

Compliance Assessment Report

Report ID:
CAR_NRW0032271

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

Site	Newport Steam Reforming Plant	Permit Ref	VP3736EF			
Operator/Permit holder	The BOC Group Limited					
Regime	Installations					
Date of assessment	19/05/2017	Time in	11:00	Out	15:00	
Assessment type	Report/Data Review					
Parts of the permit assessed	Data and remote control					
Lead officer's name	Kemp, Andi					
Accompanied by						
Recipient's name/position	Robert Warren/ SHEQ Manager	Date issued	10/10/2017			

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
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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

Purpose of Compliance Assessment

A CAR1 form was issued in March 2017 covering the pre-operational measures, EMS, routine inspections and commissioning of the recently permitted hydrogen SMR plant on the Eastman chemical site, but owned and operated by BOC (Linde Group). That CAR1 had two actions and one recommendation.

This CAR1 covers the response to those actions and includes a visit to the Margam control room. The BOC set up is that a central control room is located near Sheffield and another control room exists at the BOC Margam (Tata PortTalbot) site, where routine engineers and maintenance personnel are dispatched from. This Margam control room has remote surveillance of the Newport satellite site.

The March 2017 CAR1 also included a question about fluctuating NO_x emissions but stable CO emissions.

The submissions the operator has made in support of closing out these actions include covering email, response to the two actions and question, including a data trend plot and the actual monitoring contractors actual monitoring reports from two rounds of stack emissions monitoring.

Question 1 BOC March 2017: Is there a reason NO_x emissions would be 46 and 74 mg/m³ over the two rounds, but CO levels stayed more or less the same at 4 mg/m³?

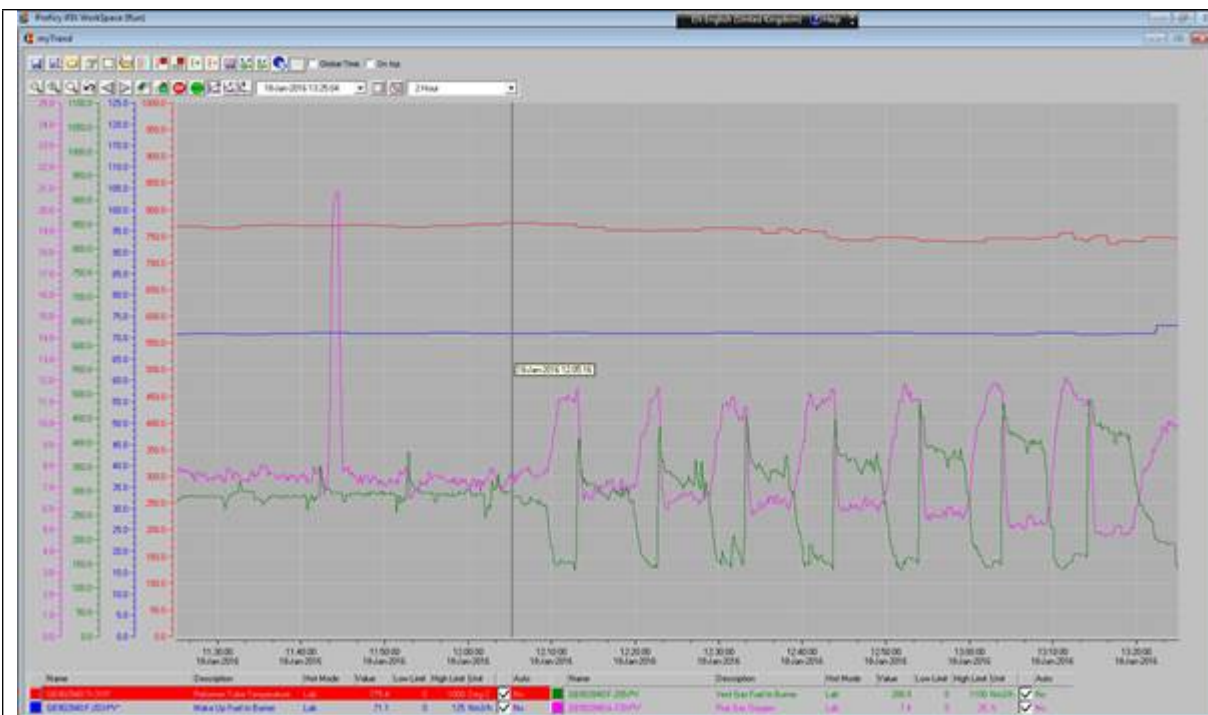
The operator responded:

Thermal NO_x formation is affected by Oxygen concentration, peak temperature and time of exposure at peak temperature. As these factors increase so does NO_x formation.

