



EPR Compliance Assessment Report

Report ID: RP3133LD/0199459

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

Site	Aberthaw Power Station EA/EPR/RP3133LD/V009	Permit Ref	RP3133LD
Operator/ Permit holder	RWE npower plc		
Date	26/02/2015	Time in	Out
What parts of the permit were assessed	Maintenance, emissions		
Assessment	Report/data review	EPR Activity:	Installation: X Waste Op: Water Discharge:
Recipient's name/position	Regulation Section Head		
Officer's name	Tony Leahey	Date issued	26/02/2015

Section 1 - Compliance Assessment Summary

This is based on the requirements of the permit under the Environmental Permitting Regulations. A detailed explanation and any action you may need to take are given in the "Detailed Assessment of Compliance" (section 3). 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

Condition(s) breached

a) Permitted activities	1. Specified by permit	N	
b) Infrastructure	1. Engineering for prevention & control of pollution	N	
	2. Closure & decommissioning	N	
	3. Site drainage engineering (clean & foul)	N	
	4. Containment of stored materials	N	
	5. Plant and equipment	N	
c) General management	1. Staff competency/ training	N	
	2. Management system & operating procedures	A	
	3. Materials acceptance	N	
	4. Storage handling, labelling, segregation	N	
d) Incident management	1. Site security	N	
	2. Accident, emergency & incident planning	N	
e) Emissions	1. Air	A	
	2. Land & Groundwater	A	
	3. Surface water	A	
	4. Sewer	N	
	5. Waste	N	
f) Amenity	1. Odour	N	
	2. Noise	A	
	3. Dust/fibres/particulates	A	
	4. Pests, birds & scavengers	N	
	5. Deposits on road	N	
g) Monitoring and records, maintenance and reporting	1. Monitoring of emissions & environment	A	
	2. Records of activity, site diary, journal & events	N	
	3. Maintenance records	A	
	4. Reporting & notification	A	
h) Resource efficiency	1. Efficient use of raw materials	N	
	2. Energy	N	

KEY: C1, C2, C3, C4 = CCS breach category (* suspended scores are marked with an asterisk),
A = Assessed (no evidence of non-compliance), N = Not assessed, NA = Not Applicable, O = Ongoing non-compliance – not scored

Number of breaches recorded	0	Total compliance score (see section 5 for scoring scheme)	0
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If the Total No Breaches is greater than zero, then please see Section 3 for details of 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 (e.g. 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 suspended or consolidated scores.
- details of advice given
- any other areas of concern
- all actions requested
- any examples of good practice.
- a reference to photos taken

This report should be clear, comprehensive, unambiguous and normally completed within 14 days of an assessment.

Aberthaw Power Station procedure and report review 2014

Start-up/shut down (SU/SD) duration and emissions

During a site meeting on 16 October 2014 emissions and duration of start-up data were examined for sample periods in September 2014. A sample cold start duration after a weekend shut down was around 6 hours and is consistent with a typical duration for this type of plant.

Total SU/SD emissions for September 2014 were:

Nitrogen oxides: 34 t – 2.7% of monthly total emissions
Sulphur dioxide: 53.28 t – 16.1% of monthly total emissions
Dust: 1.96 t – 10.2% of monthly total emissions

These are consistent with a typical number of weekend SU/SD events during the month.

Boiler integrity management

Local procedure "INTEGRITY OF BOILER STRUCTURES" LP/ENG/4008/1 was reviewed in conjunction with a sample report detailing inspections and remedial works carried out during the U8 major outage in 2012, dated August 2012.

The procedure and report provide evidence that boiler casing integrity and associated air ingress rates are subject to routine survey and control, although the procedure is concerned primarily with structural integrity rather than air leakage and heat loss.

Deposition and soil monitoring at Natura 2000 sites (IC7)

Receipt of the following reports is acknowledged:

- Revised copy of the 2012 Report to the Power Station and Refinery Operators - Monitoring of acidifying and eutrophying deposition and ecological parameters at seven potentially vulnerable Natura 2000 sites in England and Wales.

Our modelling assessment will be updated with the amended data.

