

Compliance Assessment Report

Report ID:
CAR_NRW0026845

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

Site	Aberthaw Works EPR/BL3986ID	Permit Ref	BL3986ID
Operator/Permit holder	Lafarge Tarmac Cement and Lime Limited		
Regime	Installations		
Date of assessment	05/01/2017	Time in	N/A
Assessment type	Audit		
Parts of the permit assessed	IC3 - CO - Carbon Monoxide Increase ELV		
Lead officer's name	Griffiths, David		
Accompanied by			
Recipient's name/position	Kara Bennett/ Environment Manager	Date issued	06/01/2017

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
A1 - Specified by permit	A	
C2 - General Management - Management system and operating procedures	A	
E1 - Emissions - Air	A	
G1 - Monitoring and Records, Maintenance and Reporting - Monitoring of emissions and environment	A	
G4 - Monitoring and Records, Maintenance and Reporting - Reporting and notification to Natural Resources Wales	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

1 Introduction

1.1 The Industrial Regulation Team requested that the Air Quality Modelling and Risk Assessment Team (AQMRAT) review a carbon monoxide (CO) dispersion modelling report¹ submitted by Bureau Veritas UK Limited on behalf of Tarmac Limited.

1.2 The report was submitted to assess the impact of emissions from the main kiln stack following amendments to the Emission Limit Value (ELV) for CO.

1.3 Modelling was conducted using two CO ELV scenarios for the main kiln stack of 1,000 mg.m⁻³ and 1,500 mg.m⁻³. Emissions were assumed to be both continuous and constant for each scenario over the modelled period All other emission parameters remained identical between scenarios.

1.4 Comparison of predicted Process Contributions (PCs) and Predicted Environmental Concentrations (PECs = PC + existing background concentration) were made against Air Quality Standards (AQS) and Environmental Assessment Levels (EALs) for CO at forty two sensitive receptors. Predicted PCs and PECs were also modelled on a fine resolution 4 km □ 4 km grid centred on the site.

2 Conclusions

2.1 Our check modelling of the submitted CO emissions modelling report agrees with the operator's predicted results at receptors.

2.2 The submitted report concludes that maximum CO contributions from the main kiln stack may be considered insignificant. Our check modelling concludes that maximum predicted contributions of CO from the main kiln stack at sensitive receptors and the maximum predicted grid concentration do not exceed their respective AQS and EALs and may be considered insignificant (i.e. PC<10% of short term AQS/EAL) at both ELV scenarios.

3 Detailed Comments

3.1 The original modelling was carried out by Bureau Veritas UK Limited using ADMS 5.1 software. Meteorological data from the

Met Offices Cardiff International Airport monitoring station (Easting: 306125, Northing: 167671), which lies approximately 3 km to the east of the site, was used for the years 2011 to 2015 inclusive. While a single modelling file was provided, details of included buildings did not correspond

1 Bureau Veritas UK limited, Project No. 6392203 "Tarmac UK, Carbon Monoxide Dispersion Modelling - Aberthaw Cement Works", October 2016 Air Quality Modelling and Risk Assessment Team 2

with details included in Table 4 of the submitted report. In addition, the supplied ADMS modelling file predated version 5.1 of the ADMS modelling software. No meteorological data was supplied and coordinates of human sensitive receptors were neither included in the submitted report nor supplied as an additional ASP file. The supplied terrain file covered an area 40 km $\square$ 40km and had a minimum resolution of 600m.

3.2 AQMRAT check modelling was carried out using ADMS 5.2 software. Hourly sequential meteorological data was extracted from the short term forecast fields of the Met Offices Numerical Weather Prediction Unified Model (NWP-UM) with a horizontal resolution of 1.5 km at an easting: 303076 & northing: 167447, which coincides with the cement works. Terrain data covering an area 30 km $\square$ 30km was extracted from a 5m resolution Digital Elevation Model (DEM) GIS layer re-sampled to a resolution of 120m.

3.3 Modelling files and human sensitive receptor coordinates used in our check modelling were generated from information contained in the submitted report. As a result, there may be discrepancies between coordinates of sensitive receptors in the submitted report and those used in our check modelling.

3.4 Sensitivity analysis was carried out to determine the effects of including additional buildings from the cement works site. Our results indicated that there was negligible impact on predictions of maximum hourly and running 8 hourly means following inclusion of additional buildings. Subsequent check modelling was therefore carried out using buildings detailed in the submitted report only.

3.5 Background CO used in our check modelling was derived from the DEFRA 2001 Vale of Glamorgan Council background map² adjusted to 2013 using a suitable year adjustment factor³ in accordance with the methodology detailed by DEFRA⁴. Long term CO background concentrations at the closest coordinates to each receptor were converted to short term equivalents by multiplying by a factor⁵ of $\square$ 2. Submitted background is based on the same background map and methodology. Although there are a very small number of discrepancies in selected background concentrations, any resulting differences in predicted PECs will be negligible relative to the AQS/EAL.

3.6 Our check modelling included predicted CO concentrations on a 4 km $\square$ 4 km grid with a 20 m resolution centred on the site. Both submitted and our check modelling maximum predicted hourly mean and maximum 8 hour rolling mean PCs at the gridded receptors were <1% of the EAL of 30 mg.m⁻³ and the AQS of 10 mg.m⁻³ for modelled ELVs of both 1000 mg.m⁻³ and 1500 mg.m⁻³.

3.7 Both submitted and our check modelling maximum predicted 8 hourly rolling mean CO PCs at discrete sensitive receptors were <1% of the AQS of 10 mg.m⁻³.

3.8 Maximum submitted and check modelling PECs were 2.3% and 2.2% of the AQS respectively for a modelled ELV of 1500 mg.m⁻³.

2 Downloaded from <https://uk-air.defra.gov.uk/data/laqm-background-maps?year=2001> on December 2016.

3 Downloaded from <http://laqm.defra.gov.uk/documents/yearfactorslaqm2001.xls> on December 2016.

4 DEFRA "Background Concentration Maps User Guide October 2016" downloaded from <http://laqm.defra.gov.uk/documents/2013-based-background-maps-user-guide-v2.1.pdf> December 2016.

5 Assume short term background concentration of a substance is twice its long-term concentration – See section titled "Calculate PEC" on <https://www.gov.uk/guidance/air-emissions-risk-assessment-for-your-environmental-permit#screen-out-insignificant-pcs>. Accessed December 2016. Air Quality Modelling and Risk Assessment Team 3

3.9 Both submitted and check modelling indicate that there is unlikely to be a significant impact on human health as a result of CO emissions from the main kiln stack at ELVs of 1000 mg.m⁻³ or 1500 mg.m⁻³.



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EPR Compliance Assessment Report

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Site	Aberthaw Works EPR/BL3986ID	Permit Ref	BL3986ID
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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 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.