From the trends shown for the two reporting periods it can be seen that the average reformer tube temp (Red pen) for January 2016 was approximately 760°C whereas in December 2016 it was around 810°C. This has a direct correlation to reformer box temperature.

Going forward we would expect the annual readings to mirror the December readings although we now operate at a lower flue gas oxygen level of around 3% as opposed to the 6.5%.

18/01/2016 11:25 – 13:25



02/12/2016 11:17 – 13:17



NRW accepts this response and will examine the 2017 data when it is submitted.

Action 1 BOC March 2017: Operator to confirm which operations are actually certified to ISO14001 if any.
Due: 30th April 2017.

The operator responded:

Current UK & Ireland BOC sites certified to 14001 are:

St Helens, Immingham, Morden, Teeside, Cork and Dublin,

however all BOC sites in the UK work to the same EMS and it is the company's intention to look to gain certification for Margam, Middlesbrough and Scunthorpe. The Eastman installation will continue to be run using the standard BOC EMS.

As stated in the previous CAR1 there is a case, where a company has various sites essentially operating the same process, to have a central EMS. **Action closed.**

Action 2 BOC March 2017: Can the operator confirm that the relevant corrections were made to the appropriate reference conditions and that the location of the sampling ports are compliant with M1 in so far as distance from disturbances, bends and exit of the stack. **Due:** 30th April 2017.

The operator responded:

The reference conditions for both reports have been issued at STP only. These have now been revised for reference conditions of STP, 3% O2 and dry. Although the concentrations have gone up they are both still

below the respective ELV's for plant. The mass emissions are practically the same as the oxygen correction to the concentration and flow rate effectively cancel each other out. There is a slight increase taking the water correction into account.

I've asked our sampling contractor (ESG) as to why it was reported to STP only and found that this was put into the SSP. With further inspection of the permit they think they mistakenly used STP only as in Section 6 of the permit it refers to two sets of reference conditions and they must have assumed the plant was a non-combustion source. They recognise that this was an oversight on their part but it is obviously the responsibility of BOC and we failed to pick up on it also.

I apologise for this oversight but from the revised results the concentrations are still well below the reporting limits, I have also enclosed the amended reports.

On the point of stack compliance I can confirm that the sampling ports meet the requirements laid out in M1. This is listed in the SSP but isn't highlighted in the main report. Additionally all of the flow criteria meet the requirements of BS EN 15259.

The revised reports do now stipulate the reference conditions for combustion processes on gaseous fuels: 273K, 101.3kPa, 3% O₂, dry gas. The effect on the results when correcting from flue gas temperature to lower reference temperature, from a moisture content to a dry basis and from actual oxygen conditions in the flue gas to a lower reference % is shown below:

<i>Jan 2016 Results</i>	<i>CO mg/m³</i>	<i>ELV</i>	<i>NOx</i>	<i>ELV</i>
Uncorrected	4.86	25	46.66	140
Corrected	11.80	25	114.90	140

The results are now higher due to these corrections, but are still within the ELVs. The revised reports are filed with NRW monitoring data off BOC.

The operator confirms that the monitoring contractor now has all the correct information in their SSP: M1 compliant; reference conditions; monitoring locations etc. **Action closed.**

Margam Control Room Inspection

A visit was carried out mainly of the control room and to discuss the actions and responses above. This was conducted on 19th May 2017. As the Newport site is a satellite and not manned, NRW wanted to verify what oversight is given from the Margam control room.

The main aspect that the RO is concerned with are the SCADA systems monitoring the process, especially flue gas O₂ level (around 2%), process temperatures and pressures and any alarms. Additionally routine planned maintenance and 24 hour call out response is deployed from the Margam site.

Operators demonstrated the live data system showing the Newport plant, production rate, temperatures, flue gas parameters etc. Margam is manned 24 hours a day and / or staff are on call.

NRW is satisfied by the capability demonstrated by the BOC Margam team in controlling and monitoring the Newport satellite sites.

END

EPR Compliance Assessment Report

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Operator/Permit holder	The BOC Group Limited	Date	19/05/2017

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			

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.