- Fourth Report to the Power Station and Refinery Operators October 2013 - Monitoring of acidifying and eutrophying deposition and ecological parameters at seven potentially vulnerable Natura 2000 sites in England and Wales.
- The accompanying Excel spreadsheet of data in relation to (a) above.
- Habitats Monitoring Project Data Correction Notes 10_10_2104.

The above reports have been forwarded to the Environment Agency Environment & Business Habitats Working Group, Natural England and will be reviewed in conjunction with Natural Resources Wales conservation personnel. A formal response will be provided when that review has been concluded.

2013 Survey report (IC21)

NRW notes the conclusions made in the latest report and is content for RWE to continue with the current scope of biota monitoring for this year and will review when there is more clarity on Water Framework Directive implications during 2015. The following general comments may be helpful in producing future survey reports and considering evolution of the scope of future surveys:

- Consideration could be given to incorporating work on intertidal community impacts;
- Some statements made in the report are not supported by rigorous examination to take account of the large variability in the data;
- The proportion of MeHg to total mercury shows a sharp rise in some cases in 2014. Any implications for transfer to higher trophic levels may need to be considered.

Water discharge emissions monitoring review (IC23)

The statistical analysis of mercury measurements in aqueous FGD discharges (ENV/559/2014) suggests potential shortcomings associated with the current monitoring regime. The report findings may benefit from a more in depth consideration of process chemistry effects and how these might provide interpretation of the statistical analysis results. For example the finding that the derived mass emissions from the FGD absorber outlet data are inconsistent with those obtained at the cooling water outfalls may be explained by a number of process-related issues:

- Mass emissions derived at low loads may be more sensitive to variability in background concentrations which are "smoothed" when compared with the mixed (averaged) cooling water discharge data.
- Higher mercury absorption rates at low loads are not unexpected, particularly when seawater recirculation is not occurring, as under these conditions background and in-process sulphite concentrations will be at a minimum. Sulphite in wet FGD systems reduces soluble ionic mercury and results in re-emission of elemental mercury into the flue gas. Reduced sulphite concentrations at low loads and low recirculation will result in a relatively higher mercury capture rate when compared to high loads and high seawater recirculation.
- More FGD bypassing will occur at higher loads, reducing relative mercury capture rates.
- Smoothing of higher low load emissions or physical changes in speciation in the seawater treatment plant may explain the flat profile of the derived specific mass emission data vs. coal burn.
- Variability of sulphides in the seawater and/or flue gas will also influence mercury absorption and speciation, although it is not clear how this process parameter may change with unit load, coal diet or operating conditions.

Nevertheless, it is apparent that derivation of mass emissions from FGD absorber discharge data is potentially more complex than expected. The data suggest a steady state, high load, mercury mass emission factor of around 20-30 mg/kt of coal burn. Consideration should be given to whether or not this factor or load-dependent factors based upon the FGD absorber relationships provide a more accurate estimate of total mass emission than the current methodology.

The revised proposals for water discharge monitoring (letter dated 16th September 2014) are noted. The need to update and rationalise the monitoring regime is accepted and some aspects proposed are considered to be appropriate. However, further discussion and evolution of the proposals is considered to be necessary, taking in to account the comments above in relation to data interpretation and also:

- Where possible and justified maintaining continuity with historic data collection, particularly in light of the proposed boiler changes at the station and the potential for changes in flue gas characteristics.
- Where appropriate seeking alignment with draft BRef conclusions, in particular where there are data gaps in current monitoring regime, e.g. sulphide and sulphite monitoring.
- Monitoring at most representative location taking into account single pass nature of cooling system and dilution effects associated with this system.

ACTION: RWE to review NRW comments, discuss alternatives and propose revised monitoring scope.

BAT review for marine trace element emission reduction (IC33)

The report requires updating to include economic appraisal and consideration of sensitivity to future load factor variation. This now best achieved as part of a future review of operations against the final LCP BRef conclusions.

