Compliance Assessment Report CAR_NRW0050761

Permit being assessed: BB3297CG.

For: Hirwaun OCGT Plant, **held by:** Drax Power Ltd

At: Main Avenue, Hirwaun Industrial Estate, Hirwaun, Aberdare, RCT, CF44 9UP.

Type of assessment: Report/Data Review,

Reason: Routine.

On: 19/02/2026.

Parts of permit assessed: Pre-operational measures.

NRW Lead Officer: Antony Leakey, accompanied by Geraint Harris.

Report sent to: n/a, Environmental Compliance Lead, on 19/02/2026.

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

Part of permitted activity assessed (compliance criteria)	Assessment result	Permit condition
IR2F - Installations - Operations - Pre-operational conditions	Assessed (A)	
IR2A - Installations - Operations - Permitted activities	Assessed (A)	

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?

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

Pre-operational measure reference PO1 – soil and groundwater monitoring plan

Drax initially submitted a soil and ground water data report in response to PO1 of the permit pre-operational conditions.

The NRW geoscience team raised the following comments:

- The submission did not constitute a "written monitoring plan" and largely constituted existing sampling results with no context or interpretation to support the submission.
- A soil and groundwater monitoring plan needs to include some background and detail explaining what is to be sampled, where and why based on the site conceptual model, the measures taken to prevent emissions to soil and groundwater and the intended maintenance and surveillance of those measures.
- Accompanying the map showing which boreholes and test pits have been sampled a description of the locations and rationale for their selection, including BH/pit logs is required, along with confirmation which will be used in the future for ongoing monitoring to allow comparison between locations over time.
- Justification of sampling suite is required - what is to be sampled and tested for and why. This should consider contaminants likely to be found on site and those potentially introduced by operational phase. Metals, TPHs and PAHs might be sufficient given the permitted activities, but should consider whether other potentially contaminating materials present in cooling circuits and gas turbine cleaning solutions that might also be present at the site historically.
- Justification of the sampling frequency – the default 5- and 10-year requirement may not be sufficient. Initially Drax proposed to collect the initial soil samples during installation of the GW boreholes, but it is not clear how subsequent soil samples would be collected at these locations.

Drax provided a revised submission (Soil and Groundwater Monitoring Plan WSP report no. 2024309109-001_rev3) addressing the above aspects on 18 November 2024.

NRW is content with the revised site condition monitoring plan (P01).

Pre-operational measure reference PO2 – commissioning plan

Commissioning Plan – Emissions – Mott MacDonald Document reference: 231427704 | | | 112201-10-YF--SOI-MMD-02005 was provided 28 June 2024.

Several points were noted:

- Gas-fired boilers have been installed for fuel gas pre-heating which were not assessed during the determination or listed in the permit schedule of activities. A variation application was required to incorporate these Medium Combustion Plant into the environmental permit. This has now been determined and the permit varied.
- The Siemens SGT5-4000F gas turbine installed includes the Fast Wet Compression

(FWC) facility which increases the power output by injecting water into the gas turbine inlet.
- The GT gross power output is available in 329 and 385 MW versions but only 299 MWe is permitted due to the lack of carbon capture readiness incorporated into the power station design at the planning stage.
- The "as built" station layout has changed since the outline provided in the original permit application.

Verification of 299 MWe maximum capacity installation

During a construction phase site meeting on 15 August 2024 NRW requested details of how the station electrical output is limited through control system locks, how this will work in conjunction with the FWC system and how Drax propose to demonstrate implementation.

The GT output is controlled by a dedicated PLC, which modulates airflow (by means of inlet dampers) and proportions the gas flow to achieve complete combustion at the required output. Part of the control includes a feedback loop from the net generation meters and the system is designed to operate within tight limits of the target set-point. The 299 MW net generation limit is a hard-coded limit within the GT control PLC, set in the factory and tested during commissioning using high accuracy test instrumentation. Fast Wet Compression is not part of normal operation, triggered only in response to a collapse in system frequency, therefore the FWC system is not utilised by the GT output control system.

Drax confirmed that FWC is installed to provide Mandatory Frequency Response (MFR) and the FWC system will not be used to service a Firm Frequency Response (FFR) contract with National Grid ESO.

The unit's availability for increased output, as a result of Frequency Response under the Mandatory Ancillary Services, is limited by the amount that it is below the rated output. As a result output of the unit will not exceed 299 MW even in the rare event that FWC is activated. Drax provided the draft data table which will attach to the Mandatory Services Agreement to be entered into before the Final Operation Notice from National Grid, the sheet "Frequency Response Capability" sets out the response at 90% & 80% load levels.

These aspects will require verification on site at a future inspection.

Other commissioning aspects

An assessment of "as built" infrastructure has not been undertaken in comparison with assumptions made for the application air quality assessment to demonstrate that there are no significant deviations from the predicted air quality impacts because the SGT-4000 gas turbine and stack height are the same as used in the application air quality impact study. Potential predicted air quality deviations concerning building heights and locations were assessed by the NRW Air Quality & Noise Team and considered to be minimal.

The CEMS will be commissioned with functional checks prior to first fire, including zero and span testing.

