

Compliance Assessment Report CAR_NRW0043523

Permit being assessed: RP3133LD.

For: Aberthaw Power Station , **held by:** CCR Energy Limited

At: The Leys , Aberthaw, Vale of Glamorgan, CF62 4ZW.

Type of assessment: Site Inspection,

Reason: Routine.

On: 31/12/2023 between 09:00 and 17:00.

Parts of permit assessed: Emissions, monitoring and reporting.

NRW Lead Officer: Antony Leakey.

Report sent to: Ynyr Clwyd, Project Delivery Officer, on 20/02/2024.

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

Part of permitted activity assessed (compliance criteria)	Assessment result	Permit condition
IR3E - Emissions and monitoring - Monitoring	C3 Minor	3.5.1
IR3A - Emissions and monitoring - Emissions to water, air or land	Assessed (A)	
IR4B - Information - Reporting	Assessed (A)	
IR3B - Emissions and monitoring - Emissions of substances not controlled by emission limits	Assessed (A)	

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

Total non-compliances recorded	Total non-compliance score
1	4

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
IR3E	Re-instate monitoring and reporting.	Already completed

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

Aberthaw Power Station

Report review and site inspection – 9 and 23 November 2023

The power station permit RP3133LD transferred in full without variation of conditions from RWE Energy UK plc to CCR Energy Limited on 14 March 2023.

Surface water monitoring and reporting

CCR Energy acknowledged that there was a data gap in the sampling and monitoring required by the permit. RWE had conducted this monitoring up until the end of 2022. There was a delay while CCR Energy secured funding and let contracts for environmental management consultancy support before monitoring resumed in May 2023.

The missed monitoring and data collection is not in compliance with permit condition 3.5.1. However, the data gap relates only to 2 months and will not have had potential for significant environmental impact due to the lack of activity at the station and will not affect the integrity of the long-term data set. The non-compliance is therefore minor category 3 level, and no further action is required because monitoring has resumed.

A letter from CCR Energy dated 10 May 2023 set out proposals for cessation of air emissions monitoring as already agreed previously with RWE when the power station ceased operation and continuation of dust deposition monitoring where CCR Energy has access to the gauges. The letter also confirms that water and groundwater monitoring will continue as required by the permit, but CCR Energy should note that current requirements do not fully reflect the site surface water risk profile and the current monitoring arrangements do not reflect the permit requirements. CCR Energy confirmed an intent to submit a permit variation application to address these issues.

Roughly quarterly data submission has been made since CCR Energy became permit holders, aside from the interruption between March and May. This frequency is appropriate during the quiescent pre-demolition/de-planting phase but may need to increase to reflect the increased risk once the demolition contractor mobilises.

NRW anticipates that continuous pH, turbidity, and oil in water/hydrocarbon oil index

monitoring will be required during the demolition and redevelopment phase when mobilisation of residual contamination is more likely.

ACTION: CCR Energy to confirm details of proposed surface water monitoring and reporting regime prior to de-planting and demolition phase, including proposed submission date of a permit variation application.

Site inspection

The monitoring and oil skimmer arrangements at P2 and P4 were inspected. It is understood that there is no remote instrumentation in operation and visual inspection is relied upon for detection of oil contamination.

Oil skimmers in the boiler house basement sumps and at P2 and P4 penstock locations should deal with small residual seepage of oil and quantities collected routinely are reported to be very low. The skimmer belts at P2 and P4 were in reasonable condition but consideration may need to be given to replacement if oil loading increases during the demolition phase. The basement oil skimmer belts were not inspected on this occasion.

The interceptor sump oil in water alarm would previously have alerted the power station control room to the presence of excess oil in the surface water system but this arrangement is not longer possible. Consideration will need to be given to how the demolition contractor and CCR Energy implement continuous monitoring of the surface water system ahead of commencement of demolition.

The seal pit (P4) isolation arrangements were visited. The backup air cylinder for operation of the isolation system was seen to be available and charged. The seal pit has approximately 250 m³ of containment capacity which is likely to be sufficient for residual contamination loss of containment incidents during demolition. Timely detection of incidents will be important to prevent release to the Bristol Channel.

ACTION: CCR Energy to provide details of surface water risk management processes to NRW prior to commencement of demolition phase, including but not limited to:

- oil skimmer system inspection and maintenance
- surface water continuous monitoring and alarm system
- surface water contamination response procedures
- residual hazardous inventory management during demolition, including specific locations requiring particular attention, e.g. HFO and gas oil tank farm, HFO system low points, boiler house basement drains
- underground drainage systems/pipework with unknown integrity
- residual FBA and PFA deposits in areas of plant with potential to generate dust releases during the demolition phase

Site condition and remediation

Detailed recommendations and requirements relating to site contamination characterisation and remediation were previously provided to RWE in Compliance Assessment Report reference CAR_NRW0040861.

