

Compliance Assessment Report

Report ID:
CAR_NRW0026634

This form will report compliance with your permit as determined by an NRW officer

| | | | | | |
|------------------------------|---|-------------|------------|-----|-------|
| Site | Aberthaw Power Station | Permit Ref | RP3133LD | | |
| Operator/Permit holder | RWE Generation UK plc | | | | |
| Regime | Installations | | | | |
| Date of assessment | 29/09/2016 | Time in | 10:00 | Out | 16:00 |
| Assessment type | Check Monitoring/Sampling | | | | |
| Parts of the permit assessed | Improvement programme, monitoring and emissions | | | | |
| Lead officer's name | Leakey, Antony | | | | |
| Accompanied by | | | | | |
| Recipient's name/position | Amy Lavisher/ Environmental Compliance Engineer | Date issued | 17/11/2016 | | |

Section 1 – Compliance Assessment Summary

This is based on the requirements of the permit under the Environmental Permitting Regulations. A detailed explanation is captured in "Compliance Assessment Report Detail" (Section 2) and any actions you may need to take are given in the "Action(s)" (section 4). This summary details where we believe any non-compliance with the permit has occurred, the relevant condition and how the non-compliance has been categorised using our Compliance Classification Scheme (CCS). CCS Scores can be consolidated or suspended where appropriate, to reflect the impact of some non-compliances more accurately. For more details of our CCS scheme, contact your local office.

| Permit conditions and compliance summary | CCS Category | Condition(s) breached |
|--|--------------|-----------------------|
| C2 - General Management - Management system and operating procedures | A | |
| E1 - Emissions - Air | A | |
| E2 - Emissions - Land and groundwater | A | |
| E3 - Emissions - Surface water | A | |
| F2 - Amenity - Noise | C3 | 3.4.1 |
| G1 - Monitoring and Records, Maintenance and Reporting - Monitoring of emissions and environment | A | |

KEY: See Section 5 for breach categories, suspended scores will be indicated as such.

A = Assessed or assessed in part (no evidence of non-compliance), **X** = Action only,

O = Ongoing non-compliance, not scored.

| | | | |
|-----------------------------|---|---|---|
| Number of breaches recorded | 1 | Total compliance score (see section 5 for scoring scheme) | 4 |
|-----------------------------|---|---|---|

If the Number of breaches recorded is greater than zero, please see Section 3 for our proposed enforcement response

Section 2 – Compliance Assessment Report Detail

This section contains a report of our findings and will usually include information on:

- The part(s) of the permit that were assessed (eg. Maintenance, training, combustion plant, etc)
- Where the type of assessment was 'Data Review' details of the report/results triggering the assessment
- Any non-compliances identified
- Any non-compliances with directly applicable legislation
- Details of any multiple non-compliances
- Information on the compliance score accrued inc.
- Details of advice given
- Any other areas of concern
- Any actions requested
- Any examples of good practice
- A reference to photos taken

Aberthaw Power Station site visit and report review H2 2016

2016 marine monitoring report (IC21)

The trends and conclusions are noted and consideration has been given to a reduced monitoring frequency based upon reducing station generation load factor. NRW proposes that survey frequency is reduced to every 2-3 years and integrated with the proposed biota condition surveys (see IC39 below).

Unit 9 LNBo commissioning report (IC37)

The commissioning report has been reviewed. The main point of clarification relates to electrostatic precipitator (EP) performance and the stack dust emissions data presented to demonstrate no deterioration in performance. Clearly stack dust emissions performance will include abatement provided by the FGD and this is likely to conceal any EP performance issues. While it is recognised that the FGD inlet dust CEMs do not provide the same data quality as the stack CEMS, use of FGD inlet dust data will provide a better indication of EP performance. Examination of data submitted routinely to date suggests that U9 performance is better.

ACTION: RWE to provide a review of FGD inlet dust concentration data to show that EP performance on U9 is comparable to the unmodified units under similar operating conditions.

