

Compliance Assessment Report

Report ID:
CAR_NRW0032606

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

Site	Severn Power Station	Permit Ref	HP3737UE			
Operator/Permit holder	Siemens plc					
Regime	Installations					
Date of assessment	12/12/2017	Time in	10:00	Out	14:00	
Assessment type	Audit					
Parts of the permit assessed	BREF review					
Lead officer's name	Griffiths, Toby					
Accompanied by						
Recipient's name/position	Huw Edwards/ EHS Manager	Date issued	13/12/2017			

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	
B4 - Infrastructure - Containment of stored materials	X	
C1 - General Management - Staff competency/training	A	
C2 - General Management - Management system and operating procedures	A	
E1 - Emissions - Air	A	
F2 - Amenity - Noise	A	
G1 - Monitoring and Records, Maintenance and Reporting - Monitoring of emissions and environment	X	
G3 - Monitoring and Records, Maintenance and Reporting - Maintenance records	A	
H2 - Resource Efficiency - Energy efficiency	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	0	Total compliance score (see section 5 for scoring scheme)	0
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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

Site Visit of 12th December 2017

1. Business update

No issues or complaints reported. Test runs of the Unit 20 gas turbine were carried out (open cycle) in October. No noise issues were reported. Monitoring carried out at the time confirmed that noise was unlikely to pose a problem. Siemens continue hosting a local residents meeting and one is scheduled for next week. The station has been operating regularly. During the visit, Unit 20 was providing base load and Unit 10 was operating in a 2 shifting mode. Generation is dictated by market conditions, and the effects of weather are noted. For example, wind and solar power are far more dominant than before, hence on calm winter days, the station is more likely to be used to fill in any deficit in the grid. There have been 2 minor outages this year (both units) which were completed successfully during the summer. There is a proposal for additional energy generation on site, however this is in the early stages of evaluation.

The EMS is being updated to the ISO14001:2015 standard, and an integrated Business Management System is also proposed for the site.

AST

An AST was carried out June. The report will be sent to NRW in due course [Action #1].

2. Last visit actions

The last visit included an OMA audit, where a good score was recorded. All actions were replied to and were satisfactory. As recommended in the audit, two Siemens staff attended an EN14181 training session in March, held by the STA. This is commended.

Monitoring

The Envirosoft CEMS recording/reporting software has now been in use for a year and is making it far easier to produce reports for permit compliance.

During the site tour, the software screen was viewed. This showed a time series of data including load (MW) and emissions. Each unit was generating around 400MW(e). Emissions were well within limits CO ~0.5mg/m³ and NOx ~15mg/m³.

The CEMS have been undergoing planned maintenance recently by trained site staff. An example of the fault notification "FN" report was shown which details the fault and tasks required to rectify the faults during maintenance. As part of the CEMS system, there are parts which are replaced fairly regularly, such as the peristaltic pumps, drier pipes etc. This year, the main Ultramat analyser on Unit 10 was replaced after 7 years use. Spare units are held on site. Siemens noted that the NOx analyser efficiency is difficult to directly calculate at such low emissions. However, linearity tests indicate that the efficiency is within the recommended range.

Condition 4.2.2(a)

The annual report for this condition was discussed. The report received for 2016 was satisfactory, however, NRW clarified that a summary document is sufficient.

As stated in the permit, this is a review of the monitoring over previous year. This is not limited to emissions monitoring, but anything that is monitored as part of the permit. This can include emissions to air, water and waste disposal, efficiency (energy and resources), waste minimisation, improvement projects etc. The report should identify trends and track improvements and targets. However, this report should comprise a summary of these aspects, rather than an exhaustive document. The site EMS objectives and targets (continual improvements, waste audits etc) already achieve many of these aspects and can be drawn on as part of the summary report.

IC7 update

An update was received on 6th September 2017. The project to treat the ammoniated waste water on site is still ongoing. A project manager has been appointed, but is working across other sites. Other considerations including improvements to the existing outfall, have delayed progress. However, Siemens will continue to provide updates. Some other options remain “on the table” should current plans change.