In summary, the original permit determination did not require baseline data collection, and all contamination is then considered to have occurred during the operational phase under the IPPC/IED regime (2007 to date) and remediation will be necessary before the permit can be surrendered and site redevelopment progressed.

NRW notes the identification of areas of contamination and has made recommendations to support the remediation and monitoring arrangements ahead of the demolition phase. The priority area of contamination is discussed in more detail below.

Chlorinated solvent investigation

Vinyl chloride (chloroethene) was detected at one borehole location (BH05), close to the former site garage during the RPS Phase 1 and 2 Contaminated Land Assessment carried out on behalf of RWE. The action for RWE to investigate the extent of vinyl chloride and any associated chlorinated compounds contamination passed to CCR Energy with the permit transfer.

CCR Energy submitted a scope of works for the ground investigation (WSP memo “Garage on Aberthaw Power Station site Additional Site Characterisation” dated 31 May 2023) which was implemented during November and December 2023.

NRW attended site on 23 November 2023 to witness drilling and initial sampling. The garage interior was visited to establish the condition of the building and any residual contamination. There was no evidence of degreasing plant or residual solvent in the building. Hydrocarbon staining of the concrete floor was apparent in some areas, including where a degreasing bath is reported to have been located in the past. There was also water ingress from a leaking internal rainwater downpipe at the northwest corner of the building, adjacent to BH05. This water may be picking up residual contamination and conveying it to surface water drains/soakaways in the vicinity of BH05 and should be investigated as a potential source of chlorinated solvent.

The results were provided in a WSP letter “Aberthaw Power Station Garage Ground Investigation Summary” dated 29 January 2024.

BH05 was found to be clear of chlorinated compounds, however, there is evidence of chlorinated solvent downgradient. This may be consistent with a contamination plume migrating towards the seawall and there is likelihood of a chlorinated volatile organic contaminant (cVOC) plume from the vicinity of BH05 through BH103.

Additionally, the fact that the cVOCs are in the limestone indicates that the original release was not trivial and higher concentrations may be present at depth. The concentrations recorded are much higher than the Groundwater Hazardous Substances MRVs (minimum reporting values) and drinking water standards (see table below). The fact that cis 1,2 DCE was detected at 59 mg/L indicates that higher concentrations of PCE /TCE are present, as cis 1,2 DCE is a degradation daughter product of TCE and indicates that natural attenuation of PCE/TCE is occurring.

cVOC	mg/L	MRV	DWS
PCE	44	0.1	10
TCE	160	0.1	Combined
cis 1,2 - DCE	59	NA	NA

Further investigation is needed down-gradient of BH103. This could be left until a whole site remediation plan is developed; however, NRW anticipates that this will be some time away and some characterisation work should be undertaken within months rather than years due to the nature of the potential pollution and timescales involved in remediation.

While a further investigation proposal is being developed CCR Energy should survey the locations and elevations of the boreholes (if not already done) and monitor groundwater elevations on at least monthly intervals to establish the groundwater gradient and likely direction of cVOC plume travel.

Full details of soil and groundwater sampling methodology and analysis used for this recent investigation work have not been provided.

At the depth and concentrations of cVOCs detected it is unlikely that there is an inhalation risk to the public on the shoreline or to CCR Energy personnel on site, however, it may be prudent to conduct some shallow soil gas monitoring (using manual stainless steel soil gas probes) to confirm this both on and off site.

Once the groundwater gradient is clearly determined for both the shallow drift and deeper limestone groundwater zones, additional boreholes will be needed to confirm the concentrations of cVOC in groundwater and to design a remediation plan.

ACTION: CCR Energy to provide the Aberthaw Power Station Garage Ground Investigation Factual Report, CCR Energy Limited. Document Ref. Q1403/FR.01. Dated: January 2024 and a timescale for development of a further investigation proposal by 31 May 2024.

Flood defence inspection and maintenance

Two sea wall defects have previously been identified along the main power station section of the defences.

The defects are scheduled for visual inspection every 5 years (next inspection 2025) by NRW in an advisory capacity. The current condition assessment for this asset is “fair”, but because the asset is potentially protecting vulnerable locations from flooding impact, e.g. basement infrastructure, CCR Energy is advised to consider the need for restoration to “good” status.

CCR will need to appoint a competent civils contractor to provide detailed advice on the repair works. However, the works will require a Flood Risk Activity Permit [Natural Resources Wales / Flood risk activity permits](#).

ACTION: CCR Energy to confirm the timescale for further flood defence asset inspection and repair by 31 May 2024.

Emissions review

Monitoring data for 2023) have been reviewed and no breach of permit conditions was identified with regard to conditions that remain relevant to the post-operational phase of the station.

Deposit gauge results reported were below the 80-100 mg/m²/day guideline value during 2023. This data will provide a useful baseline for comparison during the demolition phase.

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.

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.