It is noted that a reduced stable export limit has been established for U9. If this is to be adopted a revised start up/shut down threshold for the unit then updated load profile data similar to that provided in the response to the IED Chapter III Regulation 60 notice must be provided in order to provide justification.

ACTION: RWE to provide an updated justification for the revised SU/SD thresholds for Unit 9.

Discharge reduced pH trial reports (IC38 and 39)

IC38 pH trial report

The map in Appendix B distinctly shows that an area of reduced pH continues along the lower shore, beyond that predicted by the model. This evidence has been used to qualify the short comings of the model, but the information has not been discussed in the context of the wider potential effect. However, the degree of pH depression beyond the modelled impact zone is relatively modest (<0.5 pH units and results generally >pH 7.5) and the zone strongly influenced by the reduced pH discharge is localised to where field measurement values <pH 7 are closely associated with the outfalls.

It's not entirely clear what the extremes of pH were outside of the outfall. There are data on the seawater discharge water quality (para 3.5), which suggests that the revised limit for pH was only reached sporadically, so the environmental receptors may not have been exposed to the full potential change in pH during the trial.

IC39 Environmental report

Appendix E – the interaction plots would have been more appropriately displayed with Time as the x-axis, since it was change over time that the study was looking for. However, the analysis in the appendices is useful and provides a good picture of the benthic biota.

End of para 5.1.2 – it should be acknowledged that some of the variability may be due to the small sample size and therefore limited in its interpretation.

There is evidence of the ongoing influence that the outfall is having in the near vicinity, on the habitats and species. There is no evidence from this work that the different pH regime is having an obvious effect on the biota. The lack of juvenile gastropods at EO mid-shore in March is something of an outlier in the data (para 5.1.3). This is in the zone of most likely effect and when pH seemed to be at its lowest. Whilst the juvenile gastropods were once again recorded

in subsequent months, there is some circumstantial evidence that there could be a link between gastropod recruitment and the trial conditions.

Trial Outcome

There is no evidence of the reduced pH trial effecting the biota around the seawater outfalls.

However, the absence of juvenile gastropods in March near the outfall should be further investigated with an ongoing monitoring program to reassure NRW that this was an unrelated incident.

Sabellaria reefs are patchy and it is difficult to ascertain their continued good condition over a short period. These should be monitored periodically, along with a nearby control site, potentially as part of the existing metals marine monitoring survey work (IC21).

Adoption of the revised pH ELVs of minimum absolute value 5.6 and 98 percentile 5.8-6.0 is permitted on the basis of the trial and the permit will be varied to update these ELVS at the next opportunity. However, in order to address the potential shortcomings of the trial NRW propose that repeat condition surveys are undertaken every 2 or 3 years to the same scope as the initial survey and incorporating the metals in biota survey work (IC21) that is currently carried out annually on the same frequency.

ACTION: RWE to propose a basis for marine survey frequency dependent upon operating load factor and any other relevant considerations.

Coal trial report (IC40)

The trial report is noted. As the trial coal (Kedrovosky) is already part of the Aberthaw fuel diet there is little benefit in describing potential differences in ash quality (for landfill hydrogeological reasons) and trace element composition (for air quality and water priority hazardous substances discharge purposes). However, these aspects should be addressed in detail in any application made to permit permanent change to bituminous coal-firing.

ACTION: RWE to ensure that changes in ash quality and trace element composition are addressed in any application to permit permanent change to bituminous coal-firing.

Operator Monitoring Assessment (OMA) and QAL2/AST report review

The U7 AST and U9 QAL2 reports are noted and further comments will be provided if necessary in due course.

OMA for air emissions was undertaken on 29 September 2016 and resulted in a score of 98%. Only minor points for potential improvements are recommended:

Some additional monitoring training would be beneficial for relevant staff involved in monitoring management.