The stack noise attenuator performance will be assessed early in the commissioning programme, although far-field assessments are not proposed until later during the proving

runs. Full load will be the highest noise emitter, and this will not be achieved until later in the commissioning programme. Noise checks will be carried out around the plant to ensure there are no gross defects in silencer performance during commissioning to provide early indication of any issues.

NRW accepted the original commissioning plan noting that the gas reception facility MCP heater commissioning emissions have not been included, but have been separately assessed in the submitted variation application determination to incorporate the MCPs into the permit.

Pre-operational measure reference PO3 – as built drainage plan

- The PO3 response requires submission of the "as built" drainage plan. An updated Plant Drainage System Functional Description and plan were submitted 3 July 2025. The revised drainage arrangements are reflected in the submitted revision to the HPL rainwater network layout and details drawing (112201-10-UGZ-CDA-MMD-03065 rev 08). This revised network will be reflected in the site layout, but only in terms of the pumping station being added; all other aspects of the site layout remain unchanged.
- The original permit allowed discharge of the site surface water drainage into the bog to the North of the site by connecting to an existing 525mm surface water drain pipe which utilised the same headwall at the bog as the River Camnant culvert.
- During the detailed design phase it became clear that the site size and the invert level of the discharge to the bog (which is relatively high compared to the site itself) precluded use of gravity drainage for the whole of the site (the 1500mm culvert which carries the River Camnant under the site includes a syphon section, with over 2m rise, in order to discharge into the bog).
- Due to the issue with invert levels, the site drainage was split 67:33 with the intent of discharging into the Dwr Cymru surface drains systems on Main Avenue to accommodate 33% of the surface water flow, the revised discharge location was to be at the South East corner of the site and had been used by the warehouse previously located on the site.
- Dwr Cymru advised HPL that the SUDs legislation precluded the use of the Main Avenue discharge point since there was an alternative discharge route into the bog. HPL evaluated a gravity connection into the culvert, but this was abandoned due to the culvert staying full and partially pressurised at the proposed discharge location (an effect of the syphon section). The only solution was to direct the discharge from the 33% of the site to the same discharge location as the remainder and this can only be achieved by pumping.
- The pumping scheme utilises two electric submersible pumps in a "duty and assist" arrangement, with only one pump being needed typically and the second pump being utilised for higher than normal rainfall. The package pumping station discharges via a 270m long pressure line into the same discharge as the remaining 67% of the site.
- The additional equipment required to undertake the over pumping scheme consists of the GRP pumping station chamber (equipped with pumps, valves and discharge connection) and control panel, plus the pressurised discharge line. The pumps are rated at 7.5kW each, with only one typically being required.
- NRW notes that oily wastewater, that is not strictly contaminated rainwater only, is mixed with first rainwater from the SUDS and the combined flow treated in the oil separator system before discharge of "cleaned" water as uncontaminated surface water runoff. This may not align with the expected nature of the surface water and

wastewater segregation set out in the original application. NRW considers the permit is sufficiently protective in light of the provision of dedicated oil in water detection and alarms at the discharge point. The oil/water separator is stated to be compliant with BS EN 858-1 including monitoring / alarms for any oil collected.

On the above basis HPL has complied with pre-operational measure reference PO3.

Commissioning progress

NRW confirmed full compliance with the pre-operational measures by email on 9 July 2025 and first fire of the system for a short period took place on 22 September 2025. Commissioning remains underway at the date of this report.

Operational change

Drax has confirmed that Siemens will be taking on the O&M contract for the power station, with remote operations managed from Newcastle instead of Selby as set out in the permit application. The permit needs to be transferred to Siemens as the legal entity with day-to-day control over compliance with the permit conditions and an application is underway. In the meantime Drax retains oversight of permit compliance during the commissioning and early operational phases.

2025 monitoring reporting

Only the annual LCP and PR-TR reporting requirements were submitted for 2025 due to limited operational time during commissioning. It was noted that start up and shut down parameters have not yet been established and so all mass emissions during firing have been reported.

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 required for the permit condition assessed to avoid non-compliance. No non-compliance scored at this time
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(1) – Emissions to water
- IR3A(2) – Emissions to air
- IR3A(3) – Emissions to 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.

Disputing the Content of this Compliance Assessment Report Form
If you disagree with the content of this Compliance Assessment Report form, you should submit your concerns, in writing, to the regulating officer who issued it within **15 working days** of its issue. This will be treated as a **Stage 1 review**.

If you are not satisfied with the outcome of the stage 1 review, you may request a **Stage 2 appeal**. This request must be submitted **within 21 working days** of receiving the response from the stage 1 review.

Further details on our review and appeal process are available at: Natural Resources Wales / Appeal a regulatory decision from Natural Resources Wales

Concerns Not Related to the Content of this Compliance Assessment Report Form
If your concerns do not relate to the content of the Compliance Assessment Report form, you should first attempt to resolve the issue with the regulating officer or their line manager.

If the issue remains unresolved, please contact our **Customer Contact Team**:

- **Telephone**: 0300 065 3000 (Monday to Friday, 09:00–17:00)
- **Email**: enquiries@naturalresourceswales.gov.uk

They will provide details on how to escalate your concerns through our **Complaints and Commendations procedure**.

If you are dissatisfied with our response, you may contact the **Public Services Ombudsman for Wales**:

- **Telephone**: 0300 790 0203
- **Email**: 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.