

ACTION: WEPA to review and provide an update on paper sludge pH implications at next compliance meeting.

Monitoring data and annual performance indicators for 2022 and the annual report for 2022 (condition 4.2.2 compliance) has been reviewed and no breach of permit conditions was identified.

Metals release reporting to water do not have units, please provide these in future reports.

Previously it was noted that the effluent pH rises close to the upper limit of 8.5 during the summer months, when temperatures are also high. In combination high pH and temperature could result in increases in unionised ammonia in the receiving water. During 2022 the effluent pH appears to be more stable with peak values well below 8 with benefits to the receiving water during periods of low flow, high temperature and high ammonia levels.

All emissions and reporting are compliant with the permit requirements. It is noted that the NO_x emissions from the Neptune Hood Exhaust are very close to the ELV. WEPA should investigate this and identify measures to ensure that there is sufficient headroom to allow for variation in operation without exceeding the ELV.

ACTION: WEPA to review options to improve Neptune Hood Exhaust NO_x control and provide an update at next compliance meeting.

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.

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.