

**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	31/01/2018	Time in	10:00
Assessment type	Audit		
Parts of the permit assessed	Emissions, Operating Techniques		
Lead officer's name	Leakey, Antony		
Accompanied by			
Recipient's name/position	Richard Powell/ Station Chemist	Date issued	05/04/2018

## Section 1 – Compliance Assessment Summary

This is based on the requirements of the permit under the Environmental Permitting Regulations or the licence under the Water Resources Act 1991 as amended by the Water Act 2003. 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
B1 - Infrastructure - Engineering for prevention and control of emissions	A	
E1 - Emissions - Air	A	
E2 - Emissions - Land and groundwater	A	
E3 - Emissions - Surface water	A	
F3 - Amenity - Dust/fibres/particulates and litter	A	
G1 - Monitoring and Records, Maintenance and Reporting - Monitoring of emissions and environment	A	
G3 - Monitoring and Records, Maintenance and Reporting - Maintenance records	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.

<b>Number of breaches recorded</b>	<b>0</b>	<b>Total compliance score</b> (see section 5 for scoring scheme)	<b>0</b>
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**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 Q1 2018

#### Site Visit - 31 January 2018

##### Oil interceptor cleaning

The main drains interceptor was inspected, and oil residues appeared to be present on the surface. The oil mop system was in service, but it was unclear how effective it is at removal of oil residues.

The waste contractor GD Environmental undertakes a daily check of the interceptor for contamination. The check criteria are not known, and the contamination witnessed seems unlikely to be acceptable.

Cleaning of the interceptor and oil mop system is not thought to be covered by a preventative maintenance routine.

It appears that the current oil retention system inspection and maintenance arrangements may not provide sufficient protection and improvements may be necessary.

**ACTION: RWE to confirm oil interceptor daily check criteria and review the periodic maintenance requirements of the interceptor and oil mop system by 31 May 2018.**

##### Coal diet trials

Commissioning difficulties have been experienced due to the inherent moisture content of the bituminous coal stock and wet conditions on the stock ground. Reliable mill operation has only been achieved with a 50/50 blend of bituminous coal and residual semi-anthracite stock.

Monthly mean NO<sub>x</sub> emissions during November approached the ELV even when allowing for the measurement uncertainty. This was due to the relatively low number of run hours during the month including some high hourly NO<sub>x</sub> emissions while plant optimisation was being undertaken. Examination of the plant data indicate that high emissions hours were associated with firing predominantly semi-anthracite at or close to the minimum stable generation limit (SEL). This indicates that there was little that could be done to reduce emissions further while bituminous coal feed issues were being addressed.

The high monthly mean NO<sub>x</sub> emission is not a breach of the ELV, however future optimisation of the station using bituminous coal will need to ensure that such approaches to limit are minimised and avoided where possible.

Operation is expected to be limited after 31 March 2018 with few, if any, opportunities to optimise NO<sub>x</sub> emissions reduction further until autumn 2018

**ACTION: RWE to provide details of approach to future optimisation runs to minimise NOx emissions by 31 August 2018.**

#### Black start OCGTs

The like-for-like black start OCGT flue replacement will take place during late March 2018. Review of the dispersion characteristics of the current flue arrangement suggests that no air quality standards will be compromised.

It is noted that the emissions performance modelled is within the lower end of the range in the LCP Bref for gas oil-fired gas turbines (145-250 mg NOx/m<sup>3</sup>). The GT performance will be examined when the LCP Bref review is undertaken.

#### FGD inlet dust data

The report into unit 8 EP inspection identified defects that have now been rectified according to PRISM records. Checks during operation on bituminous coal will establish a new baseline for EP performance. This aspect of abatement performance will be kept under review as the optimisation of the station units on the new fuel diet continues.

The higher dust inlet levels for unit 7 continue to be notable and should be investigated further as the units are optimised.

#### Ammonia release

The tanks are not expected to be accessed for internal inspection for at least 4 years. The ammonia venting procedure will be reviewed at this time, if required.

#### Dust deposition

The higher than normal dust deposition results are noted for the two quarry monitoring locations during February 2018. The composition analysis and electron micrograph associated with these results should be examined if available to ensure that materials associated with the station operations have not contributed significantly to the dust deposits.

**ACTION: RWE to provide details of dust composition for February 2018 deposition measurements at Quarry North, South and Rail bend.**

A trial using a polymer to seal coal stock surfaces is planned on the high volatile coal group covering approximately 30,000 m<sup>2</sup>.

The product is not ecotoxic and is diluted to a 3% solution with water and the solution applied at 1 litre/m<sup>2</sup>. The product is currently in use at Tata Steel in Port Talbot.

The reapplication is dependent on the weather conditions and if any coal is reclaimed. Reapplication to static coal groups is likely every 2 months. It is only likely to be applied when there is no need to stock out or reclaim the HV coal i.e. from April to September. Trial outcome will be discussed at the next site visit.

#### Low sulphur coal specification

The stock of low sulphur coal for use during any operational periods of FGD malfunction or breakdown will be the current Russian bituminous coal at 0.4% sulphur. However, current milling limitations mean that co-firing with low volatility Ffos-yr-fran coal will be necessary, raising the lowest average coal sulphur content to around 0.7%.