Increasing the number of available sample points for manual isokinetic testing would help compensate for the space restrictions within the windshield around each boiler.

Audit of ammonia monitoring at the ash processing plant should be considered.

Emissions review

Elevated FGD seawater discharges associated with the composite sampling regime are considered to be approaches to limit due to uncertainty in the measurements.

Consideration should be given to requiring analysis of dissolved (filtered sample) rather than total mercury for these samples in case variable sediment content of samples is causing spurious peaks in the results.

ACTION: RWE to review the benefits of introducing analysis of dissolved (filtered sample) rather than total mercury for absorber discharge samples.

Elevated cadmium in W1 discharge

An elevated level of cadmium was originally reported for the infrequent discharge from release point W1 in to the River Thaw during January 2016. This has now been confirmed as being an error and no breach occurred.

Low seal pit pH

The low pH event detected at the seal pit on 21 May 2016 has been investigated and it is thought that CW pump drain down displacing residual absorber effluent in the CW system on a falling tide may have been the cause. Procedures are to be updated to ensure that a CW pump is operating or the discharge is shut down during draining.

No discharge to the Bristol Channel occurred and the event is not considered to be a breach of permit conditions.

TNP NOx Mass Release

Following the European Court of Justice judgement relating to application of the low volatile fuel derogation to Aberthaw power station on 21 September 2016 the TNP allowance for NOx has been reduced for the proportion of the year remaining. The total NOx mass emissions up to this date (20/9/16, 11417.9 tonnes) were checked and confirmed on site on 29 September 2016.

All other emissions are within permit limits and there are no current trends that require review.

Off-site noise impacts

A number of periods of safety valve lifts have occurred during 2016. The first period during the winter appears to have been related to unit 9 commissioning and while these may have been preventable, it is accepted that the risk of firing safety trips during commissioning a significantly modified boiler is likely to be increased. In order to prevent or minimise similar noise issues during commissioning of any future modifications to units 7 and 8, a detailed discussion of measures to be taken to prevent recurrence during design and commissioning of such modifications shall be included in any application for variation made.

ACTION: RWE to include details of measures to be taken to prevent safety valve lifts during commissioning of modifications to units 7 and 8 in any application for variation made.

A further period of safety valve lifts occurred during late June 2016. These appear to be predominantly due to operator/maintenance errors and insufficient refresher training:

27th June U9 trip was caused by a low forward power trip on synchronisation which happens when block loading does not happen quickly enough and is part of the electrical protection for the generator, which has been updated on all Units. A reminder on the new procedure has been communicated.

28th June am U9 first trip occurred due to an increase in vibration on the boiler feed pump which is suspected to have been caused by refitting of the coupling after a routine check. Adjustments to the coupling have been made and the problem has not been seen since. The second trip was because the start-standby feed pumps could not maintain the boiler drum level as the boiler pressure had not been reduced sufficiently. A reminder on the importance of reducing boiler pressure after boiler feed pump trip has been communicated.

28th June 19:30 it is suspected the increase in noise is due to U7 Blowdown.

29th June 06:00 it is suspected the increase in noise is from one of the steam drains being left open on Unit 9's return to service due to operator error. A reminder to close drains as soon as possible has been issued.

These errors and training issues are considered to constitute a minor (category 3) breach of permit condition 3.4.1.

ACTION: RWE to confirm that procedure refresher training has been undertaken and to review the need for wider refresher training for all environmentally critical procedures by 31 January 2017.

The relatively high frequency of safety valve lifts during 2016 may have resulted in deterioration of silencer condition reducing attenuation capability. The safety valve silencer inspection and maintenance regime at Aberthaw will be examined at a future site inspection.

END



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EPR Compliance Assessment Report

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| | | | |
|------------------------|------------------------|------------|------------|
| Site | Aberthaw Power Station | Permit Ref | RP3133LD |
| Operator/Permit holder | RWE Generation UK plc | Date | 29/09/2016 |

Section 3 – Enforcement Response

You must take immediate action to rectify any non-compliance and prevent repetition.