3. BREF review (main)

The main purpose of the visit was to go through the recently issued BAT Conclusions (BATc) document following the publication of the BREF in August 2017. Plants subject to the LCP BREF are required to have compliant permits by August 2021.

Each of the relevant BATc paragraphs were reviewed to determine whether there are any areas of concern ahead of the formal process of comparing the plant against the BATc. There are several areas requiring clarification, which are still being discussed within government and the regulators. These were outlined during the meeting. Siemens, via Calon, have access to the JEP/Energy UK forum, and will therefore benefit from the information provided by this group. It is unknown whether the BATc review will be completed in-house, or whether a consultant will be used as was for the IED review.

Timelines

Currently, as part of the regulators BREF interpretation work, NRW is reviewing the sections relating to gas fired engines and boilers. The interpretation document is expected to be released in early 2018, and in principle, draft information will be shared with the membership organisations representing the energy industry.

A formal request for a comparison of each plant against the BATc, will be made via a Regulation 61 notice, similar to the process for the IED permit reviews in 2014/2015. These are expected to be issued in April 2018, with 6 months allowed for a response, allowing the permit variation work to commence in October 2018. A further 12 months is then allowed for the completion of permitting work by October 2019.

The following aspects are to be clarified via the interpretation document and/or via the energy/combustion sector groups:

Plant efficiency

Siemens indicated a current plant CCGT efficiency of ~58%, (plant over 600MW(th)) which is within the range of the BATc (BAT 40 Table 23). Paragraph BAT 2 describes the determination of net electrical efficiency and refers to EN, ISO or national standards. For example, for gas turbines ASME PTC46:1996 may be appropriate. Further clarification may be included in the interpretation document.

The proposed ELVs were discussed and are outlined below (plant over 600MWth, fuel utilisation <75%):

Proposed ELVs (Existing IED Annex V limits remain as backstop)

NO_x

Annual average – 40mg/m³ (slightly tighter than current monthly average of 50)

Daily average – 50mg/m³ (same as IED)

CO

An indicative annual average of 30mg/m³ (tighter than IED, but achievable depending on operating mode). The IED Annex V ELVs remain (monthly and daily average of 100mg/m³ and 110mg/m³). It is accepted that some pragmatism will be applied with the indicative CO ELV due to the interrelationship with NO_x.

Monitoring and ELV compliance

Although the ELVs are known, there is some uncertainty over the application of averaging periods due to differences between those of the IED and BREF. We are considering how best to require reporting against these limits and whether they can be rationalised. Similarly, the application of confidence intervals is to be confirmed. The initial indications are that Siemens should be able to comply with the proposed limits.

Further clarification is to be sought regarding the start of DLN and associated thresholds for the application of ELVs. It is likely that a similar approach to the existing 70% load arrangements will be taken.

Fuel characterisation

A gas chromatograph is used to demonstrate fuel quality. There is some value in knowing the constituents of the gas received, as they can affect compliance with the ELVs. However, the level of detail required has not yet been confirmed. This will be clarified in the interpretation document.

Effluent discharge

The BATc (e.g. BAT15) refers to emissions to water from flue gas treatment, e.g. FGD/SCR. However, there is some uncertainty as to whether this also applies to all discharges to water. This will be clarified in the interpretation document.

4. Site Tour

A brief site tour was conducted, with no significant issues identified. Both Unit 10 and 20 were visited. The CEMS unit on Unit 20 was showing CO 0.0mg/m³, NO_x 8.8mg/m³ and O₂ of 14.03%. The waste storage area was seen and was in good order overall. There were some waste batteries on a pallet, although these were deemed to be low risk as they are of the gel type rather than liquid acid. As per best practise, they were not stored with other waste in case of electrical shorting and to ensure the correct recovery route. Ideally, these should have a dedicated ventilated container and be protected from rain [Action #2].

Action 1: Please forward an electronic copy of the AST for 2017.

Action 2: Please review the waste battery storage arrangements.

END

EPR Compliance Assessment Report

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Operator/Permit holder	Siemens plc	Date	12/12/2017

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			
G1	X	Please forward an electronic copy of the 2017 AST.	31/12/2017
B4	X	Please review arrangements for waste gel-type battery storage.	31/01/2018

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.