CCP Trial report (IC26, 27 & 28)

The CCP performance report summarises commissioning and operational environmental performance. While the limited duration of the trial is noted, as much information should be provided as possible in relation to performance against design and operational data. The following aspects are considered to be areas where more detailed information or data may be able to be provided:

- Practical operating inventory of capture solvents, effluents and wastes and optimum capacities of storage vessels for drain down for maintenance and collection of waste streams.
- Did the wash water ingress have implications for operational effectiveness of the CO₂ absorber? Provide leakage/dilution rate data.
- Provide information on material of construction compatibility with process fluids and any corrosion rate data gathered.
- Provide details of amine manufacturing contaminants and environmental impact assessment, even if generic species types are used due to confidentiality restrictions.
- What are the implications for releases to air and water of accumulation of trace pollutants (e.g. 1, 4-dioxane) in the circulating solvent?
- Is information available on the relative contribution of the SO₂ and CO₂ solvents to amine and degradation product releases?
- Although energy optimisation was not carried out any data relating to capture energy requirements will be of interest, e.g. actual solvent CO₂ stripping energy requirements vs. theoretical requirement.
- Is data available on the accumulation rate of heat stable salts in the CO₂ capture circuit?
- Provide data on solvent mass loss rates in APU effluent at different APU flushing rates.
- Can any conclusions be drawn on the efficacy of the water wash process design from the limited gas analysis results?
- Provide a copy of the process mass balance, using generic species types if necessary to avoid confidentiality restrictions.
- Reporting of nitrosamine as NNO equivalent is noted. Can the data also be reported as toxic equivalent of NDMA?

ACTION: RWE to review the above information requirements and provide an updated report or annex where available.

Emissions review

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

Failure of the W2 DO instrument is noted. Details of the investigation and corrective action taken to prevent a recurrence is required.

ACTION: RWE to submit DO instrument failure review.

Details of the mercury mass release calculations are required for review.

ACTION: RWE to submit mercury mass release calculations for 2014.

High dust emissions associated with U7 are noted.

ACTION: RWE to submit details of reasons for different unit performance.

Continuous emissions monitoring

The change to total NOX calibration functions notified by letter of 6th May 2014 is acknowledged. The associated QAL2 reports have not been subject to detailed audit and will be reviewed at the next Operator Monitoring Assessment. However, no issues of concern are noted, although the following comments should be noted for the next AST/QAL2 round:

- Unit 8 AST 25-28 February 2014 dust outlier has been excluded, but it is noted that the SRM measurement was undertaken during a period of apparent FGD by-pass and the SRM result is credible for such operating conditions. The possible implication is that the CEM does not detect larger size fraction dust.


Perimeter noise survey requirement (permit Table S4.6)

The assessment of manual day time noise survey data (letter dated 2nd July 2014) is acknowledged. The assessment does not necessarily reflect a rigorous approach to determining likelihood of noise nuisance, however the relatively modest differences between the LAeq and LA90 values provide an indication that typically the power station impact is small. The continuous noise monitoring regime will minimise the risk of acute noise problems developing into chronic issues and so the removal of the manual noise survey requirement is agreed. This will be formally varied from the permit during the IED review in 2015.

Dust deposition monitoring

Removal of the deposit gauge at East Aberthaw Reservoir as detailed in the letter dated 2nd July 2014 is approved and similar data will continue to be captured from the East Aberthaw Sidings location.

END

 Cyfoeth Naturiol Cymru Natural Resources Wales	EPR Compliance Assessment Report	Report ID: RP3133LD/0199459	
This form will report compliance with your permit as determined by an NRW officer			
Site	Aberthaw Power Station EA/EPR/RP3133LD/V009	Permit	RP3133LD
Operator/ Permit	RWE npower plc	Date	26/02/2015

Section 3- Enforcement Response		Only one of the boxes below should be ticked	
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.			<input type="checkbox"/>
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.			<input type="checkbox"/>
We will now consider what enforcement action is appropriate and notify you, referencing this form.			<input type="checkbox"/>

Section 4- Action(s)			
Where non-compliance has been detected and an enforcement response has been selected above, this section summarises the steps you need to take to return to compliance and also provides timescales for this to be done.			
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 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 which 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 fulfill 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 (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 and taking any resulting action
- preventing breaches of environmental law
- assessing customer service satisfaction and improving its service
- Freedom of Information Act/Environmental Information 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 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 the officer's line managers. 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.