## Boiler House Panel Replacement

The Trilite product that is proposed as a replacement for the wired glazing panels. The data show that Trilite double skin gives STC (sound transmission class) of 30 dB(A), RWE propose to use single skin of 2.5 mm thickness. Plexiglass has an STC of 25 dB(A) for single skin at 2.5 mm and the steel panels proposed has an STC of 24 dB(A).

The STC ratings appear low compared to the expected performance of the old wired glass, which might achieve at least 30 dB(A).

**ACTION: RWE to confirm that replacement boiler house panels will provide at least the same noise attenuation levels as the original infrastructure.**

## LCP Bref FGD BAT-AELs

The following issues have been discussed to date, although these remain to be agreed with all the regulators:

There should be no backsliding from existing ELVs without justification (e.g. to allow for intake loads or background concentration).

BAT-AELs should be applied at the most appropriate point in the process to reflect the treatment being applied. Application of BAT-AELs after dilution that is not an integral part of the treatment process may prevent good quality monitoring of waste water treatment performance.

SWP FGD should be monitored for the main BAT-AEL parameters (TOC, TSS, fluoride, sulphide and sulphite) after the aeration pond, typically at the seal pit for Aberthaw.

Metals BAT-AEL compliance for SWP FGD at Aberthaw should be monitored at the absorber outlets as the concentrations will be higher and provide a better indication of metals abatement performance in the flue gas upstream of the absorbers.

Background concentration and intake loads should only be taken into account if allowed for in the BAT conclusions (e.g. TOC) or where the background concentration and intake load is clearly inevitably significant compared to the BAT-AEL (e.g. TSS for SWP FGD). An Article 15(4) derogation is unlikely to be the most appropriate approach, but evidence and demonstration will be needed to justify the ELV and monitoring proposals as part of the permit review. Including background concentration in the measured compliance result will avoid the need for intake monitoring and the associated costs and allow the measurement uncertainty to be taken into account without introducing complication associated with the treatment of the background concentration result uncertainty and any temporal issues.

Composite sampling alternatives, such as spot sampling will require justification. It will be necessary to explain why a spot sample will be more representative than a daily composite. Sample preservation issues for parameters such as mercury will not be as critical if the composite sample is only obtained over a 24-hour period and despatched for analysis promptly. It may be possible to programme auto-samplers to only extract samples when steady state CW flow conditions have been established.

## Improvement Condition IC21 & IC39

The annual marine ecology survey to determine the environmental impact of the FGD installation (IC21) and also the more recent pH ELV reduction variation (IC39) have historically been carried

out annually. RWE now propose to change the frequency of these surveys from annual to 3 yearly.

IC21 –data from the annual marine survey are now available since 2008 (including the baseline survey). The annual studies consistently report a localised trace metals increase in biota around the CW Outfall towers with declining levels further away from the outfalls. No changes in the biological community or health of the biota have been found even following extremely high load factor years. Aberthaw Power Station is planned to have a load factor of around 4% in future and therefore a 3-yearly survey would be more appropriate.

IC39 –one survey has taken place since the pH variation and this report concluded that there was no detrimental effect to the ecology of the Aberthaw marine habitat when compared to the baseline survey due to the lower pH limit. Again, the low planned load factor expected for the remaining life of the station suggests that the potential risk to the ecology will be very low and a 3-yearly survey to monitor any effects is considered to be appropriate.

These proposals are acceptable, and the next surveys should be planned for 2020.

### Reporting requirements

Due to commissioning pressures and operational requirements the annual performance reports for the landfills and power station are not required to be submitted until 30 April 2018.

Note also that landfill waste returns must revert to quarterly with immediate effect due to requirements of the new Wales Landfill Disposal Tax regime.

### Emissions review

The station has operated intermittently since the end of October 2017 and this has caused problems with scheduling extractive monitoring, CEM and flow testing. If the station operates for less than 500 hours per annum it is accepted that operation solely for testing purposes is not good practice. Where possible scheduling of testing should be attempted when optimisation and proving runs are planned.

The intermittent operation has also resulted in sampling difficulties associated with the FGD and CW discharges.

Insufficient composite sample volumes have been obtained for metals analysis and representative spot sampling is proposed as an interim approach pending further review during the LCP Bref interpretation and implementation.

Settlement of CW in the intake and outfall structures during periods of no flow has also resulted in anomalous differential suspended solids results. The high result of 52.73 mg/l reported for February 2018 is not considered to be representative and is not a breach of the ELV.

Current composite samples taken during periods of no CW flow will not be reliable. Spot sampling during steady state conditions should be implemented as an alternative, noting that temporal differences in the intake and discharge samples may still cause difficulties.

Consideration should be given to programming the composite sampler to only take samples when the CW flow is occurring.

It is noted that visual checks were used to report against suspended solids and hydrocarbon oil parameters for releases from W1 during February. Appropriate analysis is normally required and the reasons for this not being undertaken require clarification.

**ACTION: RWE to provide details of W1 TSS and oil analysis arrangements and why these were not applied in February 2018.**

END

## EPR Compliance Assessment Report

**Report ID:  
CAR\_NRW0033142**

**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	Date	31/01/2018

### 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.

Other than the provision of advice and guidance, at present we do not intend to take further enforcement action in respect of the non-compliance identified above. This does not preclude us from taking enforcement action if further relevant information comes to light or advice isn't followed.

### 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			

## 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 report should not be released to the public register(s) on the grounds of commercial confidentiality, you must write to your local area office within fifteen 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.