Non-compliance with your permit conditions constitutes an offence and can result in criminal prosecutions and/or suspension or revocation of a permit. Please read the detailed assessment in Section 2 and the steps you need to take in Section 4 below.

In respect of the above non-compliance you have been issued with a warning. At present we do not intend to take further enforcement action. This does not preclude us from taking additional enforcement action if further relevant information comes to light or offences continue.

Section 4 – Action(s)

This section summarises the actions identified during the assessment along with the timescales for when they will need to be completed.

| Criteria Ref. | CCS Category | Action required/advised | Due Date |
|---------------------|--------------|--|------------|
| See Section 1 above | | | |
| F2 | C3 | RWE to confirm that procedure refresher training has been undertaken and to review the need for wider refresher training for all environmentally critical procedures by 31 January 2017. | 31/01/2017 |

Section 5 – Compliance notes for the Operator

To ensure you correct actual or potential non-compliance we may

- Advise on corrective actions verbally or in writing
- Require you to take specific actions verbally or in writing
- Issue a notice
- Require you to review your procedures or management system
- Change some of the conditions of your permit
- Decide to undertake a full review of your permit

Any breach of a permit condition is an offence and we may take legal action against you

- We will normally provide advice and guidance to assist you to come back into compliance either after an offence is committed or where we consider that an offence is likely to be committed. This is without prejudice to any other enforcement response that we consider may be required.
- Enforcement action can include the issue of a formal caution, prosecution, the service of a notice and/or suspension or revocation of the permit.

See our Enforcement and Civil Sanctions guidance for further information

This report does not relieve the site operator of the responsibility to

- Ensure you comply with the conditions of the permit at all times and prevent pollution of the environment
- Ensure you comply with other legislative provisions which may apply

Non-compliance scores and categories

| CCS category | Description | Score |
|--------------|--|-------|
| C1 | A non-compliance that could have a major environmental effect | 60 |
| C2 | A non-compliance which could have a significant environmental effect | 31 |
| C3 | A non-compliance which could have a minor environmental effect | 4 |
| C4 | A non-compliance which has no potential environmental effect | 0.1 |

Operational Risk Appraisal (Opra) - Compliance assessment findings may affect your Opra score and/or your charges. This score influences the resource we use to assess permit compliance.

Section 6 – General information

Data protection notice

The information on this form will be processed by the Natural Resources Wales (NRW) to fulfil its regulatory and monitoring functions and to maintain the relevant public register(s). The NRW may also use and/or disclose it in connection with:

- Offering/providing you with its literature/services relating to environmental matters
- Consulting with the public, public bodies and other organisations (eg. 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 its service
- Freedom of Information Act/Environmental Regulations request

The NRW may pass it on to its agents/representatives to do these things on its behalf. You should ensure that any persons named on this form are informed of the contents of this data protection notice.

Disclosure of information

The NRW will provide a copy of this report to the public register(s). However, if you consider that any information contained in this reports should not be released to the public register(s) on the grounds of commercial confidentiality, you must write to your local area office within twenty working days of receipt of this form indicating which information it concerns and why it should not be released, giving your reasons in full.

Customer charter

What can I do if I disagree with this compliance assessment report?

If you are unable to resolve the issue with your site officer, you should firstly discuss the matter with officer's line managers using the informal appeals procedure. If you wish to raise your dispute further through our official Complaints and Commendations procedure, phone our general enquiry number 0300 065 3000 (Mon to Fri 08.00 – 18.00) and ask for the Customer Contact team or send an email to enquiries@naturalresourceswales.gov.uk. If you are still dissatisfied you can make a complaint to the Public Services Ombudsman for Wales. For advice on how to complain to the Ombudsman phone their helpline on 0845 607 0987.

Welsh Language

If you would like this form in Welsh please contact your Regulatory Officer.